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Notes and explanation of symbols
The following symbols are used in tables in the Review:

(...)	Three dots indicate that data are not available or are not separately reported.
(—)	A dash indicates that the amount is nil or negligible.
	A blank space in a table means that the item in question is not applicable.
(-)	A minus sign indicates a deficit or decrease, unless otherwise specified.
(.)	A point is used to indicate decimals.
(/)	A slash indicates a crop year or fiscal year, e.g., 2001/2002.
(-)	Use of a hyphen between years, e.g., 2001-2002, indicates reference to the complete number of calendar years involved, including the beginning and end years.

References to “tons” mean metric tons, and to “dollars”, United States dollars, unless otherwise stated. Unless otherwise stated, references to annual rates of growth or variation signify compound annual rates. Individual figures and percentages in tables do not necessarily add up to the corresponding totals, because of rounding.

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Beyond economics: interactions between politics and economic development

Fernando Henrique Cardoso

Theories about a necessary link between authoritarianism and progress have been discredited by history. Now democracy and development are prominent (though not inseparable) values on nations' agendas. The link between the two is not a given; it is established by recognizing that democracy is justified in itself as a universal value that can be accepted by all. Democracy legitimizes public policies because it is based on deliberation and a negotiated trade-off of interests, under transparent rules. Democratic procedures can be used to cope with unexpected difficulties and strengthen the confidence of outsiders. The way to deal with the asymmetrical effects of globalization is to participate in the international economy on more advantageous terms, affirming the ability of democracy to shape a form of development that is non-exclusive, unlike that which we experienced in the past. This is no easy task, and if people are not rewarded by a higher quality of life, then not only will democracy be in jeopardy, but the economy will not prosper.

Fernando Henrique Cardoso
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I

The contribution of Prebisch and ECLAC

I began and ended my eight years in government in close contact with ECLAC, and this is very important for someone who has always drawn inspiration from that organization's determination to comprehend the reality of Latin America on its own terms. The person who set ECLAC on this path was, as we all know, Raúl Prebisch, the inspiration for the memorial lecture that bears his name.

I once wrote that the greatest merit of ECLAC was to have copied with originality, and I meant it as praise. Prebisch is the best example. His work did not come out of nowhere; he had good sources. He was familiar with development theory, he knew the classics and the work of Keynes, he was mindful of Hans Singer's achievements and he appreciated the statistical resources built up by the United Nations.

But he knew how to assimilate during the process of creation, which is usually the way innovation comes about in the economic and social sciences. Knowledge usually evolves through cumulative advances, with the opening of some new angle or perspective, not through a radical departure from the existing stock. The key that Prebisch found was the adaptation of development theory to the regional context of Latin America.

He showed that international trade had not brought that region the benefits proclaimed by the theory of comparative advantage, or by the neoclassical promise that trade would have a levelling effect on the remuneration of factors of production across countries. He also provided an explanation: the capacity for political organization of workers and businesses in the countries of the centre prevented the fruits of the greater technical progress achieved there from being

shared by the Latin American economies in the form of lower prices for industrial goods. What occurred in fact was a continuous if uneven deterioration in the terms of trade of the region's agricultural products.

Hence his recommendation that industrialization policies be applied, with the aim not only of increasing the accumulation capacity of the region's economies, but of reorienting its foreign trade profile as well. He was later to suggest a political arrangement to integrate national markets. He wanted to ensure the success of the import substitution process by addressing requirements of scale, and accordingly he sought to create the political conditions for an increased role and perhaps a greater weight for Latin America in the world economy.

Prebisch was no fatalist, however. He believed in development, despite internal obstacles and the asymmetries of international trade. And in this I was and am his disciple. In the study I carried out with Enzo Faletto, we never saw any contradiction between development and dependency (Cardoso and Faletto, 1969). Dependency made development exclusive and iniquitous, but it did not prevent it. It was the solid contribution made by foreign capital, combined with public investment and, to a lesser degree, domestic private-sector capital, that did so much to improve economic indicators in many of our countries in the 1960s. The challenge, which was not met, was to spread the benefits of this growth as widely as possible. It was to show faith in the idea of political autonomy and to find a political framework that was more sensitive to the interests of the majority, and this meant upholding democracy.

II

Links between politics and economic development

All this takes us on to the interplay between politics and economic development. This subject—which

enthralled Raúl Prebisch, a fervent believer in politically guided development—evokes challenges that political actors will have to face in the new millennium and reminds us of the effort being made to adapt our economies to new patterns of competition and productivity, without neglecting the need to give the State the capability to

□ This article is based on the Third Raúl Prebisch Memorial Lecture, delivered by the author at the Economic Commission for Latin America and the Caribbean (Santiago, Chile, 8 August 2003).

respond to ever more complex and diversified social demands. My first comment is that democracy and economic progress have not always been regarded as compatible. There have been many occasions throughout history when democratic demands have been inhibited by the supposed requirements of the economic process. Universal suffrage has been seen as conflicting with property rights, social rights with economic growth, and collective rights with budgetary stability.

In his penetrating review of conservative thought over the last two centuries, Hirschman (1991) highlights the weight of economic considerations in the argument against expanding civic rights. An emblematic case was the resistance put up to the enactment by the British Parliament of the liberal reforms of 1832 and 1867. Both were considered a turning point in the political history of the United Kingdom, as they brought

domination by an oligarchy to an end by extending the right to vote.

No less tenacious was the campaign against social rights in Europe and the United States in the second half of the twentieth century, the argument being that extending social rights would reduce opportunities for growth. In contrast to the Keynesian theories that judged social spending to be compatible with economic growth, undue weight was placed on the risks entailed for fiscal balance and monetary stability by the over-expansion of the State.

There was also the misgiving that extending social guarantees could lead to a crisis of governance, a subject much dwelt upon by the well-known Trilateral Commission during the 1970s. The fear was that States might be taking on obligations that would go beyond their administrative capacity.

III

Politics and economics in Latin America

In Latin America, the conflict between politics and economics has had somewhat different, more distinctive features. In a way, it was harder to put that conflict into the right perspective in Latin America than elsewhere. I was among those who were unconvinced by the argument that authoritarianism was a condition imposed by the logic of the market for the successful pursuit of import substitution (O'Donnell, 1972). It seemed clear to me that the Latin American dictatorships were essentially political phenomena, bolstered by the ability of the autocrats of the moment to use the spectre of the Cold War to suppress dissent. The high growth rates achieved in some years during the 1970s were due to a huge supply of credit, not to authoritarianism, which only heightened certain perverse features of the model such as income concentration.

In the 1980s, in the midst of political liberalization, the argument that authoritarianism was a force for progress made a comeback in Latin America. Given the supposed inability of civilian governments to push through the reforms known to be necessary to resume sustainable growth, the performance of authoritarian regimes in South-East Asia was regularly praised.

We know that, one by one, theories about a necessary link between authoritarianism and progress have been discredited by history. Thus, the extension

of suffrage in Europe took place in tandem with the Second Industrial Revolution, and the advent of the Welfare State coincided with the powerful upsurge in the industrial economies that followed World War II. Latin America did not become a fairer place under its authoritarian regimes.

Democracy and development are now prime values on the agendas of all States. Yet, the fact remains that they are not, by nature, inseparable. While it can be inferred from the political history of the wealthiest nations that economic growth is hard to sustain without wide enjoyment of public freedoms, material affluence is not always a corollary of democracy.

I prefer to speak of an imperative link, one that is not automatic; it is rather established following the recognition that democracy is worth having for itself, a universal value that can be accepted as such by all.

It is not my purpose to discourage those who seek affinities between democracy and development. Rather, I want to help make this search a realistic one.

Many in Latin America expected the end of authoritarianism to usher in the promised land. Experience was soon to show us that the way would be harder and more challenging. The long and painful recession that this region suffered in the 1980s, when civilian governments were in place, provided very

telling proof that politics and economics can give conflicting signals, that democracy does not necessarily entail prosperity.

So what is the relationship between democracy and development? Should we accept the scepticism of some analysts who, seeing the difficulty of identifying specific, permanent links between these values, have chosen to regard them as completely separate and as interacting only on a random, ad-hoc basis? I am convinced that we can be more assertive in our appreciation of the role of democracy. Without attempting to reduce the benefits of the vote to figures, it is possible to discern aspects of the democratic experience that have an undeniable interest for economic actors and are essential in the quest for sustainable development.

First of all, there is the matter of legitimacy. We know that democracy has its own way of setting public policies, including those that affect economic management. Decisions cannot do without deliberation. They are the outcome of a negotiated trade-off of interests, in accordance with transparent rules and within a public process.

The benefits this brings for economic management seem to me obvious, starting with the credibility that market rules gain in a democracy. Macroeconomic policies cease to reflect the supposed omniscience of enlightened technocrats and represent instead a debate of legitimate interests, a consensus reflecting several wills, including that of the government itself.

A useful example here is the "Plano Real", whose purpose was to stabilize the Brazilian economy. Unlike previous attempts, all of them unsatisfactory, this Plan was brought into operation through a lengthy process of consultation, dialogue, persuasion and adaptation of points of view. It was not by chance, therefore, that it was well received by economic agents and by society in general. This was the result of its legitimacy as a process.

It was argued at the time that a plethora of economic preconditions had to be met before any stabilization plan could be considered. The reality proved that the necessary economic measures could be stages in the stabilization effort rather than prerequisites for it, provided they were applied with broad and informed political and social support. Willingness to provide explanations to social actors and public opinion in general: *this* was the precondition without which the Plan Real would not have succeeded.

Another example of the importance of the democratic process for overcoming difficulties can be

seen in the Brazilian reaction to the 2001 energy crisis.

When the seriousness of this situation became clear, the decision was taken to explain everything to the country, ask the population for cooperation, and apply strict rationing. Support was widespread. The mass media set to work and reported thoroughly and objectively on the issue. For about ten months, the country as a whole got behind the efforts to restrict energy consumption in each region (and, in some cases, in each major city), with all the implications this had for water reserves (the bulk of energy in Brazil is hydroelectric). The need for power cuts lasting some hours a day, as happened in California for example, was thus avoided. Without question, this collaboration between the State and society considerably limited the harm the crisis might have inflicted on the country's economy.

Economic decisions that are taken democratically also prove less vulnerable to the volatile circumstances in which wealth is generated today. The options usually available to government authorities for dealing with crises are shaped by the day-to-day debate between the government and the political opposition, or by the internal deliberation mechanisms of the State machine. It is interesting to recall in this connection the Brazilian reaction to speculative attacks on our currency, the Real.

The firmness with which this crisis was overcome would have been difficult to achieve had there been less democratic transparency and stability, to judge by the outcome of more authoritarian strategies adopted in other regions of the world.

I am not suggesting that democracy makes us immune to the mood of speculators. Decisions concerning how and when to allocate short-term capital have escaped the control of government, thereby causing currencies to be devalued, public accounts to be destabilized, and interest rates to increase. But this situation can be changed. There is a growing awareness among States of the need to re-examine the architecture of the international financial system and regulate capital flows more effectively, since the present lack of controls affects all, rich and poor, albeit to differing degrees.

I raised this issue for the first time at a conference held at ECLAC in 1995. At the twenty-ninth session of the Commission (Brasilia, 2002), I was pleased to learn from the then Executive Secretary of ECLAC, José Antonio Ocampo, that the organization had taken up the challenge and was treating the matter with the seriousness that the risks involved in it required. Unfortunately, the example has not been widely followed and proposals for stricter control and

monitoring of volatile capital remain absent from the agenda of the countries with the greatest influence over the international financial system.

It should be recalled that the idea of regulating international financial flows was included in the programme of the Bretton Woods Conference and accepted in the negotiations. Article VI of the International Monetary Fund Articles of Agreement provides for the possibility of the IMF asking a member State to adopt controls to restrain excessive capital flight and the consequent need to draw on the organization's reserves.

It is true that the two main architects of the Bretton Woods agreement—John Maynard Keynes, an adviser to the Exchequer (United Kingdom ministry of finance), and Barry Dexter White of the United States Treasury Department—were at odds over the degree of autonomy the Fund should have and the amount of available reserves. Keynes wanted the IMF to be a true international central bank that would provide a counterpoint to the economic power of the United States and possess, among other prerogatives, the right to create its own instrument of credit, as a lender of last resort. White, meanwhile, saw the job of the Fund as being to ensure balanced growth in world trade in a way that preserved the central role of the dollar in international finance. And such was the institution that was created, anchored solely in the United States currency.

White soon realized, however, that the stability of the dollar would be jeopardized by the explosive growth of world trade that was in prospect and the need for a matching expansion of international reserves. He then fell in behind Keynes' position and eventually proposed that the Fund Articles of Agreement be revised to allow it to create its own reserves. The proposal was unsuccessful. Just two decades later the amendment was to be accepted, leading to the creation of special drawing rights (SDRs), although in extremely limited quantities. And the fact is that the expansion of these SDRs is still being proposed today with a view

to creating a buffer of reserves that can provide better protection for countries that run into difficulties.

In discussing the importance of democracy as a basis for foreign policy, some mention must be made of Mercosur. This was a product of democracy, which enabled rivalries to be dispelled and trust to grow between Brazil and Argentina. The process took place under the auspices of democracy, with the participation of national societies. The democracy clause was so effective that it inspired the adoption of similar mechanisms at the Summit of South American Heads of State (Brasilia, 2000) and, at the hemispheric level, at the Third Summit of the Americas (Quebec, 2001).

Had the Southern Cone not been democratized, Mercosur would not exist; and by existing, integrating markets, solving crises and creating wealth, it has promoted democracy beyond its borders. This virtuous circle confers authority upon its members' struggle for a more democratic world order.

To return to the idea which has informed this whole paper—that the link between democracy and development is not a given, but is established—it is important to highlight that this approach places a great political responsibility on a country's leadership: the responsibility both to resist the easy, seductive appeal of populism, so akin to authoritarianism, and also and above all to have the boldness to modernize positions, think anew and explore new paths, when this is what the common good requires.

There were many occasions when those exercising power in the Latin America of the 1990s were faced with this challenge. I refer to situations in which failure would inevitably have meant dragging the country back into the past, to outdated formulas. In the face of globalization, the inevitability of it, the task has been to seek the most advantageous international positioning for our countries, without yielding to fantasies of self-sufficiency, but rather with an awareness that the process tends to produce asymmetrical effects, to perpetuate inequalities.

IV

A new growth agenda

In the early twenty-first century, challenges of this nature remain. What is at stake is more than the economic performance of the Latin American

democracies. Also being tested is their ability to shape, democratically, a concept of development different from the one they have traditionally known:

development that is not exclusive, that extends to all, that can eradicate want and put an end to the poverty in which millions of Latin Americans still live.

But if all this is not to smack of vagueness or even demagoguery, it is necessary to outline a new growth agenda.

Since the 1990s it has been clear that, under present circumstances, there is no place for closed economies, nor for inflationary financing of consumption and investment, nor indeed, even in the cases of countries at an intermediate level of development, for a straightforward return to the import substitution policy.

Yet, this does not mean just accepting what has come to be known as monetary orthodoxy or the Washington Consensus. Indeed, the Latin American countries have expanded their education policies, created social safety nets to offer some hope to the poorest, and reorganized public-sector administration and the structure of the State. With few exceptions, they have not yielded to the “neoliberal” vision of a minimal State.

The time has come when, along with continuing efforts to achieve steady productivity growth and

conquer external markets, steps are required to gradually win back the domestic market.

This is easy to say and hard to do, but not impossible. Perhaps the most important thing (and this takes us to the heart of the relationship between economics and politics) is to grasp what is hardest to accept: that the ground rules simply cannot be altered, there are no miracles, and so the way will be long and, regrettably, what leaders will have to offer is “sweat and tears”.

But sweat and tears without reward obviously lead to discouragement (to social discontent, to outbreaks of disorder, to the demoralization of governments) that makes the promises of populists attractive. So the path of gradual progress—and there is no other—is only acceptable if the progress is continuous and benefits all.

Our political leaderships have not been firm enough in explaining the difficulties along the way. There has also been a failure, nationally and internationally, to understand that without adequate rewards in the form of better quality of life, not only is democracy jeopardized, but the economy itself will not prosper.

Bibliography

Cardoso, F.H. and E. Faletto (1969): *Dependencia y desarrollo económico en América Latina*, Mexico City, Editorial Siglo XXI.

Hirschman, O. (1991): *The Rhetoric of Reaction: Perversity, Futility, Jeopardy*, Cambridge, Massachusetts, Harvard University Press.

O'Donnell, G. (1986): *Modernización y autoritarismo*, Buenos Aires, Paidós.

Less advanced sectors in the Latin American fertility transition

Susana Schkolnik and Juan Chackiel

Demographic change in Latin America has been driven by the behaviour of the middle and upper strata. Given that fertility and mortality in these groups are now relatively low, future changes will mainly come from the behaviour of less advanced sectors. This paper analyses the contribution of these less advanced groups to the decline in fertility, distinguishing between the “distribution effect” and the “rates effect”. In less advanced sectors the desired number of children is lower than the actual number, with early marriage and limited use of modern contraceptives continuing to be the rule. Even so, these groups have entered the demographic transition. A number of countries have recently seen falls in their fertility rates due to the contribution of women with low levels of education: in the late transition countries behaviour is heterogeneous, while in the advanced transition countries the greatest contribution is being made by women with primary education.

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I

Introduction

It is generally acknowledged by those studying population issues that rather than just a **transition**, which describes changes in the components of a population, it makes sense to speak of **transitions**, and this holds true for the particular case of fertility. It is valid for Latin America as a region, owing to the variations between countries, and also when each country is considered separately, as demographic behaviour varies between social sectors and places of residence.

Changes in the behaviour of a country's demographic variables are the result, then, of what happens within each sector, while at the same time they are affected by the movement of people between sectors, i.e., by social mobility. Thus, for example, when there is upward mobility, resulting in a larger percentage of the population behaving in a way characteristic of middle and upper sectors, the transition will advance, even though behaviour may not necessarily have changed within any of the social groups. The relative weight of these two factors has been shifting, however. Because demographic changes have largely been associated with the behaviour of the middle and upper strata, there is an expectation that future tendencies will be associated chiefly with what happens in the groups that are less advanced in the transition. These groups have now shown unmistakable signs of having commenced their own transition. The basis for this claim is that the transition has tended to continue over the last two decades despite economic stagnation which in many countries has actually increased the percentage of people living in poverty. It is difficult, however, to establish precisely what the determining factors are in this process.

As a result of this situation it has been suggested, for example, that there may be a fertility transition model specific to low-income social groups, differing from the nineteenth-century European model and from that followed by the middle and upper sectors of Latin

America during the first half of the twentieth century. While economic and social development seems to have been the contextual key to the transition in these latter, it may be that the continuous declines seen recently among low-income strata in the Latin American countries are better explained by the pressure of economic need, heightened at times of crisis.

Factors of both types have probably had a large influence. Although the crises of recent decades in Latin America might have caused fertility to decline, poor sectors have probably been influenced too by the general process of development in the region. Although development has not translated in recent years into better incomes, employment and living conditions for certain sectors of the population (in some cases, things have worsened), it has been reflected in other aspects, such as the expansion of education and health care, the growth of communications, greater economic participation by women, and thence the emergence of new attitudes towards procreation associated with the use of modern family planning methods. The argument that the fall in fertility in poor sectors has largely been due to overall development is supported by the fact that in some better-developed countries this decline began before the crisis of the 1980s.

Consideration has also been given to the fact that once the demographic transition has begun (in association with the development aspects referred to), demographic variables, along with other related social indicators such as education and health care, acquire a degree of inertia that makes them, by their nature and characteristics, relatively independent of short-term movements in the economy. Consequently, it is feasible to alter the behaviour of these variables by means of specific social policies, something that would also help explain why their downward tendency continues during periods of crisis.

It is well known that the transition begins latest in the lower social strata, whose members are poor and relatively uneducated. This situation is found in rural areas where most of the population lives under these conditions, in deprived urban populations and in indigenous populations, where poverty is compounded by cultural and linguistic barriers to health and family planning information.

□ This article is based, with updated information, on the document "Latin America: Less advanced groups in demographic transition", which the authors presented at the International Population Conference (Beijing, October 1997) of the International Union for the Scientific Study of Population. For an expanded version of that document, see Schkolnik and Chackiel (1998).

Although there are studies analysing differences in mortality and fertility between social sectors, these are restricted in scope and are not always comparable between countries and over time. The information available for identifying longer-term trends generally stratifies the population in two ways: by place of residence (urban/rural) and by the mother's level of education (number of years' schooling or stage reached in the education system).

To study what is happening with the fertility trends of less advanced sectors, and what contribution they are making to demographic change in the countries, the evolution of the total fertility rate and proximate determinants will be analysed by the mother's level of schooling, since this variable has great discriminatory power (Cleland, 2002; Cleland and Rodríguez, 1988; United Nations, 1995; Weinberger, Lloyd and Blanc, 1989). A multivariate analysis

applied in the United Nations study cited shows that in Latin America the inverse relationship between the mother's education and her fertility has proved to be stronger than any other. Almost all the regression coefficients are the highest and most significant statistically, after geographical and sociodemographic variables have been considered. This would seem to confirm that education is the variable that best captures fertility differences between sociodemographic and economic groups. In what follows, women with no or very little education (0 to 3 years of schooling or incomplete primary) will be treated as the least advanced groups in the demographic transition.

The main sources of information are the national case studies of the World Fertility Survey (WFS), population censuses and vital statistics for the 1970s, and the Demographic and Health Surveys (DHS)¹ for the 1980s and 1990s and for the years closest to 2000.

II

The demographic and fertility transition in Latin America

There are numerous studies of the demographic transition in Latin America that indicate its peculiarities, chiefly as compared to the European process.

The pre-transition situation in the early twentieth century was characterized by life expectancy at birth $E(0)$ of some 30 years and a total fertility rate (TFR) of about 6 children (Pérez Brignoli, 1994). One of the characteristics distinguishing the Latin American pre-transition from that of Europe is the higher level of fertility observed, attributed to earlier marriage and a lower percentage of women remaining single in the Latin American countries (Zavala de Cosío, 1992).

Mortality was the first indicator to begin falling in Latin America, slowly in the early part of the twentieth century, more noticeably from 1930 onward (Arriaga, 1974), and then universally after the Second World War. The region attained an average $E(0)$ of 52 years and an infant mortality rate (IMR) of 127 per thousand in the period 1950-1955 (ECLAC/CELADE, 2004). The greatest progress was made in the next two decades, with $E(0)$ exceeding 60 in the 1970s. The region now has an $E(0)$ of 70 (nine countries exceed this figure) and an IMR of about 33 per thousand.

Fertility declined much later than mortality. As the second half of the twentieth century began, average fertility in Latin America was about 6 children per woman and showed a slightly rising tendency until the early 1960s. This upward trend in fertility was probably due to the earlier declines in mortality, which increased the number of years during which a woman might become pregnant and was associated with better health conditions for procreation. The higher marriage rates seen in the 1950s and 1960s also seem to have been influential (Zavala de Cosío, 1992). Only in the second half of the 1960s did any major change take place in the average number of children per woman, which began its decline towards the present level of 2.7, less than half the figure of 35 years ago. This drop coincided with the so-called second contraceptive revolution in Europe, i.e., with the spread of modern contraceptive methods, including sterilization, abortion also playing what may have been a very important part in this process. The speed with which fertility fell is

¹ These surveys are financed by a United States Agency for International Development (USAID) project and conducted by Macro International Inc.

also at variance with the process followed by the developed countries, although Latin American fertility is still higher than theirs. In Europe, particularly, fertility has fallen to unexpectedly low levels that are well below replacement rate, something only Cuba has experienced in the region.

The information currently available on the demographic and fertility transition in Latin America indicates that all the countries have now embarked upon it to a greater or lesser degree. Experiences have varied greatly, however. Table 1 gives a typology of the countries, grouping them into categories by their fertility rates in the middle of the last century and in the period 1995-2000.

In this way, categories have been created that take into account the level and trend of fertility in the last 50 years. Whereas 16 of 20 countries in the region had very high fertility in 1950-1955, in the latest half-decade none was in this category and 14 were in the medium-low, low and very low fertility groups. To sum

up, the following situations have been identified: i) countries that have gone from very high to high fertility (Guatemala); ii) countries that have gone from very high to medium-high fertility (five countries); iii) countries that have gone from very high to medium-low fertility (nine countries); iv) countries that have gone from very high to low fertility (Brazil); v) countries that have gone from high to low fertility (Chile); vi) countries that have gone from medium-high to very low fertility (Cuba); vii) countries that have remained at a medium-low level (Argentina); viii) countries that have gone from medium-low to low fertility (Uruguay). Cuba is the only country whose total fertility rate is below the replacement level.

For this study, the aim was to select countries in each of the different situations. Paradoxically, this was not possible for the countries that made the transition earlier and are furthest advanced with it (Argentina, Cuba and Uruguay), as information on fertility by social stratum is not available.

TABLE 1

Latin America: Classification of countries by fertility level, 1950-1955 and 1995-2000^a
(Total fertility rate in these periods)

Fertility level 1950-1955	Fertility level 1995-2000					
	Very high: 5.5 and over	High: 4.5-5.4	Medium-high: 3.5-4.4	Medium-low: 2.5-3.4	Low: 1.8-2.4	Very low: under 1.8
Very high: 5.5 and over		Guatemala (5.0)	Bolivia (4.4) Haiti (4.4) Honduras (4.4) Paraguay (4.2) Nicaragua (3.9)	El Salvador (3.2) Peru (3.2) Ecuador (3.1) Venezuela (3.0) Dominican Republic (2.9) Colombia (2.8) Mexico (2.8) Panama (2.8) Costa Rica (2.6)	Brazil (2.5)	
High: 4.5-5.4					Chile (2.2)	
Medium-high: 3.5-4.4						Cuba (1.6)
Medium-low: 2.5-3.4				Argentina (2.6)	Uruguay (2.4)	
Low: 1.8-2.4						
Very low: under 1.8						

Source: ECLAC/CELADE (2004).

^a The figures in brackets are the total fertility rate (TFR) for 1995-2000.

III

The fertility transition in less advanced groups

Not all social groups have participated in the same way in the fertility shift, which generally began in the mid-1960s. The data available cover the 1970s, 1980s and 1990s, and in certain cases there is information for some year around 2000, so that there is enough material to arrive at some conclusions.

In the 1970s, the total fertility rate of the “no schooling” group generally remained above 5.5 children per woman. The TFR of women with little schooling (incomplete primary or 1 to 3 years of schooling) was lower, but of the same order. The latest data indicate that, other than in countries with low fertility, less advanced groups have maintained a TFR of over 4 children and, in some cases, of over 5.5.

There have been declines even in the countries where total fertility rates are still high, though, because they formerly had values of close to 7 children. To sum up, fertility has recently shifted in the least advanced groups, but relatively high values persist (table 2, and see table 3 below).

The fact that most of the groups in table 2 (classified by educational level) fall above the diagonal reveals a change of categories translating into a fall in TFR values. This does not hold so true, however, for less advanced groups in the high-fertility countries, since about half of the 11 that had “very high” fertility in the 1970s are still in this category. Nonetheless, three have moved into the “high” category and three into the

TABLE 2

Latin America (six countries): Classification of groups by women's educational level, 1970s and 1995-2000^{a b}
(Total fertility rate)

Fertility level 1950-1955	Nivel de fecundidad 1995-2000					
	Very high: 5.5 and over	High: 4.5-5.4	Medium-high: 3.5-4.4	Medium-low: 2.6-3.4	Low: 1.8-2.5	Very low: under 1.8
Very high: 5.5 and over	Honduras-A (7.1) Honduras-B (6.1) Bolivia-A (7.1) Bolivia-B (5.8) Ecuador-A (6.2)	Ecuador-B (5.4) Honduras-I (4.8) Mexico-A (4.7)	Colombia-A (4.1) Mexico-B (3.7) Ecuador-I (3.6)			
High: 4.5-5.4			Colombia-B (3.6)	Mexico-I (3.1) Chile-A (2.8) ^c		
Medium-high: 3.5-4.4		Bolivia-I (4.6)		Ecuador-S (2.6)	Chile-B (2.4)	
Medium-low: 2.6-3.4				Honduras-S (2.9) Bolivia-S (2.7)	Colombia-S (2.2) Mexico-S (2.2) Chile-I (2.4) Chile-S (2.4)	
Low: 1.8-2.5						
Very low: under 1.8						

Source: Table 3.

^a A: no schooling; B: incomplete primary education; I: intermediate education; S: secondary education and above.

^b The figures in brackets are the total fertility rate (TFR) for 1995-2000.

^c The value of 2.8 for Chile-A represents the functional illiteracy signified by 0-3 years of education.

TABLE 3

Latin America (eight countries): Relative distribution of the female population aged 15-49 and total fertility rate (TFR)
(TFR by educational level, various sources)^{a b}

Fertility level, country and source	Source 1 (1970s)		Source 2 (1980s)		Source 3 (1990s)		Source 4 (around 2000)	
	Women %	TFR	Women %	TFR	Women %	TFR	Women %	TFR
High fertility								
Guatemala (DHS 1987, 1995, 1998)	–	–	100	5.6	100	5.1	100	5.0
No schooling	–	–	38	7.0	28	7.1	25	7.1
Incomplete primary	–	–	35	5.6	47	5.1	49	5.2
Complete primary	–	–	12	3.9	–	–	–	–
Secondary and above	–	–	15	2.7	25	2.7	25	3.0
Medium-high fertility								
Bolivia (1976 census; DHS 1989, 1994, 1998)	100	6.5	100	4.9	100	4.8	100	4.2
No schooling	43	7.6	18	6.1	12	6.5	8	7.1
Basic education	30	6.5	36	5.9	36	6.0	29	5.8
Intermediate education	12	4.0	16	4.5	16	4.9	14	4.6
Secondary education and above	15	4.0	30	2.9	36	2.7	49	2.7
Honduras (EDENH 1975, 1983; ENESF 1991; DHS 1996)	100	7.0	100	6.3	100	5.2	100	4.9
No schooling	42	7.5	24	8.0	15	7.0	12	7.1
1-3 years	28	7.3	26	7.7	26	6.4	23	6.1
4-6 years	23	5.9	28	5.8	35	4.9	37	4.8
7 years and over	7	3.3	22	3.3	24	3.1	28	2.9
Medium-low fertility								
Ecuador (ENF 1979; ENDESA 1987; ENDEMAIN 1994, 1999)	100	6.6	100	4.3	100	3.6	100	3.3
No schooling	10	8.6	8	6.4	5	6.2	4	5.6
Primary	55	7.0	48	5.2	43	4.4	40	4.2
Secondary and above	35	3.5	44	3.0	52	2.8	56	2.6
Higher	–	–	–	–	12	2.1	15	1.9
Colombia (ENFC 1976; EPDS 1986; ENDS 1995; DHS 2000)	100	4.7	100	3.3	100	3.0	100	2.6
No schooling	21	7.1	6	5.4	4	5.0	3	4.1
Primary	55	5.2	49	4.2	37	3.8	32	3.6
Secondary and above	24	2.7	45	2.5	59	2.5	50	2.4
Higher	–	–	–	–	–	–	15	1.5
Mexico (WFS 1976; END 1982; ENADID 1992, 1997)	100	6.3	100	4.7	100	3.5	100	2.7
No schooling	34	7.5	12	7.2	15	5.6	6	4.7
Incomplete primary	38	6.8	32	5.5	23	4.3	17	3.7
Complete primary	18	4.6	19	4.2	20	3.2	22	3.1
Secondary and above	10	3.2	37	3.0	42	2.4	55	2.2
Low fertility								
Chile (Censuses/records 1970, 1982, 1992)	100	3.9	100	3.0	100	2.5	–	–
0-3 years	31	5.3	13	3.9	7	2.8	–	–
4-6 years	28	4.4	25	3.4	17	2.4	–	–
7-9 years	10	3.4	35	2.9	24	2.4	–	–
10 years and over	31	2.5	27	2.3	52	2.4	–	–
Brazil (DHS 1986, 1996)	–	–	100	3.4	100	2.5	–	–
No schooling	–	–	7	6.5	5	5.0	–	–
Incomplete primary	–	–	67	5.1	33	3.3	–	–
Complete primary	–	–	–	3.1	–	2.4	–	–
Secondary and above	–	–	26	2.5	62	1.6	–	–

Source: Schkolnik and Chackiel (1998); national Demographic and Health Surveys, various years, www.measuredhs.com.

^a Educational level categories are not necessarily comparable across sources. The table was constructed with a view to making categories consistent for the sources of a given country.

^b DHS: Demographic and Health Surveys; EDENH: Encuesta Demográfica Nacional de Honduras; ENADID: Encuesta Nacional de la Dinámica Demográfica; END: Encuesta Nacional Demográfica; ENDEMAIN: Encuesta Demográfica y de Salud Maternal e Infantil; ENDESA: Encuesta Demográfica y de Salud Familiar; ENDS: Encuesta Nacional de Demografía y Salud; ENESF: Encuesta Nacional de Epidemiología y Salud Familiar; ENF: Encuesta Nacional de Fecundidad; ENFC: Encuesta Nacional de Fecundidad Colombia; EPDS: Encuesta de Prevalencia, Demografía y Salud; WFS: World Fertility Survey.

“medium-high”. Of the three that were in the “high” category, meanwhile, one has moved down into the “medium-high” and the other two into the “medium-low” category. It also transpires that the least advanced groups in the countries that are furthest ahead in the transition generally had lower fertility in the initial period, and in Chile they actually attained low fertility in the recent period. All groups with a higher level of education are in the medium-low and low fertility categories, and also show a decline over the period considered.

According to the general demographic transition model, as has been seen, fertility also appears to have started falling among the least advanced groups and, as expected, this decline seems to have begun later than the decline in mortality. This sequence can be appreciated in the study by Schkolnik and Chackiel (1998). The demographic imbalance created by mortality declining in relation to fertility, which has been seen at the outset of other demographic transition processes (Zavala de Cosío, 1992), is also found in this case. Large falls in childhood mortality may follow on once the fertility shift has been triggered, mainly because of biological factors (longer average interval between births, fewer births at high-risk ages, lower parity). Thus, the interplay between these variables appears to produce a powerful downward tendency in them both.

The information available is fragmentary and does not show clearly whether the fertility decline in less advanced sectors was preceded by an increase, as happened at the national level in most of the region's countries during the 1950s (Chackiel and Schkolnik, 1992). This phenomenon has been detected in some countries, however, albeit in differing form. For example, a 1987 survey in Haiti shows total fertility rates higher than those of the past in all social groups, and Honduras displays an increase in the groups that were least advanced in the 1970s (table 3 and figure 1). The likelihood at present is that the decline in mortality, particularly among infants, is enhancing the factors that bear down on fertility rather than those that tend to increase it, as the motives and mechanisms needed to limit the number of children are in place to a greater extent. It is also possible that the increase occurred before the period analysed, in some cases in conjunction with what happened in the country as a whole during the period 1950-1960. A study by Guzmán and Rodríguez (1993) appears to confirm this through its

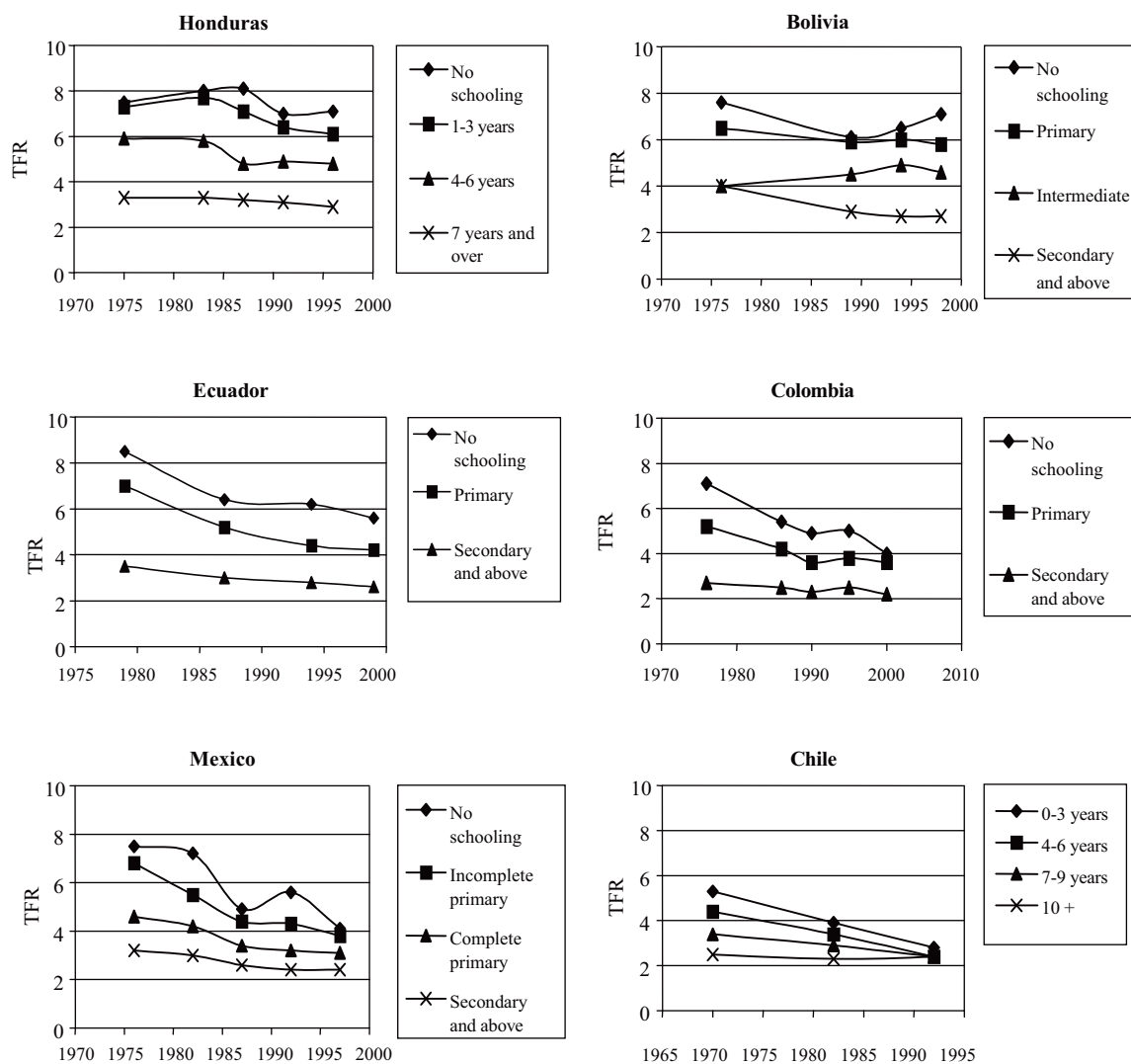
analysis of pre-transitional fertility trends by place of residence. The authors link this development to rising marriage rates in the 1950s, better sanitary conditions and the economic expectations of couples.

Figure 1 shows, although the information available is unsatisfactory, that the gap in total fertility rates by the mother's educational level has risen or remained stable in the countries that are least advanced in the transition. This is the situation illustrated here by Honduras and Bolivia. In the case of countries that are further advanced in the transition, such as Mexico, Colombia and above all Chile, however, a tendency towards convergence is seen, owing to a sharper decline in the fertility of less advanced groups. These have scope for reducing their total fertility rate, while more highly educated groups have already attained low rates and further declines will probably be small. Infant mortality among their children apparently fell early in the twentieth century, and their fertility is likely to have declined in the years following the Second World War. In summary, as already mentioned and as exemplified in figure 1, the decline in fertility by social stratum in these latter countries might be expected to result in a general tendency towards convergence at low values.

Data from certain Demographic and Health Surveys of the late 1990s and early 2000s give an idea of what has happened recently with trends in both fertility and infant mortality. As already pointed out, a number of studies have formulated hypotheses concerning the effect that the crisis has had on these variables. In particular, the belief is that the crisis and economic adjustment measures did not halt the decline either in infant mortality or in fertility, and that demographic changes have become detached from the development process. Furthermore, the crisis increased the desire to have fewer children, owing to the difficulty of ensuring a good upbringing. This being so, fertility is expected to carry on declining among the less advanced groups. The data show that the behaviour of the different social sectors has been heterogeneous. For example, the recent trend in the average number of children shows that the less advanced sectors have generally continued with this process, although less rapidly than in the past in a number of cases. In sectors with higher levels of education, the total fertility rate is tending to stabilize, usually at values that are still higher than those seen in the developed world, although low-fertility countries in the region have now attained rates close to or below the replacement level (table 3).

FIGURE 1

Latin America (six countries): Total fertility rate, by mothers' educational level, five-year periods between 1970 and 2000
(Selected countries)



Source: Table 3.

IV

The contribution of less advanced groups to national demographic transitions

This section will analyse changes in fertility attributable to factors of two types, seeking to identify the importance of each of them. These factors are, firstly,

changes in a population's social mobility (using as a proxy the proportion of women of child-bearing age in the different groups categorized by educational

level) and, secondly, changes in fertility rates that take place within each educational group, and thus are not attributable to social mobility.

On the one hand, then, there is the possible impact of changes in the educational profile of a population on its average fertility, i.e., how much the fertility rate varies with changes in the educational structure of a population in the absence of any alterations in fertility attributable to other factors within each group. For example, at time 2 a population might have a larger proportion of women with an intermediate or high level of education than at time 1, which is the kind of shift implicit in social mobility. If women conform to the fertility of the group they are in, fertility will fall just because women with more education make up a larger proportion of the total population.

On the other hand, fertility rates are affected by other factors that operate within groups and have no relation to the distribution of women by social stratum or educational level. In this case, a population's fertility rate might change between time 1 and time 2 even in the absence of any educational progress (in the case of women of child-bearing age). This could be due to a larger supply of contraceptives, the implementation of family planning policies, or indeed the adoption by women in the least advanced groups of new reproductive patterns for other reasons, perhaps in response to a period of economic crisis.

To carry out this analysis, recourse has been had to a typification (standardization) procedure used in Weinberger and others (1989), which showed the important contributions made by both factors in the experience of four Latin American countries in the 1970s and 1980s. In the present paper, as in a previous work (Schkolnik and Chackiel, 1998), the same procedure has been applied to a larger number of countries, this time including information from more recent periods. The exercise gives an overall idea of the contribution from the two factors specified, but it is not robust when variations in the total fertility rate are very small, since the sensitivity of the results to minor inaccuracies in the estimates could lead to faulty conclusions.

Table 4 shows the change in fertility attributable to the educational profile of women (the "distribution effect") and the change within groups attributable to other factors (the "rates effect"), displaying both the absolute contribution (magnitude) and the percentage contribution of each to the total change in the rate between two times.

To calculate the weight of the "distribution effect" and the "rates effect", the following procedure was used. First, the following total fertility rates were calculated:

- $TFR(1)$, the total fertility rate at time 1 (combination of the rates for the different educational groups at time 1, weighted by the proportion of each group in the total at time 1).
- $TFR(2)$, total fertility rate at time 2 (combination of the rates for the different educational groups at time 2, weighted by the proportion of each group in the total at time 2).
- $TFR(HE)$, hypothetical total fertility rate arrived at by combining the rates for the different educational groups at time 1, weighted by the proportion of each group in the total at time 2.
- $TFR(HT)$, hypothetical total fertility rate arrived at by combining the rates for the different educational groups at time 2, weighted by the proportion of each group in the total at time 1.

Using these four rates, the following comparisons were made:

- $TFR(2) - TFR(1)$ = total real change between time 1 and time 2;
 - $TFR(HE) - TFR(1)$ = change that would have occurred if the educational profile alone had altered.
 - $TFR(HT) - TFR(1)$ = change that would have occurred if the fertility rates of each educational group were the only variable to have altered.
- In turn, the ratio

$$(TFR(HE) - TFR(1)) / (TFR(2) - TFR(1))$$

indicates the proportion of the total change attributable to the effect of education alone, termed the "distribution effect". Analogously, the change expected when the only alteration is in the rates of each group (the "rates effect") is calculated:

$$(TFR(HT) - TFR(1)) / (TFR(2) - TFR(1))$$

The sum of the two effects may be slightly different from 1 owing to the interaction of the two factors.

The calculations made bore out the findings of Weinberger and others (1989): both factors play a very important role in countries' fertility changes, and the contribution of the "rates effect" would seem, in most of them, to be greater than that of the "distribution effect", especially in cases where low fertility has already been attained. The results, which appear in table 4, are illustrated for three countries in figure 2. It can be seen from the table that this is generally the outcome in Ecuador, Mexico, Colombia and Chile, with some exceptions in Mexico and Colombia.

TABLE 4

**Latin America (six countries): Contribution of the “rates effect”,
the “distribution effect” and fertility changes within each group
to the change in the total fertility rate (TFR)^{a b}**

Country and sources	Fertility					
	1970s		1980s		Around 2000	
	Absolute contrib.	Percentage contrib.	Absolute contrib.	Percentage contrib.	Absolute contrib.	Percentage contrib.
Bolivia (1976 census; DHS 1989, 1994, 1998)						
“Rates effect”	-0.9	62	0.1	-97	-0.1	10
“Distribution effect”	-0.8	50	-0.2	166	-0.4	89
Groups:						
No schooling	-1.5	55	0.4	-64	0.6	-120
Basic	-0.6	24	0.1	-38	-0.2	130
Intermediate	0.5	-8	0.4	-68	-0.3	90
Middle or above	-1.1	29	-0.2	70	0.0	0
Honduras (EDENH 1975, 1983; DHS 1991/92, 1996)						
“Rates effect”	0.3	-58	-0.9	80	-0.1	44
“Distribution effect”	-0.7	138	-0.2	23	-0.2	55
Groups						
No schooling	0.5	-67	-1.0	23	0.1	-9
1 to 3 years of education	0.4	-44	-1.3	39	-0.3	50
4 to 6 years	-0.1	11	-0.9	33	-0.1	24
7 years and over	0.0	0	-0.2	5	-0.2	35
Ecuador (WFS 1979; DHS 1987; Sur. 1994, 1999)						
“Rates effect”	-1.4	86	-0.5	73	-0.2	74
“Distribution effect”	-0.3	21	-0.2	32	-0.1	28
Groups:						
No schooling	-2.2	15	-0.2	1	-0.6	12
1 to 6 years of education	-1.8	70	-0.8	90	-0.2	38
7 years and over	-0.5	15	-0.2	9	-0.2	50
Mexico (WFS 1976/77; Sur. 1982, 1992, 1997)						
“Rates effect”	-0.7	39	-1.0	92	-0.4	56
“Distribution effect”	-1.0	66	-0.1	25	-0.4	57
Groups:						
No schooling	-0.3	11	-1.6	22	-0.9	27
Incomplete primary	-1.3	70	-1.2	34	-0.6	34
Complete primary	-0.4	13	-1.0	22	-0.2	12
Above primary	-0.2	6	-0.6	22	-0.2	27
Colombia (WFS 1976; DHS 1986, 1995, 2000)						
“Rates effect”	-1.0	64	-0.2	52	-0.3	76
“Distribution effect”	-0.8	54	-0.3	62	-0.1	24
Groups:						
No schooling	-1.7	28	-0.4	10	-0.9	11
Primary	-1.0	64	-0.4	90	-0.2	24
Secondary and above	-0.2	8	0.0	0	-0.3	65
Chile (Census and records 1970, 1982, 1992)						
“Rates effect”	-0.8	83	-0.5	96	–	–
“Distribution effect”	-0.3	34	-0.3	44	–	–
Groups:						
0 to 3 years of education	-1.4	42	-1.1	26	–	–
4 to 6 years	-1.0	35	-1.0	49	–	–
7 to 9 years	-0.5	15	-0.5	34	–	–
10 years and over	-0.2	8	0.1	-9	–	–

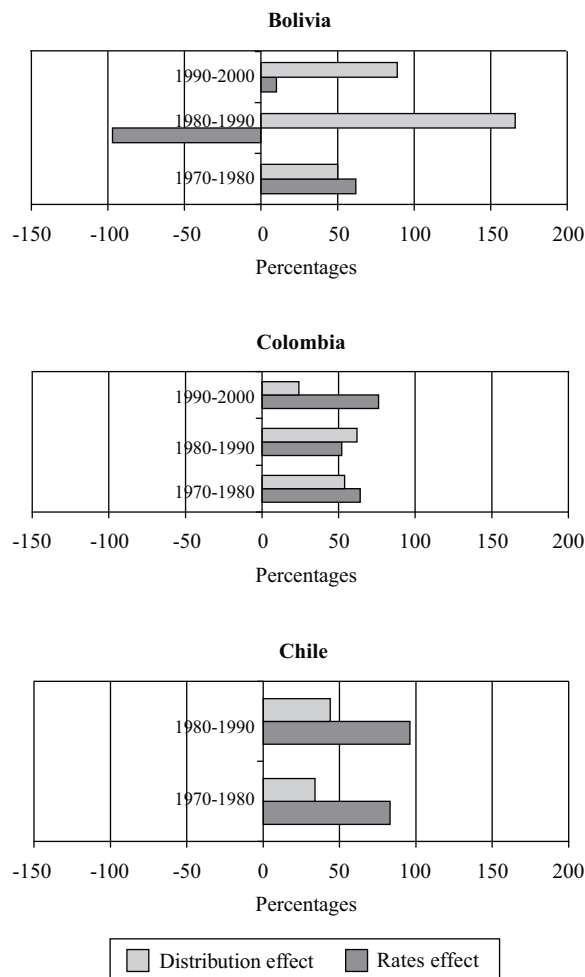
Source: Prepared by the authors on the basis of table 3.

^a See section IV, fifth paragraph, for a description of the “rates effect” and the “distribution effect”. See also table 3, note b, for the full names of surveys.

^b In Bolivia (1980s) and Honduras (1970s), the contributions calculated for the educational groups are not consistent with the overall results, owing to inaccuracies in the sources.

FIGURE 2

**Latin America (three countries):
Contribution made by the “rates effect”
and the “distribution effect” to changes
in national fertility levels, by educational
group, 1970s, 1980s and 1990s**

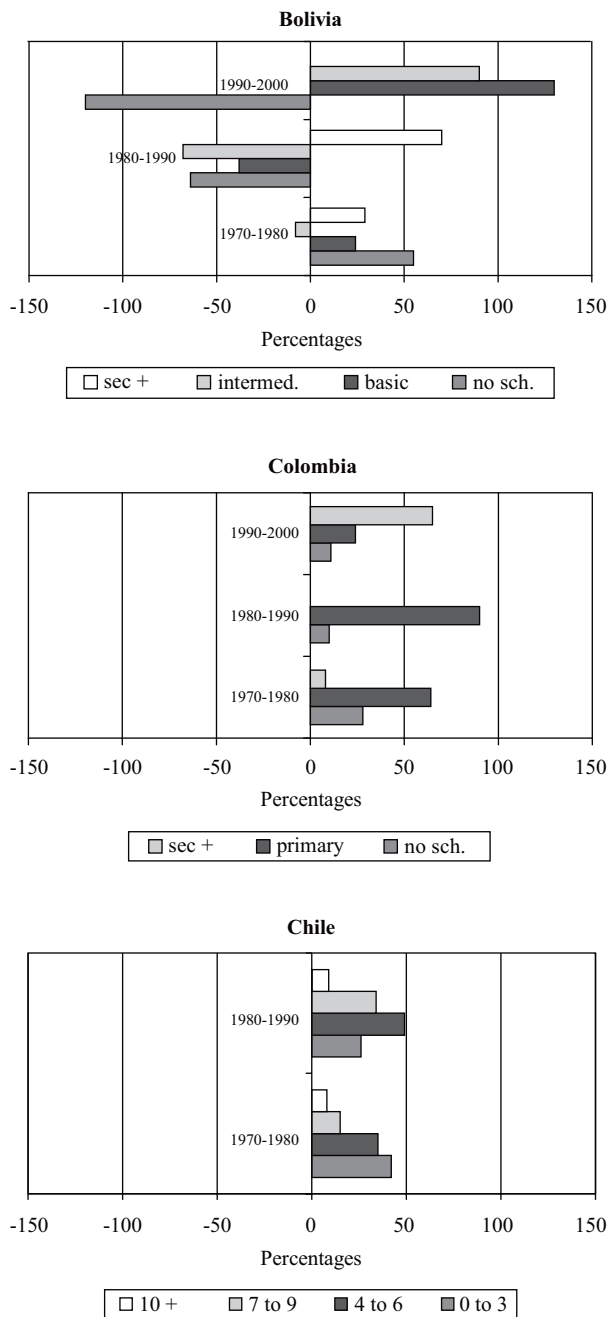


Source: Table 4.

In the countries that are furthest advanced in the transition, the “rates effect” increases in the latest period, this being the result of more widespread changes in fertility within the different social groups, and of a lessening of change in the educational structure. Consequently, something similar is seen when the differences between countries are examined in the light of the stage in the transition they are going through. In Chile, for example, the contribution of the “rates effect” to the change in the TFR is over 80%, reaching 96% in the latest period, while in Bolivia and Honduras it is generally the “distribution effect” that

FIGURE 3

**Latin America (three countries):
Contribution made by the rates of each
educational group to changes in national
fertility levels, 1970s, 1980s and 1990s**



Source: Table 4.

predominates. There might be some irregularities in these two countries owing to deficiencies in the quality

of the data and the robustness of the exercise, given the small size of the TFR reduction.

The percentage contribution of each of the groups by educational level was calculated by taking the change which had occurred in each educational group in the period between surveys and weighting it by the weight of the group as given by the average distribution by educational level in the two sources considered. The contribution of each group to the change in fertility is presented in the same table 4 and illustrated in figure 3. The greatest contribution to the decline in fertility is made, on the whole, by the groups with "primary" education or "1 to 6 years of schooling". Although in some cases the largest declines in absolute numbers are seen among women without schooling, in the advanced transition countries the contribution of this group to the drop in fertility is less, owing to their loss of relative weight in the population following the universalization of basic education (table 3).

To illustrate what happens in countries in the early stages of the transition, the cases of Bolivia and Honduras were taken (table 4). In Bolivia, the greatest changes in fertility between the 1970s and 1980s were at the extremes and the greatest contribution to the

decline was made by the "no schooling" group (55%), which exhibits a larger absolute change and a higher relative weight. In the 1980s, the data for Bolivia are affected by the lack of robustness already referred to as being a potential problem when changes are small, and this might explain why the "rates effect" tends to raise fertility. In the latest period (late 1990s) the greater contribution of women with basic education can be seen. In Honduras, behaviour is more akin to that of countries that are further advanced in the transition, the greatest contributions being made by women with 1 to 6 years of schooling.

To sum up, in recent years the main contributions to the decline in fertility are no longer found to be due to groups with high levels of formal education, with the expectation of this then spreading to others. This is probably due to the fact that these sectors experienced the major demographic changes before 1970, even in countries that were behind in the transition. Seemingly, current declines in fertility are due primarily to the contribution of the least educated women, mainly those who have had basic schooling, since in many countries women without schooling have come to represent a very low percentage of the population.

V

The proximate determinants of fertility

As previous sections have shown, the least advanced social sectors have begun their transition in recent years, even in high-fertility countries. Notwithstanding the changes in these groups, their fertility is still high and they are still socially and economically disadvantaged. As has been mentioned, furthermore, the motives and mechanisms giving rise to the transition in these groups are probably not the same as in the European model of the nineteenth century and in the middle and upper sectors of Latin America.

The influence of social changes on fertility is exercised through a set of proximate determinants that have to do with exposure to conception, pregnancy and childbirth (Davis and Blake, 1956; Bongaarts, 1978 and 1982). In what follows, information provided by the Demographic and Health Surveys and other surveys will be used to discuss primarily the behaviour of the proximate determinants that might have had a major impact on the decline in fertility among the least advanced groups.

It has been observed that the factors associated with the fertility decline in European countries might have been present among more educated women in Latin America. In Europe, an important role was played at the outset of the transition by marriage practices (less frequent and later) and, subsequently, by the increased prevalence of modern contraceptives (Zavala de Cosío, 1992).

In Latin America, however, women in the lower strata seem not to have been following these patterns where nuptiality is concerned, and to have done so only partially with contraception. This cannot be attributed to a desire to have large families, however, since the number of children they claim to want is not that different from the ideal family size declared by women with a higher level of education. Indeed, the ideal number of children declared in surveys by women from less advanced groups (table 5) is quite low and, while systematically higher, does not differ that much from the number given by more educated women. For

Latin America (11 countries): Total fertility rate and intermediate variables by women's educational level at different stages in the evolution of fertility levels^a

Fertility level	Total			No schooling			Primary			Intermediate			Secondary and above		
	TFR	Ideal no. children	Age list union	TFR	Ideal no. children	Age list union	TFR	Ideal no. children	Age list union	TFR	Ideal no. children	Age list union	TFR	Ideal no. children	Age list union
Low															
Brazil	3.4	2.8	21.2	6.5	3.3	19.4	5.1	2.9	20.4	3.1	...	...	3.1	...	...
DHS 1986	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
DHS 1996	2.5	2.3	21.1	5.0	2.7	18.8	3.3	2.5	19.7	2.4	...	...	1.6	2.2	22.2
Medium-low															
Total	4.0	3.0	19.9	4.9	4.4	17.3	4.4	3.2	19.3	3.4	...	...	2.6	2.4	22.7
Mexico	DHS 1987	...	...	4.1	...	...	3.8	...	...	3.1	...	...	2.4	...	...
ENADID 1997	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dominican R.															
DHS 1986	3.7	3.4	18.5	5.3	3.6	16.8	4.3	3.5	17.6	2.9	3.1	21.3	2.1	3.1	22.4
DHS 1991	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
DHS 1996	3.2	3.2	19.3	5.0	3.7	16.3	4.3	3.3	17.6	3.4	...	...	2.4	2.9	22.7
Colombia															
WFS 1976	4.7	4.1	19.2	7.1	4.9	18.5	5.2	4.1	19.1	2.7	3.4	19.8	2.5	3.1	22.2
DHS 1986	3.2	2.7	20.8	5.4	3.4	18.1	4.2	2.9	20.1	2.5	2.4	22.1	1.5	2.4	22.7
DHS 1990	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
DHS 1995	3.0	2.5	21.5	5.0	3.3	18.5	3.8	2.8	19.7	2.4	2.4	22.0	1.6	2.4	22.9
DHS 2000	2.6	2.5	21.4	4.0	2.9	18.6	3.6	2.5	19.8	2.4	...	...	1.5	2.2	22.9
Ecuador															
DHS 1987	4.2	3.0	20.1	6.4	3.6	18.4	5.2	3.3	19.2	3.1	2.6	20.9	2.3	2.6	21.9
CDC 1994	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
CDC 1999	3.3	2.5	21.0	5.6	3.1	18.5	4.1	2.8	19.6	2.9	2.5	21.3	1.9	2.4	25.0
Peru															
WFS 1977	5.3	4.4	18.4	7.3	4.0	17.6	6.8	4.0	18.3	5.1	3.3	20.1	3.3	2.5	23.3
DHS 1986	4.3	2.7	20.5	7.0	3.2	18.7	6.1	2.9	19.1	4.7	2.4	21.2	2.9	2.5	23.3
DHS 1992	4.0	2.5	21.1	3.0	3.0	18.7	5.1	2.6	19.0	3.1	2.3	21.4	1.9	2.4	23.2
DHS 1996	3.5	2.5	20.9	6.9	3.1	18.7	5.0	2.7	19.1	3.0	...	...	2.1	2.3	23.0
DHS 2000	2.9	2.4	21.4	5.1	2.9	18.8	4.1	2.6	19.2	2.4	...	...	1.8	2.3	23.5
El Salvador															
DHS 1985	4.2	3.6	19.0	6.0	4.7	17.7	4.4	3.7	18.7	3.5	2.7	20.1	2.3	2.6	22.8
CDC 1993	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
CDC 1998	3.6	...	19.5	4.8	...	17.3	3.6	...	18.4	3.2	...	20.1	2.4	...	23.4
Medium-high															
Total	5.0	2.6	20.3	6.1	2.8	20.0	5.9	2.6	19.8	4.5	2.5	19.9	2.9	2.5	21.3
Bolivia	DHS 1989	...	...	...	...	...	...	...	...	...	...	...	...	...	...
DHS 1994	4.8	2.5	20.6	6.5	2.7	20.2	3.0	6.0	2.5	3.9	2.5	19.5	2.7	2.4	21.6
DHS 1998	4.2	2.6	20.9	7.1	2.7	20.2	6.6	5.8	2.7	3.8	...	...	2.7	2.5	22.1
Paraguay															
DHS 1990	4.7	3.9	20.9	6.7	5.0	19.4	6.2	4.2	20.0	4.5	...	...	3.2	3.3	23.3
CDC 1995/96	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
CDC 1998	4.3	...	...	6.2	...	...	5.8	...	...	5.0	...	...	3.0	...	...
High															
Total	5.5	3.8	18.6	7.0	4.7	17.7	5.6	3.5	18.7	4.5	...	...	3.9	2.9	22.8
Guatemala	DHS 1987	...	...	...	...	...	...	...	...	...	...	...	...	...	...
DHS 1995	5.1	3.6	19.0	7.1	4.6	17.8	5.1	3.6	18.7	3.2	...	...	2.6	2.7	22.3
DHS 1998/99	5.0	3.4	19.3	6.8	4.4	17.8	5.2	3.4	19.0	3.8	...	...	2.9	2.7	21.9
Haiti															
DHS 1994/95	4.8	3.3	20.8	6.1	4.6	20.1	4.8	3.2	20.7	4.7	...	...	2.5	2.9	23.9
DHS 2000	4.7	3.1	20.5	6.4	3.5	19.3	5.1	3.1	20.1	29.3	...	...	2.5	2.7	24.8

Source: Ferrando (2003).

a TFR: Total fertility rate; CU: Prevalence of contraceptive use; Modern CU: prevalence of modern contraceptive use; CDC: Centers for Disease Control and Prevention.

example, the ideal number of children for women without schooling is 2.7 in Brazil and Bolivia, 2.9 in Colombia and Peru, and 3.1 in Ecuador, while among those with more education it ranges from 2.2 to 2.4 in the same countries. What this means is that the gaps between observed and desired fertility in less advanced groups are large (for example, 5.0 against 2.7 in Brazil, 5.6 against 3.1 in Ecuador, 5.1 against 2.9 in Peru, 7.1 against 2.7 in Bolivia, 6.4 against 3.5 in Haiti). The cases of Colombia and Peru, for which 1970s data are available, also show that less educated women did not always want such small families as they claim to in recent surveys. It seems that in recent decades there has been a shift towards a smaller ideal family size among women in all social groups, including the lowest strata, although the motives of each group may be different.

The studies that have been done on the main proximate determinants of fertility (nuptiality, postpartum infertility, contraception and abortion) show that contraception is the variable which has been decisive in bringing down fertility in the region. This seems to hold true for the least advanced groups, which have increased their use of contraceptives, including modern ones. Abortion has been excluded from the studies owing to lack of information, although there are indications that it may be playing a major role in all social sectors (Ferrando, 2003).

Owing to urbanization, the expansion of education, improvements in the status of women and the efforts of family planning programmes, among other factors, information about contraceptives and how to obtain them has spread widely in the region's countries and in the different social groups. By and large, contraceptive use increases with formal education coverage. Two patterns of use corresponding to different social sectors can be distinguished, and these are linked to the level of fertility in each country (tables 5 and 6). On the one hand there are countries that generally have high and medium fertility and where contraceptive behaviour differs greatly between the groups with the highest level of education and those with the lowest (e.g., Guatemala, Bolivia and, to a lesser extent, Nicaragua). On the other hand, there are the countries, generally with lower fertility, where contraceptive behaviour differs less between these groups and where less educated women have taken up contraception on a larger scale (such as Brazil and Colombia).

In the first group of countries, the most recent surveys show a large difference in modern contraceptive use between women with less and more education (16% against 54% in Guatemala, for instance, and 8%

against 38% in Bolivia) and a relatively low take-up of female sterilization, as can be seen in table 6 (11% against 24% in Guatemala and 4% against 8% in Bolivia). Generally speaking, this latter method is more prevalent among more educated women in these countries. In the second group of countries there is less difference in modern contraceptive use between more and less educated women (57% against 75% in Brazil and 56% against 65% in Colombia), with a high level of female sterilization in all groups (46% against 36% in Brazil and 39% against 23% in Colombia), possibly because family planning programmes emphasize this method. In the countries where fertility has fallen most, female sterilization is most prevalent among less educated women, which has given rise to doubts as to whether its users have chosen it voluntarily or have been induced to adopt this method because there are no other options available or they lack information about them. This behaviour is probably due in part to the older age structure of women in the less educated group, which makes them more likely to have had recourse to sterilization. More recent generations of women, by contrast, have had greater access to other methods of contraception.

To sum up, when uneducated women are compared between these two groups of countries, the differences in total fertility rates are found to be associated with differences in the use of modern contraceptive methods, chiefly female sterilization.

Certain aspects of reproductive behaviour and the family size that eventually results are linked to women's nuptial behaviour (age at marriage, frequency of unions, the proportion remaining permanently single, time spent within unions, etc.).

As mentioned, in the early stages of the fertility transition in the countries of Western Europe, later marriage and an increase in the proportion of women remaining single both had a decisive impact (Zavala de Cosío, 1992). Likewise, indicators of nuptiality for women from middle and upper social sectors in Latin America reveal behaviour which, while it may be less extreme, is broadly similar. The age at which women with intermediate or higher education enter their first union is generally around 24 (table 5), and the percentage of women who are still single when their childbearing years are over is higher than in the other groups. Among less educated women, patterns of nuptiality have been less influential than contraception in bringing fertility down. Among more educated women, on the other hand, these patterns have played (and are playing) a more important role.

TABLE 6

Latin America (six countries): Total fertility rate and percentage of women using contraceptives, by method and educational level

Fertility level	Total fertility rate	Use of any method	Using modern methods					Using traditional methods					Total					
			Total modern methods	Pill	IUD	Injection	Vaginal	Condom	Female sterilization	Male sterilization	Total trad. meth.	Rhythm		Withdrawal	Others			
High																		
Guatemala 1998/99																		
No schooling	5.0	38.2	30.9	5.0	2.2	3.9	0.0	2.3	16.7	0.8	7.2	5.7	1.5	0.1	61.8	100		
Primary	6.8	19.4	16.0	1.2	0.3	2.3	0.0	0.7	11.4	0.0	3.4	2.8	0.6	0.0	80.6	100		
Middle and above	5.2	38.4	31.3	5.9	0.9	4.1	0.0	2.0	17.3	1.2	6.8	5.4	1.4	0.3	61.6	100		
	2.9	68.0	53.6	9.0	8.3	5.8	0.2	5.7	23.7	1.0	14.3	11.1	3.3	0.0	32.0	100		
Medium-high																		
Bolivia 1998																		
No schooling	4.2	48.3	25.2	3.8	11.1	1.1	0.0	2.6	6.5	—	23.1	20.0	2.3	0.8	51.7	100		
Basic	7.1	19.4	7.6	0.5	2.8	0.2	0.0	0.4	3.7	—	11.9	9.9	0.4	1.5	80.6	100		
Intermediate	5.8	38.1	16.4	2.5	6.6	0.8	0.0	1.4	5.1	—	21.7	18.0	2.5	1.2	61.9	100		
Secondary and above	4.6	53.3	27.5	6.8	10.0	1.1	0.0	2.2	7.4	—	25.9	22.0	3.0	0.9	46.7	100		
Nicaragua 2001																		
No schooling	2.7	65.2	38.3	4.9	18.5	1.7	0.1	4.7	8.3	—	26.9	24.4	2.4	0.2	34.8	100		
Primary 1-3	3.2	68.6	66.1	14.6	6.4	14.3	—	3.3	25.3	0.5	2.5	1.5	1.0	—	31.4	100		
Primary 4-6	5.2	52.1	50.4	8.9	2.0	14.4	—	1.1	21.4	0.0	1.8	1.1	0.6	—	47.9	100		
Secondary	4.2	67.4	65.8	13.4	2.9	16.4	—	2.2	27.9	0.6	1.6	0.8	0.7	—	32.6	100		
Higher	3.3	74.5	72.4	16.8	7.0	15.4	—	3.2	27.4	0.5	2.0	1.4	0.6	—	25.5	100		
	2.5	73.0	69.7	17.7	9.0	12.9	—	4.4	24.0	0.7	3.3	1.8	1.5	—	27.0	100		
	1.7	72.7	68.3	11.5	11.9	10.7	—	6.5	26.6	0.3	4.5	3.0	1.5	—	27.3	100		
Medium-low																		
Peru 2000																		
No schooling	2.9	68.9	50.4	6.7	9.1	14.8	0.6	5.6	12.3	0.5	17.5	14.4	3.2	0.9	31.1	100		
Primary	5.1	50.2	33.0	2.8	4.0	11.9	0.0	0.8	11.8	0.9	15.2	13.0	2.2	2.0	49.8	100		
Secondary	4.0	63.5	43.8	5.5	4.0	15.7	0.4	2.8	13.8	0.4	18.4	15.2	3.2	1.4	36.5	100		
Higher	2.4	74.6	56.7	8.0	11.9	16.8	0.8	6.6	11.6	0.5	17.3	13.6	3.8	0.6	25.4	100		
Colombia 2000																		
No schooling	1.8	75.5	58.1	7.8	15.6	9.9	0.9	11.3	10.8	0.6	17.3	14.9	2.4	0.1	24.5	100		
Primary	2.6	76.9	64.0	11.8	12.4	4.0	0.8	6.1	27.1	1.0	12.3	6.0	6.3	0.7	23.1	100		
Secondary	4.0	72.7	55.5	8.0	2.6	2.0	0.5	2.1	39.3	0.0	15.7	3.6	12.1	1.5	27.3	100		
University	3.6	77.0	62.1	12.7	9.7	2.8	0.5	4.5	30.3	0.5	14.1	5.6	8.4	0.9	23.0	100		
	2.4	77.7	66.7	12.6	14.5	5.6	1.0	6.8	24.1	1.5	10.5	5.6	4.9	0.5	22.3	100		
	1.5	75.4	63.5	7.2	17.5	3.1	0.9	10.3	22.7	0.9	11.8	9.5	2.3	0.2	24.6	100		
Low																		
Brazil 1996																		
No schooling	2.5	76.7	70.3	20.7	1.1	1.2	0.1	4.4	40.1	2.6	6.1	3.0	3.1	0.3	23.3	100		
1-3 years	5.0	64.1	56.6	7.2	0.8	0.4	0.0	2.2	45.7	0.3	6.8	2.7	4.1	0.7	35.9	100		
4 years	3.6	69.2	63.7	14.1	0.5	0.8	0.0	2.1	44.9	1.1	5.0	2.0	3.0	0.5	30.8	100		
5-8 years	3.0	75.0	68.8	20.9	1.0	0.9	0.1	3.6	40.4	1.9	5.8	2.6	3.2	0.4	25.0	100		
9-11 years	2.4	80.1	74.5	27.3	1.0	1.5	0.0	5.1	36.9	2.7	5.5	2.4	3.1	0.1	19.9	100		
12 or over	1.7	83.1	75.4	23.0	1.5	1.9	0.0	6.0	38.8	4.1	7.6	4.6	3.0	0.1	16.9	100		
	1.5	85.7	76.3	19.4	3.3	0.8	0.4	8.8	35.7	8.0	9.1	6.4	2.7	0.3	14.3	100		

Source: Ferrando (2003) and Demographic and Health Surveys.

The indicators of nuptiality derived from the Demographic and Health Surveys show that uneducated women are more exposed to conception than those who are more highly educated, both because a smaller percentage of them are single and because they spend more time in unions over similar periods and enter their first union at an early age. This age is younger than that at which more educated women enter their first union, but by contrast with the previous case, no differences are seen in this respect between countries with different levels of fertility (table 5).

The duration of breastfeeding, a fundamental component of postpartum infertility, has also been regarded as a very important proximate determinant of

fertility that affects exposure to the risk of pregnancy, the intervals between births and the final fertility level. Because breastfeeding prevents ovulation, prolonging postpartum amenorrhoea, a decline in fertility might be expected to be associated with longer periods of breastfeeding.

Prolonged breastfeeding has traditionally been the ideal in Latin America, emphasis being laid on the importance of mother's milk for the health and future development of the child, particularly in the most disadvantaged sectors of society. The latest surveys have revealed some heterogeneity in the reported duration of breastfeeding, however, which ranges from a national average of eight months in the Dominican Republic to 22 months in Peru (table 7).

TABLE 7

Months of breastfeeding by women's educational level in selected countries of Latin America at different stages of the demographic transition

Fertility level	Educational level									
	Total		No schooling		Primary		Secondary		Higher	
	TFR	Breast-feeding	TFR	Breast-feeding	TFR	Breast-feeding	TFR	Breast-feeding	TFR	Breast-feeding
High										
Guatemala										
DHS 1987	5.6	20.6	7.0	22.9	5.6	20.1	3.3	14.4	–	–
DHS 1995	5.1	19.8	7.1	22.2	5.1	19.0	2.7	11.0	1.8	9.6
DHS 1998/99	5.0	19.9	6.8	21.4	5.2	19.0	2.9	13.6	–	–
Medium-high										
Bolivia										
DHS 1989	4.9	16.2	6.1	17.8	5.9	17.3	4.5	15.2	2.9	12.3
DHS 1994	4.8	17.5	6.5	20.7	6.0	18.0	4.9	15.2	2.7	15.1
DHS 1998	4.2	17.5	7.1	20.5	5.8	18.4	4.6	15.8	2.7	15.9
Nicaragua										
ESF 1992/93	4.5	12.3	6.8	15.9	4.7	12.2	3.4	9.6	2.4	9.4
DHS 1998	3.9	12.2	6.1	17.6	4.7	14.1	2.7	8.4	1.5	6.0
DHS 2001	3.2	17.0	5.2	20.2	3.8	18.4	2.5	14.7	1.7	9.4
Medium-low										
Peru										
DHS 1986	4.5	16.3	7.0	–	6.1	–	4.7	–	2.9	–
DHS 1992	3.5	17.3	7.1	21.9	5.1	19.3	3.1	14.8	1.9	10.3
DHS 1996	3.5	19.5	6.9	22.4	5.0	19.9	3.0	19.5	2.1	15.0
DHS 2000	2.9	21.6	5.1	25.4	4.0	21.9	2.4	22.0	1.8	17.4
Dominican Republic										
DHS 1986	3.7	9.4	5.3	12.7	4.3	10.0	2.9	7.2	2.1	6.2
DHS 1991	3.3	5.9	5.2	16.6	3.8	7.1	2.8	5.2	2.6	2.5
DHS 1996	3.2	7.6	5.0	14.2	3.0	9.1	2.6	6.5	1.9	4.4
Colombia										
DHS 1986	3.3	11.1	5.4	12.4	4.2	11.9	2.5	9.5	1.5	–
DHS 1990	2.9	8.5	4.9	13.7	3.6	9.4	2.4	7.8	1.6	4.9
DHS 1995	3.0	11.3	5.0	12.2	3.8	12.6	2.6	10.6	1.8	7.8
DHS 2000	2.6	13.1	4.0	9.9	3.6	16.9	2.4	12.6	1.5	6.4
Low										
Brazil										
DHS 1986	3.4	–	6.5	–	5.1	–	3.1	–	2.5	–
DHS 1996	2.5	7.0	5.0	5.8	3.3	7.6	2.4	6.5	1.6	7.5

Source: Demographic and Health Surveys (various years), www.measuredhs.com, and ESF (Encuesta sobre Salud Familiar) in Nicaragua.

When the average number of months' breastfeeding by women's educational level is observed, Demographic and Health Survey data show that there are differences here as there are with the other variables, and that it tends to diminish as years of education increase. This behaviour is also seen in other countries and seems to be a consequence of the faster pace of urban life, greater involvement by women in work outside the home, inadequate knowledge of the benefits of breastfeeding and the easy availability of alternative foodstuffs. It has been pointed out that one reason for the decline in breastfeeding is that health institutions have developed routines and practices which do not favour it, such as separating mothers from their newborn children, establishing rigid feeding hours, using feeding bottles and distributing free samples of

other types of foods (Rodríguez-García, Schaefer and Yunes, 1990).

Uneducated women breastfeed for longest (between 10 and 25 months) and no significant changes have been observed in this variable within each country over time, which means that it clearly has not been an influence on changes in fertility levels, at least in the last few years. The same surveys also show that, among uneducated women, breastfeeding actually has a shorter duration in countries with lower fertility, such as Colombia and the Dominican Republic, than in countries with higher fertility, such as Guatemala and Bolivia. Although breastfeeding goes on for longer in these latter, favouring lower fertility, this is obviously not enough to offset the effects on fertility of lower contraceptive use.

VI Conclusions

As with every known demographic transition process, the least advanced groups in Latin America (taking women with primary-level education or none as a proxy) have now also reached the stage of declining fertility, probably triggered by an earlier drop in infant mortality. What is more, the fertility of these groups has fallen in almost all the region's countries, irrespective of their stage in the demographic transition and the fertility level from which they set out or which they have now reached. Data from the most recent Demographic and Health Surveys confirm this development.

In the most advanced transition countries there is now a discernible tendency for the different social groups to converge downwards towards low levels, although there are still differences by education level. Furthermore, current TFR levels among the least advanced groups are still high in relation to the regional average. In high- and medium-fertility countries there is a substantial gap between groups by educational level, and the TFR of the less advanced groups has declined less or, in some cases, even increased. It still falls into the high-fertility category in these countries, generally exceeding five children per woman.

Regarding the contribution made by social mobility and changes within sectors to the decline in the TFR, the results indicate that both factors were

important in the early stages of the transition (1960s and 1970s), with the second always preponderating. In recent years, changes have been associated more with what has happened within less advanced groups. In the last decade, declining fertility in the countries has been mainly due to the contribution of women with a low level of education. Behaviour has been more heterogeneous in the countries that are least advanced in the transition, while in the more advanced ones the greatest contribution has been more clearly attributable to women with primary education.

Women in the least advanced groups, whose desired family size is not far different from that of more educated women, do not behave like the latter when it comes to delaying marriage, but continue to marry early. Contraceptive use has been observed to increase among them, however, albeit (as was to be expected) to a lesser extent than among more educated women. There are differences between the countries observed in this respect: in lower-fertility countries, the contraceptive behaviour of women with a low level of education differs less from that of their more educated counterparts in terms of their use of modern contraceptive methods, especially sterilization. Sterilization is actually used more by less educated women, perhaps in part because the decision to do so has not always been wholly voluntary but has been

conditioned by lack of access to and information about other options. In the higher-fertility countries, contraceptive use is low and this is undoubtedly keeping the fertility of the least advanced groups high.

To sum up, the drop in infant mortality (mainly brought about by exogenous factors) would appear to have triggered the decline in fertility in less advanced groups, and this has coincided with the expansion of education, the desire for a smaller number of children

and a larger supply of contraceptives, although access to these is still very restricted for these sectors. Possible future declines in infant mortality, which is still high among these groups, could lead to larger drops in fertility in future. In the final analysis, however, any really significant change would seem to depend on how effectively less educated women can narrow the gap between the number of children they wish to have and the number they actually do have.

Bibliography

- Arriaga, E. (1974): *América Latina: el descenso de la mortalidad y sus efectos demográficos*, Bogotá, D.C., Colombian Association for Population Studies (ACEP).
- Bongaarts, J. (1978): A framework for analyzing the proximate determinants of fertility, *Population and Development Review*, vol. 4, No. 1.
- _____ (1982): The fertility inhibiting effects of the intermediate fertility variables, *Studies in Family Planning*, vol. 13, No. 6/7, New York, Population Council, June-July.
- Bongaarts, J., W.P. Mauldin and J.F. Phillips (1990): The demographic impact of family planning programs, *Studies in Family Planning*, vol. 21, No. 6, New York, Population Council, November/December.
- Chackiel, J. and S. Schkolnik (1992): La transición de la fecundidad en América Latina, *Notas de población*, No. 55, LC/DEM/G.124, Santiago, Chile, Population Division of ECLAC-Latin American and Caribbean Demographic Centre (CELADE).
- Cleland, J. (2002): Education and future fertility trends, with special reference to mid-transitional countries, *Completing the Fertility Transition*, New York, United Nations.
- Cleland, J. and G. Rodríguez (1988): The effect of parental education on marital fertility in developing countries, *Population Studies*, No. 3, London, London School of Economics.
- Davis, K. and J. Blake (1956): Social structure and fertility: an analytic framework, *Economic Development and Cultural Change*, vol. IV, No. 3, Chicago, University of Chicago Press, April.
- ECLAC (Economic Commission for Latin America and the Caribbean) (2004): Latin America and Caribbean: population estimates and projections 1950-2050, *Demographic Bulletin*, year 37, No. 73, LC/G.2225-P, Santiago, Chile, Population Division of ECLAC-Latin American and Caribbean Demographic Centre (CELADE). United Nations publication, Sales No. E/S.03.II.G.209.
- _____ (1995): *Population, Social Equity and Changing Production Patterns*, Libros de la CEPAL series, No. 35, LC/G.1758/Rev.1-P, Santiago, Chile. United Nations publication, Sales No. E.93.II.G.8.
- Encuestas Nacionales de Demografía y Salud (various years): www.measuredhs.com.
- Ferrando, D. (2003): *La fecundidad en América Latina. Tendencias, determinantes y perspectivas*, Santiago, Chile, Economic Commission for Latin America and the Caribbean/Population Division of ECLAC-Latin American and Caribbean Demographic Centre (CELADE), unpublished.
- Guzmán, J.M. and J. Rodríguez (1993): La fecundidad pre-transicional en América Latina: un capítulo olvidado, *Notas de población*, No. 57, LC/DEM/G.133, Santiago, Chile, Economic Commission for Latin America and the Caribbean/Population Division of ECLAC-Latin American and Caribbean Demographic Centre (CELADE), June.
- League of Nations (1943): *Statistical Yearbook of the League of Nations, 1941/42*, Geneva.
- Pérez Brignoli, H. (1994): América Latina en la transición demográfica, 1800-1980, *La transición demográfica en América Latina y el Caribe*, vol. I (first part), Mexico City, Brazilian Association for Population Studies (ABEP)/Population Division of ECLAC-Latin American and Caribbean Demographic Centre (CELADE)/International Union for the Scientific Study of Population (IUSSP)/Regional Population Information Seminar for Development (PROLAP)/Sociedad Mexicana de Demografía (SOMETE).
- Rodríguez-García, R., L.A. Schaefer and J. Yunes (eds.) (1990): *Educación en lactancia para los profesionales de la salud*, Washington, D.C., Pan American Health Organization (PAHO).
- Schkolnik, S. and J. Chackiel (1998): América Latina: la transición demográfica en sectores rezagados, *Notas de población*, No. 67/68, LC/DEM.G.186, Santiago, Chile, Economic Commission for Latin America and the Caribbean/Population Division of ECLAC-Latin American and Caribbean Demographic Centre (CELADE), January/December.
- United Nations (1995): *Women's Education and Fertility Behaviour: Recent Evidence from the Demographic and Health Surveys*, ST/ESA/SER.R/137, New York. United Nations publication, Sales No. E.95.XIII.23.
- Weinberger, M.B., C. Lloyd and A.K. Blanc (1989): Women's education and fertility: a decade of change in four Latin American countries, *International Family Planning Perspectives*, vol. 15, No. 1, New York, Allan Guttmacher Institute, March.
- Zavala de Cosío, M.E. (1992): La transición demográfica en América Latina y en Europa, *Notas de población*, No. 56, LC/DEM/G.132, Santiago, Chile, Economic Commission for Latin America and the Caribbean/Population Division of ECLAC-Latin American and Caribbean Demographic Centre (CELADE).

Urban segregation and public space: young people in enclaves of structural poverty

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This article explores some of the changes currently occurring in enclaves of structural poverty in Argentina. While many studies have dealt with middle-class impoverishment, this study addresses the growing geographical concentration and accumulation of social disadvantages, something that has triggered a process of urban segregation and threatens these enclaves with exclusion. Control of the public space in such areas of structural poverty proves to be a determining factor in many of the disadvantages suffered by these communities: social isolation, internal fragmentation and depletion of household asset portfolios. Setting out from an ethnographic analysis of the way young people appropriate the public space and impose a “street culture” with its own norms and practices, this paper explores the dynamic complex of disadvantages that operates as an engine of exclusion for these enclaves and their inhabitants.

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I

Introduction

Amartya Sen's theoretical and methodological work on poverty was a clear turning point for both analysis and public policy in this area (Sen, 1981, 1983 and 1995). By grounding the problem of poverty not just in the lack of resources but in the capabilities of households and their members too, this work gave rise to new approaches (for both analysis and action) centred on the disadvantages affecting particular sectors which generate and reproduce poverty. This new analytical outlook meant that the issue of poverty was addressed within the framework of theoretical debates on equality and civic rights in modern societies. At the same time, a start was made on exploring (and highlighting) different socio-economic dimensions at the micro, meso and macro level that constrain the ability of households to achieve full social integration. The result was that poverty analysis attained a higher level of complexity.

The present article is inspired by this analytical perspective, adopting two of its fundamental assumptions. Firstly, it aims to move beyond a static, restrictive and dichotomous (poor/not poor) view of poverty and take a more dynamic, process-oriented approach that stresses the accumulation of advantages and/or disadvantages. This analytical approach has been developed and consolidated in the contemporary literature on social exclusion and vulnerability, where disaffiliation processes are viewed as the outcome of a growing concentration and accumulation of disadvantages in particular sections of society.¹ Secondly, and following directly on from the foregoing assumption, it accepts the need to explore sociocultural dimensions associated with situations of poverty in which mutually reinforcing complexes of disadvantage can be found. The labour market, but also the household of origin, the neighbourhood and local community, are among the places where these advantages and/or disadvantages are generated. The many factors and processes that the disadvantages arising in these places can trigger emerge as a key issue both for studying and assisting vulnerable groups, and

for increasing our ability to anticipate social exclusion processes.

This paper will seek to explore just one of the areas where advantages or disadvantages can be generated: the local neighbourhood and community. In particular, it will seek to analyse a specific factor associated with the neighbourhood and community life, which is the role of the public space in hastening the accumulation of advantages or disadvantages in poor urban communities. What has prompted this article is an interest in ascertaining how the neighbourhood public space is experienced or lived, and how it affects its inhabitants as individuals and the community as a whole.

The considerations set forth in this article are based on the study of dominant youth cultures (or "street cultures") in neighbourhoods with a high concentration of poverty in two localities in Greater Buenos Aires: Lanús and Florencio Varela.² It does not deal with environmental or economic conditions in poor neighbourhoods, focusing rather on the characteristics of the relationships and values prevailing in a public space dominated by young people. In particular, it will analyse the production of stigmatizing differentiations of the "us and them" type associated with the neighbourhood public space. These differentiations are found at different levels of analysis (micro, meso and macro) and attach themselves to individuals in successive layers that act as sources of advantage or disadvantage in their daily lives.

The article contains five sections. Section II that follows looks at the conceptualization of the neighbourhood as the most immediate public space, halfway between the public and private worlds, and at the same time as a possible source of advantages and/or disadvantages for the community and its inhabitants. Section III examines the association of sociocultural

¹ See Paugam (1995), Room (1995), Castel (1999) and Bhalla and Lapeyre (1999).

² The information on which this article is based was obtained from fieldwork carried out in the second half of 2000, comprising 60 interviews with young people living in neighbourhoods within the districts of Lanús and Florencio Varela in Greater Buenos Aires. These interviews are the source for the quotes that appear in small type in sections III and IV. The names of respondents and the neighbourhoods where they live have been changed to preserve confidentiality.

aspects with the spatial dimension, highlighting how the place of residence begins to act as a source of disadvantage and exclusion. Section IV explores the creation of a dominant youth culture (or street culture) in neighbourhoods with a high concentration of poverty and the effects of this on the community, especially the young. Lastly, section V brings together the arguments

analysed to suggest that in today's Argentina poor neighbourhoods are beginning to suffer from a new disadvantage associated with the norms, values and practices that dominate the local public space. This new aspect is characterized as a cultural dimension of urban segregation that is simultaneously a cause and an effect of exclusion.

II

Urban segregation and the public space in enclaves of poverty

The different definitions of local community or neighbourhood have common practical and instrumental problems that are difficult to resolve. These problems have to do with the feasibility of setting limits or boundaries that provide identifiable units of analysis. Setting out from a systemic perspective of local community, this article recognizes and accepts that the social and environmental limits of a neighbourhood may be flexible and diffuse. What it emphasizes are the formal and informal social relationships among those living there. This does not mean relinquishing the possibility of taking the neighbourhood as a unit of analysis, but rather focusing the analysis on social relationships that are underpinned by a common geographical reference. As Kasarda and Janowitz (1974) have pointed out, such relationships are the "the social fabric of human communities, be they neighborhoods, local communities, or metropolitan areas". The substance, fluidity and scope of these relationships are revealed during the research process itself, which means that they cannot be defined in advance. The neighbourhood, then, is a flexible unit of analysis whose initial delineation may (or may not) be modified during the course of the research.

The neighbourhood as the scene of social relationships and interaction is associated with the idea of the local public space. Thus understood, it is the most immediate public space; the first public encounter upon emerging from the private space.³ The public

space is the *locus* where neighbourhood social encounters, interactions and relationships take place; nonetheless, the attributes taken on by these social practices are defined by the characteristics of local public life, and depend on these. On the one hand, the street corner, the square, the park, the kiosk or corner shop, the school or club doorway, are public spaces where the neighbourhood makes itself known. On the other hand, the prevailing climate —of security or insecurity, violence or friendliness, mutual recognition or indifference— will mould the characteristics of the interactions and relationships that are constructed in local public spaces. This being so, as noted earlier, it is not possible to determine in advance the precise substance of the social practices that constitute the essence of the neighbourhood, as has been attempted by some conceptualizations that emphasize and prioritize social networks based on friendship and/or kinship. We agree with Sampson (2001, p. 102) that "for better or worse, in many neighborhoods, neighbors are acquaintances or strangers rather than friends", and it might be added that these relationships are not necessarily free from conflicts or dominated by contrasting values and norms.

Nonetheless, whether relationships are based on cooperation or conflict and interactions on friendship or mutual indifference, the neighbourhood is a place whose social and cultural practices are familiar to those involved in them. In other words, it is not just any

³ This article follows the distinction proposed by Rabotnikof (2003) between the different ways in which public-private differentiation has been understood, equating this dichotomy with the contrast between opening and closure. "...By 'public' is meant what is

accessible or open to all, in opposition to the private, understood as that which is out of bounds to others" (Rabotnikof, 2003, p. 20). The ways in which these open spaces are appropriated (and abandoned) are in fact part of the main analytical focus of this article.

public space, but a place of transit that separates (or joins) the public and private worlds. It is for this reason that, as Pierre Mayol puts it, the neighbourhood can be understood as the progressive privatization of the public space. According to Mayol (1999, p. 8), "the neighbourhood is, almost by definition, a domain of the social environment since for those who use it it represents a known portion of the urban space where they feel they are more or less recognized. The neighbourhood can be understood, then, as that portion of the public space in general (anonymous for everybody) into which a particularized private space is gradually insinuated because of its practical day-to-day use." Because of this closeness and immediacy, the "neighbourhood public space" takes on particular importance in the experiences and living conditions of those participating in it (i.e., its inhabitants), and it can be regarded as having a direct effect on the local community insofar as it gives rise to different practices of sociability. In fact, the public space is a fundamental ingredient for the very existence of the community. However, its effects on the community as a whole and on local residents in particular may be either positive or negative (in terms of being advantageous or disadvantageous).

Freie (1998, p. 49) notes that it is in the public arena that a great variety of people can meet, the habit of association can develop, and the roots of democracy can be cultivated. The public space and the social practices generated there may provide the basis for collective action, for exchanging goods, information and other resources, for making contacts, for generating, disseminating and maintaining particular social values and norms. The neighbourhood can thus be an important source of civic, social and cultural capital.

This normative definition of the public space does not always coincide with experience, however. In certain contexts the public space may risk becoming the scene of violence or crime, of values and norms that are different from or at odds with those of society at large, or of isolation and segregation. In any of these contexts, the local public life or social practices that constitute the neighbourhood take on particular characteristics. In the first case, residents may withdraw from the local public sphere by expanding the limits of private life, thereby isolating themselves further from one another and reducing the likelihood that collective action or mutual support networks can be generated. The second case may give rise to social practices that, being based on values and norms

contrary to, distinct from or rejected by society, hinder the social integration of residents. In the third case, the neighbourhood may become a social wall behind which redundant and unenriching living conditions, social relationships and experiences are reproduced, something that takes on particular importance in conditions of poverty. These situations, highlighted merely as examples among others that could be mentioned, are not mutually exclusive but can accumulate and reinforce one another. Internal fragmentation, isolation from society at large and the depletion of household asset portfolios are some of the effects that may derive from the characteristics taken on by the local public space and that can turn the neighbourhood into a liability or, to put it in less economic terms, a major source of disadvantages for its own inhabitants and the community as a whole.

Thus, the local socio-spatial environment proves to be an aspect of particular importance for the study of poverty or, more specifically, of situations of social vulnerability that may lead to exclusion. When he became president of the Population Association of America, Douglas Massey saw the twenty-first century as an age of extremes, in which poverty and wealth would become increasingly concentrated and isolated (Massey, 1996). This process of dualization (social and spatial at the same time), found in both developed and developing countries, would have profound consequences for the ability of contemporary societies to integrate their members socially. According to Massey (1996, p. 407), these limitations are compounded by sociocultural factors associated with the new segregation of the urban poor: "In the emerging ecology of inequality, the social worlds of the poor and the rich will diverge to yield distinct, opposing subcultures. Among those at the low end of the income distribution, the spatial concentration of poverty will create a harsh and destructive environment perpetuating values, attitudes, and behaviors that are adaptive within a geographic niche of intense poverty, but harmful to society at large and destructive to the poor themselves."

Different studies, particularly some carried out in the United States and Europe,⁴ have addressed this dimension of analysis. In Latin America, and in Argentina specifically, few efforts have been made to explore the new socio-spatial conditions of poverty.

⁴ See Wilson (1987 and 1996), Jencks and Peterson (1991), Massey and Denton (1993) and Musterd and Ostendorf (1998).

Over the last three decades, and particularly since the 1990s, Argentine society has been undergoing a profound socio-economic transformation whose effects on the social structure are only just beginning to be perceived. Several studies⁵ have explored, as part of the social consequences of the new socio-economic model, the process of impoverishment in large sections of the middle class leading to the emergence of the so-called “new poor”. There has been less interest, however, in analysing the new conditions facing the “old poor” or structural poor. The few studies that have focused on this issue are at one in warning of the concentration and accumulation of numerous disadvantages as a new attribute of traditionally poor neighbourhoods, with the potential for a “new marginalization in old territories” (Auyero, 2001). Katzman (2001) sees the emergence of growing social isolation affecting the urban poor in the major cities of the Southern Cone, with the resultant creation of urban ghettos. Similarly, Prévôt-Schapira (2001) believes, in the case of Argentina, that cities are fragmenting into numerous urban and social spaces characterized not only by contrasting living conditions, but also by profound differences in expectations and in opportunities for social mobility and integration.

To sum up, the arguments presented so far emphasize the importance of the neighbourhood public space for the study of social vulnerability. Following Mayol (1999), we regard the neighbourhood as an object of consumption that residents (or users) make their own by appropriating the public space. As we mentioned earlier, however, neighbourhoods are not exempt from conflict and the social practices that predominate there are not always the same. Thus, the neighbourhood public space is a black box, exploration of which can illuminate new aspects of social vulnerability. Who appropriates the public space, how they do it and how they assert themselves over the local community, what type of sociability is associated with this appropriation, and what consequences the public space thus shaped has for the opportunities of the community and those who live there, are research issues that emerge from this approach. They will be addressed in the sections that follow with a view to unravelling, through ethnographic analysis of young people in poor neighbourhoods, the way certain practices, norms and values are consolidated in the public space and the effect this has on the community and its inhabitants.

III

The neighbourhood as a symbolic construct

Lanús and Florencio Varela have contrasting environmental characteristics. Although both belong to Greater Buenos Aires, Lanús forms part of the ring surrounding the city of Buenos Aires, while Varela is located in the second, outer ring of the conurbation, 25 km to the south of the federal capital. Lanús was a destination for the waves of European migrants who arrived in the country in the late nineteenth and early twentieth centuries, and it industrialized early and rapidly. The urbanization process in Varela, on the other hand, is more recent, having been fed by internal migrants from the northern provinces, immigrants from neighbouring countries and displaced former “shanty town” dwellers. These settlers were attracted by the availability or low price of land, but since no local industry ever developed, they tended to work in

neighbouring municipalities or in the capital. Another important point is that Lanús is highly urbanized, has one of the highest indices of population density in Greater Buenos Aires and presents a marked heterogeneity in its social structure, with large middle-class and working-class sectors, but also with areas of extreme poverty. Florencio Varela, on the other hand, has a very low population density, there being areas where agriculture still predominates, and is very homogeneous in its social composition, the overwhelming majority being poor: it is the municipality with the highest index of poverty in the whole conurbation of Greater Buenos Aires.

These characteristics of the two municipalities result in clearly contrasting socio-economic urban situations, with major consequences for the transition to adulthood.⁶

⁵ See Minujin (1992), Minujin and López (1994), Minujin and Kessler (1995) and Kessler (2000).

⁶ See Saraví (2002) for an analysis of these effects.

The disparities are not confined to economic and environmental aspects, however. Structural differences are reflected in the different perceptions of the two areas in the social imaginary. Whereas Lanús tends to be characterized by the predominance of prototypically working-class norms and values, Florencio Varela is believed to have the features of a typical ghetto of urban poverty, such as low educational levels, the sale and use of drugs, violence and crime, very high levels of joblessness, insecurity of employment, and so on. The public image of the two places has been predefined as a result of processes involving social prejudice, individual experiences, the media and even the type of State intervention. The decantation and objectivization of socially constructed perceptions have resulted in each of these urban spaces being assigned its own identity. These identities, however, are not necessarily rooted in empirical facts, but have taken on a life of their own as they have been perpetuated in the collective imaginary.

When I was preparing to begin my fieldwork in these two locations, my family, friends, acquaintances and other people who knew what I was planning all gave me the same advice (although many of them had never been in these places): "take care in Varela, it's very dangerous". Nobody warned me about the risks and perils of certain specific neighbourhoods in Lanús, however. Anthropologists get used to suggestions of this type and disregard them as mere expressions of the exoticism with which anthropology is generally associated; they do have a value in themselves, however, as a manifestation of perceptions about "otherness". In this case, despite the heterogeneity of the situations to be found in the two places (most especially in Lanús), each of them was presented as having a single, unchanging identity.

All the young people interviewed knew the other area in which I was working and had formed an opinion about it; two of them had a closer knowledge, as they had lived or had family in both. In the interviews with them references to these two areas came up, once again revealing the public image of each.

How did your life change when you moved from Varela to Lanús?

It changes because of the people you mix with. Because in Varela or Solano, I mixed with people who were on drugs because there was no way, because..., because of all the social problems there were, and here in Lanús kids who were on drugs had other values, you know. It's like..., they were more mummy's boys and did it more because of the fashion, going out, exams, this and

that..., or just fooling around. But there in Varela it was like kids did it just to keep going a lot of the time, you know; you had to get three or four pills down you to go out stealing, to have the nerve to go out and steal. You just had to put up with things there..., it was something else, something else. (Anibal, 23, Lanús).

There were three houses where we lived. The one at the front was my uncle's, the middle one was ours, and the one at the back was my grandmother's. My uncle had a fight [with the parents] as well and left, but he went to the Barrio Fresno [in Varela]. It was a shame he went. You realize with the kids, with my cousins, the huge differences in what they were like and what we were like. Huge differences in the words they use, manners, everything. *And you put that down to the neighbourhood?* Absolutely. Absolutely, because the oldest girl is more like me, because she grew up in the house in San Pablo [Lanús] where we were. Working people live in San Pablo, down-to-earth people, but halfway decent, I mean there are no villas [slums], no low-life... *And how are you different from your cousins?* The words they use, the music they listen to..., it's all cumbia, I don't listen to cumbia for instance, I dance sometimes but I like a different kind of music..., little things, but, well... Friends too. Their friends there carry guns, here I haven't got any friends like that or...; I didn't meet kids who smoked or drank until I was 22, when I was grown up, while they were with all that kind of people when they were still little. (Vicky, 25, Lanús).

This opposition, associated furthermore with social and cultural differences between groups, is a specific example of the oppositional mechanism underlying the (social) construction of identity. This basic distinction between "us" and "them" is reproduced at different levels. As already noted, at the macro level (Greater Buenos Aires) Lanús is seen as a "working-class area" and Varela as a "ghetto of urban poverty"; when we entered these communities, however, we found that people were not as alike as all that, and at both the meso (town) and micro (neighbourhood) level new distinctions between "us" and "them" emerged. In every new social context (*locus*) this oppositional mechanism is reproduced, with distinctions being drawn between different social groups characterized by contrasting sociocultural features (values, beliefs, attitudes, behaviour, norms). Thus we hear that Lanús also has its ghettos of urban poverty and that Florencio Varela has working-class areas, and even that within these ghettos not everybody adheres to the dominant norms, values and practices.

When José, one of those interviewed in Lanús, spoke about the situation of young people, he drew a clear distinction between an "us" to which he belonged

and which was constituted by the neighbourhood, and a “them” represented by the neighbouring *villa* (slum), the two being separated by a narrow (but sufficient) strip of asphalt.⁷ Here the social distinction between “us” and “them” is overlaid by a spatial differentiation, but even in the *villa*, in a single geographical space, social distinctions arise. In his interview, Antonio showed a clear interest in differentiating himself from the other youths living in the *villa*. We found a similar situation in Florencio Varela, where, although spatial contrasts are less obvious, young people identified similar differences. Julia, for example, stated her intention to move to an area of working people, where her family ought to be, by contrast with her current neighbourhood, which was presented with the opposite attributes, i.e., as a neighbourhood of people who did not work.

I tell you, 70% of the kids here are either thieves or on drugs. Because these are really run-down areas, you see, and 21-year-olds like me, 60 or 70% of them are sitting around on street corners drinking beer... I drink beer too, but what I mean is they're drinking beer, taking drugs, stealing, or you walk past and they ask for coins. *But don't you live in that neighbourhood?* No, I live over there. Over there it's different, it's more of a neighbourhood, there are more decent people, on this side there are alleyways... It's more like a shanty town, over there it's not, it's more of a neighbourhood, there are tarmacked roads, all that. Look, I think these kids go wrong because they've already got that mentality because of the area they live in, because of the crime all around them, and another thing, they're selling them the drugs right there, so they've got them on hand. (José, 21, Lanús).

The people in the neighbourhood aren't friends, more like acquaintances. Because there's no friendliness here. Besides I don't know what's going on in their minds, I'm 21 but I seem..., I don't know, I've got the mentality of a 40 -or 50-year old. *Are you an exception in the neighbourhood?* I wouldn't go that far, but something like that. *Why?* Because I don't like trouble. Here they've got no manners, no decency, no..., they don't know how to behave, they're a different class. Lots of drugs too. And well, if you don't want to get

mixed up in all that, the best thing is to stay out of the way and not be tempted. (Antonio, 21, Lanús).

No, my idea is to get on, in every way. For instance, the whole block are relatives and I wouldn't want to end up... it's not that I'm saying, well, it's a nasty area because it's got this, that or the other, but I'd like to change, move on, get out even if it is to a working-class neighbourhood; here you see how people meet on street corners to sell drugs, all that type of thing, and it's ugly. (Julia, 18, Varela).

Thus the distinction between “us” and “them” is associated with contrasting attributes, which are objectivized in different groups of young people. These identity categories are relative and flexible, however, depending on the level at which the dividing line is drawn; in other words, a young person will be part of “us” or “them” depending on what the reference group is. Antonio, for example, belongs to the “working class” when his status as an inhabitant of Lanús is being emphasized, he will be a member of an “urban ghetto” when what is being considered is the fact that he belongs to a *villa*, and he will be “working-class” again when the internal distinctions within the *villa* are considered.

Not only are individuals (young people in this case) aware of the perceptions associated with their places of residence, but their day-to-day lives and interactions tend to be affected by them. The weight of identity young people bear because of their social and geographical position can be emotionally stimulating and provide increased self-esteem, but as Elias and Scotson (1994) point out, it can also become a source of rejection and exclusion. The distinction between “us” and “them” is at the same time a hierarchical differentiation in terms of social status, sometimes entailing a value judgement about what is and is not desirable in society, and always acting as a source of stigmas that conditions the practices of both: “Two months after the accident, I got another girl... Then we had a fight because her mother knew where I lived..., she found out that I lived here. She was a bit hoity-toity...” and all sorts of examples could be given in which stigmas associated with places of residence have made young people less employable: “Whenever you fill in a job application and put La Cava... you know they won't be calling you.”⁸

In the analysis of social perceptions about different urban areas presented so far, the aim has been

⁷ Prévôt-Schapira (2002) maintains that as the gradients of urban poverty situations have multiplied, the need to “distinguish” between “us” and “them” has increased; the fear of exclusion heightens the logics of delimitation in impoverished areas, in an effort to reaffirm that one is not in the same situation as the others. Thus, according to that author, new boundaries arise, traversing the spaces of the periphery, separating the poor from the less poor, *villa* residents from those living in *asentamientos* (shanty towns), owners from non-owners, etc.

⁸ *Clarín*, 10 January 1999, cited in Auyero (2001).

to highlight not only the interweaving of sociocultural and spatial distinctions, but also the effect of this association on the lives (opportunities) of their inhabitants. The neighbourhood represents a kind of signature associated indelibly with certain specific attributes in the social imaginary; we are from a place that has a name, as we do, and we may like or dislike this name, have chosen it or not, but we have to live with it. The association between sociocultural and spatial attributes thus acts as an exclusion mechanism, opening up or closing off opportunities to obtain a job, interact with others, engage in certain types of consumption. As Sabatini, Cáceres and Cerda (2001) note, the stigmatization of neighbourhoods and areas where poor groups are concentrated is a key aspect of residential segregation, and is one of the new aspects being added to structural poverty, not only in Latin American cities but almost as an inherent feature of today's cities everywhere. Territorial stigmas (Wacquant, 2001) are a fundamental aspect of social exclusion:

I'm covered with tattoos, I'm written on all over. I think it had to do with where I lived as well, it must have made people wary, who I was. It was a mess. Everything around me was a mess. I mixed with kids on drugs, thieves..., that was my lot, being in that..., in that place. *Would you like to get rid of the tattoos?* Yes, yes. Because you make an impression on people, you come across. I can't say that the first impression is the most important, but the first impression closes a lot of doors to you. There are plenty of jobs I can't have because I'm covered with tattoos, you know? I can't work in short sleeves anywhere; and that's a problem I've got now. (Aníbal, 23, Lanús).

This external homogeneity, however, dissolves when we explore communities from within. As was mentioned in earlier paragraphs, new differentiations will be found between "us" and "them" within a given neighbourhood. These differentiations and conflicts, determined by who dominates the local public space and how, have equally profound consequences for the daily lives of residents. This is the subject I intend to explore in the next section.

IV

Disputing the local public space

The "world of the street" has become the main place of socialization for young people in poor sectors (Kuasñosky and Szulik, 2000). The street, meaning not only the pavements and street corners of the neighbourhood, but also its squares, its football pitches, the kiosks and shops where beer is sold, constitutes one of the main spheres of sociability, interaction and recreation for these young people, by contrast with the situation of young people from other sections of society. Differentiated appropriation of the public space by social sectors is a determining factor in the increasing importance that the presence of young people is taking on in the neighbourhood public space in urban contexts of structural poverty.⁹

⁹ This presence in enclaves of structural poverty has been observed by different authors in a variety of Argentine contexts, and in all of them there is a similar manifestation of the strong impact that this "street culture" has on the atmosphere and dynamic of daily life in the community as a whole (Avery, 1987; Anderson, 1991; Auyero, 1993; Wacquant, 2001).

The fragmentation of Latin American societies and Argentina's in particular during the 1990s is reflected in the urban structure and the public space. As Makowski (2003, p. 96) notes, "public spaces have fragmented, turning into airtight compartments where the social autism and disconnection of the urban experience itself are reproduced". This differentiated appropriation of public space manifests itself with particular clarity in the case of young people. While shopping centres and other enclosed spaces have been occupied by elements of the middle and upper sectors (Ariovich, Parysow and Varela, 2000), for young people from poor sectors "the street" is the only place that is accessible, available to be conquered. As we shall see further on, the process has gone the other way in middle sectors, with a withdrawal from "the street" being observable in different spheres of daily life.¹⁰ But at the same time, a combination of different factors has

¹⁰ The proliferation of "gated communities", shopping malls and private schools is one of the paradigmatic examples of this.

meant that for young people from poor sectors, the public space represented by “the street” is not just more important than for other social sectors, but the most important of all as a place of meeting and sociability. Exclusion from places such as school and the labour market in which the transition to adulthood is institutionalized, social discrimination that marks out spheres of belonging and non-belonging, the poverty of resources that obstructs access to the market, the overcrowding and other shortcomings of dwellings compounded by frequent family conflicts that drive young people from their homes, and the identity aspects associated with the street, are some of the factors that help explain why the street is so important for young people living in enclaves of poverty.

In the neighbourhoods studied, the public space is characterized by the predominance of a particular youth culture or “street culture” defined by a specific set of norms and values, practices and behaviours. The young people who control the street corners of these neighbourhoods generally do not study, do not work (or do so sporadically), and spend most of their time together in the street talking, fighting with others, drinking alcohol and taking certain drugs, and occasionally engaging in minor crime. Pedro and Diego recount in their interviews what it means to form part of this street culture:

When I was 16 I lived on a street corner day in day out, sleeping there with my brother. I just hung around. And look..., you stand on the corner all day and you start to ask people for money and you spend the whole day doing that and you get some money together... I don't know, for some drink, for fags, you're there all day on the corner and you go home to eat and then you go back again. That's what I did for a couple of years, about two years... And all my friends were the same, there were about 15 of us, plus the ones who came from somewhere else, passing through, just like us from another neighbourhood, they got together with us. But we never went stealing or anything, me and my brothers, oh no. Sometimes I used to say to my old lady, thank God we don't go stealing. No, I was thinking about my mum the whole time, I thought about my mum, and I say no, I can't do that, I'm a drunk, I'm a drug addict, and that's all I need, to turn thief and end up in a ditch. (Pedro, 22, Varela).

That's when the group started to go downhill a bit, the kids went off a bit by themselves and started with the drugs, stealing...; I had problems too, then I said no, never again, I pushed off. [...] It's because of the area, the type of area it is. For example..., the generation before us, they're 25 or 26, and when we were playing

football these kids were already drinking..., they were already drinking beer in the club, they were smoking marihuana and..., taking cocaine and that stuff. We saw it and never..., we never paid any attention, because we had no idea what they were doing or what it was. Of course, because that neighbourhood..., they sell drugs there and everything, pills, acid..., it's a shopping mall...; at night..., more goes on at night than by day, because cars start to appear, lorries, buses, everything. So that's what it was like. One person started to get involved, then another, and another, and so on, we all ended up like that..., almost all. (Diego, 21, Lanús).

The central objective of this section is not to analyse the causes leading to the emergence of this street culture, but its consequences in terms of advantages or disadvantages for young people in the neighbourhood and the community as a whole. Given the re-emergence of culturalist approaches to the analysis of social exclusion, however, it is worth making two observations here.

First, as Massey and Denton (1993) point out, the problem with culturalist approaches lies precisely in their neglect of the connection between the cultural characteristics of particular groups and the structural conditions of their participation in society. Different studies show that, in situations where extremely poor sectors with few opportunities are concentrated and segregated, it is difficult to follow the norms and values promoted by society. In particular, young people subjected to these restrictive conditions tend to develop a set of norms, values and practices that are perceived as alternative or deviant, but that do enable them to cope with the frustration caused by the realization of how unattainable socially respectable goals are (Merton, 1984).

Secondly, this relationship between the two dimensions needs to be analysed in context, considering that opportunities are determined by a person's social and historical background. In Guatemala City, for example, Roberts (1973) observed that the urban poor, despite the conditions of extreme deprivation in which they lived, were very active in pursuing socially hegemonic values and goals and in taking advantage of small opportunities for improvement arising out of the characteristics of the urbanization process, such as land invasions, self-building and informal work. Thus, extreme poverty is not necessarily accompanied by the emergence of particular norms, values and practices.

It is not too much to say that large cities in Argentina have been going through a process of socio-spatial fragmentation in recent years. One of the main

features of this is that, by contrast with the past, urban spaces with a high concentration of poverty tend to be characterized by the manifest unavailability of traditional paths to social advancement. As Roberts pointed out in the case of Guatemala, the *villas* of Argentina, while beset by want of every kind, used to show dynamism in the pursuit of better living conditions. The legalization of land ownership, community organization, State schooling and formal jobs were some of the channels that promised upward social mobility. It might be said that these expectations of social mobility from generation to generation (validated by everyday experience) were the main mechanism of social integration for much of the twentieth century in Argentina. In recent decades, however, not only has the economic development model changed, but so have the traditional mechanisms of social mobility, and these are now being called very much into question (again on the basis of everyday experience), particularly by the younger generations.

Do you think about the future? Yes, yes!!! But I'd rather not at times, because I'll suddenly think to myself, "so what are you going to do, then"; sometimes it's like there are two people inside me saying, "what are you going to do, then, you've got nothing..." I mean, it's not that you've got nothing but you're like..., it scares me a bit. And besides the way my luck is..., anything to do with work and money upsets me, sometimes I don't even want to turn the TV on..., when I do turn the TV on I just watch music channels. (Seba, 23, Varela).

What did you do the whole day? No, no, I read, I'd shut myself away and watch TV, and I'd swap between reading and watching TV, listening to music, and that kind of thing. *Not now?* Yes, I still do it, but now I'm more active, before I used to shut myself away, it was pretty depressing really. That's what I'm telling you, I had no work, I couldn't do anything, I couldn't make plans. It's not really depression either, it's a kind of depression, not the real kind where you just get more and more down, no, I'm there thinking about my problems... *What problems?* Ehhh, the future, how I'm going to... how I'm going to support myself, I don't know, one day soon I want to have my own house and how am I going to get that, that worries me. (Federico, 21, Lanús).

This last aspect is crucial to the problem before us. It is not just the outside observer who perceives that the traditional mechanisms of social integration have been eroded; the people involved can see it as well. This brings a vital subjective dimension to any process of social exclusion. As Mills (1959) put it, "When

people cherish some set of values and do not feel any threat to them, they experience well-being. When they cherish values but do feel them to be threatened, they experience a crisis." Young people perceive the threat of exclusion. As Kuasñosky and Szulik (2000, p. 58) indicate, after working with a similar group of young people, "society is seen as something alien to them, a place where they do not belong".

The lack of opportunities for and expectations of social mobility (which can be expressed as a situation of disaffiliation or exclusion) gives rise in young people not only to feelings of uncertainty and frustration, but also to a profound crisis of self-esteem and identity. During this transition period, which is crucial in the life cycle, the construction of the individual as a person and citizen is called into question. Different ethnographic studies¹¹ have shown that under these conditions and in particular urban contexts, young people tend to develop alternative systems of roles and status, which tend furthermore to be based on norms and values that differ substantially from those promoted by society.

In another study (Saraví, 2002), we saw that the family transition (whether it takes place through marriage, consensual unions or maternity) provides young women with a socially accepted mechanism for acquiring a new status or role. Starting a new family brings young women new activities and responsibilities. Even more importantly, though, it gives them a new social identity as wives, mothers or housewives. Here we suggest that in a similar way, young people find a system of status and roles in the street, in the neighbourhood public space. This new context, with its own norms and values, works as a defence and retreat mechanism for the young; some of them find in the culture of the street a source of prestige, self-esteem and identity; others, simply a way out of the exclusion which has been their life.

Mayol (1999) remarks that the neighbourhood can be viewed as an object of consumption which users appropriate by taking over the public space, imposing their own law on the external order of the city. Thus, in neighbourhoods that have a high concentration of poverty but are characterized fundamentally by an extended absence (real and perceived) of opportunity, the young appropriate the public space, constructing an environment where they are not taken to task for

¹¹ Fordham and Ogbu (1986), Elias and Scotson (1994) and Craine (1997).

dropping out of school, being unemployed, slacking, using drugs and alcohol, or stealing and behaving violently. The street culture, with its own norms and values, upholds and reaffirms this set of practices that go against the “right” way of living. In this way, the evident facts of social exclusion or disaffiliation are evaded or resignified in the neighbourhood, in the appropriated public space.¹² Given the perception and experience of exclusion, society outside comes to be seen as a threat. By controlling the local public space, young people are responding through the construction of an internal space of integration that, paradoxically, will be perceived by the outside world as a threat, in a play of reflections that hastens the process of urban fragmentation and segregation.

What did you do when you were on the street? I drank, hung around with friends who were on drugs. And, well, they took drugs and they were always offering them to me but I never took any; I came close to it but I never did. With this group of friends it was like when I was with them I forgot about my problems. And I think that’s what affects the kids, thinking their problems have gone away. (Ernesto, 25, Varela).

The worst years [in the neighbourhood] were the 1990s, up until ’98. For instance, four years ago, not just anyone could get by here; I mean not just anyone could walk along the street where my house is. They’d be robbed, beaten up. *Who by?* People who have disappeared now or are in prison, I don’t know where they are. *Were they kids your age?* My age, older, younger, the lot. *And why was there so much violence?* Because there were a lot of them and they were high. *On drugs?* On everything, and also because they thought they..., because they were ignorant too and thought they were better, and at the same time they felt hard done by, but when they were together they felt proud of being the best or..., well, that kind of thing. I played football with them, but I always knew very well who my friends were... (Alberto, 23, Lanús).

However, street culture is dominant because of its presence in the neighbourhood public space, not because all young inhabitants subscribe to it equally. As we pointed out earlier, there are divisions between young people in a neighbourhood: “us” and “them”,

“ins” and “outs”. The dividing line between the two is their participation and involvement in the street culture; thus, the “outs” are those who do not share the norms, values and practices characterizing the dominant youth culture in the neighbourhood; also known as *giles* (“nerds”) by the “ins”, they live in the same neighbourhood and attend school or work, do not use drugs, and are not involved in violent and/or criminal activities. Despite exclusion, the *giles* persevere with the traditional channels of social mobility and integration.

And sometimes it’s really awful living here. I mean, it depends what people think of you, if they think you’re what they call a *gil* then you have a bad time. *What is a gil?* For them a *gil* is someone who works, goes to school, something like that. *Are you a gil?* Definitely. Anybody who doesn’t go around..., who hasn’t got friends like that..., people who go around stealing and stuff. (Antonio, 21, Lanús).

Although there is a relationship of conflict between “ins” and “outs”, they both display insecurity about the pattern chosen. “Ins” tend to call the street culture into question when they are away from the public space of the neighbourhood. This insecurity becomes manifest when they express their desire to “get out”. Getting out means executing a major change of direction in their lives, leaving the street. Practically, it means giving up drugs and alcohol, going back to school or getting a job, starting a family; symbolically, it means becoming a *gil*.

I mean, when I’m asked why I was on the street corner, why I was hanging around on the corner and why I took so many drugs, I say, ‘well, to get away from reality’, because that’s the truth. It’s an excuse, then it was an excuse. And standing on the corner was an excuse for me myself, it was ‘right, I’m off to the corner and I’ll get together with the others, I’ll drink some wine and smoke a couple of fags’ and you’re totally broke. Well, you might get down in the dumps and you get worse, or you might get so that you don’t know what to do with yourself. But most of them want to make it and they’re waiting... Because you know, the kids aren’t bad, they live in a bubble. They get up, they have a fag, and they spend the whole day drinking, night comes and they keep drinking until they’ve had enough and they go and sleep. But they’re not bad, not bad people to know. (Lautaro, 18, Varela).

The “outs” display the same insecurities, but the other way around. Their day-to-day experiences, together with the pressure exerted by the street culture,

¹² Appropriation is not just symbolic, but physical as well. The two dimensions of appropriation are closely linked, something that is clearly demonstrated by neighbourhood hostility to strangers or outsiders. The presence of outsiders is not just an occupation of the space, but also represents the symbolic presence of the outside world (norms and values).

erode the perseverance that is their defining characteristic. The uncertainty that plagues the “outs” each day is the doubt as to whether they are not, in fact, *giles*.

Kids here are lost now. I don't know, I mean because of going hungry, or drugs. More the drugs, because they say that since they haven't got work they're going to steal so they can buy some branded trainers, some Adidas. But they buy the clothes, everything, and three hours later they're out stealing again and they've already got the clothes, so they go for drugs. And it's like that. *And why aren't you doing the same?* Because it scares me; I think 'what if I go out and steal something and I get shot?' Sometimes I really feel like going out and stealing, but not to buy a pair of trainers, to be better off, you know, to do more for my family, you see. But some day you lose, some day you lose, you know? I was arrested once before. (Matías, 21, Lanús).

That's not the way I saw school, because I knew a lot of people who didn't go on with secondary school. I mean, the kids I got together with in the neighbourhood, almost none of them went to school, you understand? And my old lady said to me, 'you've got to learn, you've got to learn', but I didn't see it that way, for me it was finishing primary school and that was that. Because it was like where I was everybody finished primary school and then that's it, afterwards we're off to have fun. (Andrés, 18, Varela).

Street culture exerts huge pressure on the “outs”, and it does it from different sides. Their day-to-day lives are constantly affected by their status. Firstly, as we saw in earlier paragraphs, the mere existence of the street culture offers a different way, an alternative that is always waiting when they become disillusioned and discouraged. Living in that environment is not easy, and the “outs” respond with a combination of isolation and confrontation. These responses, though, turn into new problems for them themselves and for the community as a whole.

In his studies of African-American ghettos in Chicago, Wilson (1987 and 1996) observes a process of “class-selective migration”: middle-class black families leave these communities to get away from an environment characterized by lack of opportunity, concentration of poverty, violence, drug use and other similar features. As might be expected, the result is a vicious circle of increasing concentration of poverty and disadvantage. In the neighbourhoods studied in Varela and Lanús, a number of the young people defined as *giles* expressed their desire to leave. Diego,

for example, when he made up his mind to “get out” after a problem with drugs, left the neighbourhood and moved into his grandparents' house. Likewise, Mauro spoke of his desire to study at a boarding school to escape the influences of his neighbourhood.

Then I came back to live in my grandmother's house. Because it's not the same any more, being there in that neighbourhood, because it's not like it was when I was little and we played football and hide-and-seek..., not now, now all the kids do is take drugs, take drugs and steal, and that's it. So..., since I don't like all that kind of thing... Let them live their own lives, but I don't want to be with them like that now, because if they go too far the police come and they don't mind too much who they go after. I've still got friends there, the thing is that I haven't got that much contact with them because they're working and others... [meaning they steal], and I've got no time for the rest now. *Why didn't you go down the same path as them?* I did, but the thing is I backed off a bit afterwards, also I had some problems with drugs and... and I said 'right, that's it, that's it' and I came to my grandmother's. (Diego, 21, Lanús).

I want to get into that school because you have to be there Monday to Friday and you go out at weekends, like to try... because I know I can and a lot of people have told me I can do what I want to do. I want to learn. Teachers have told me that I was going to be able to do it if I wanted to, they all said the same, I hate doing nothing. Of course, I've absolutely got to be there inside or at least until the weekend, well, then I go out at the weekend and smoke with the drifters, we go out dancing, get a bit high perhaps, go drinking and then it's Sunday, I sleep until four or whatever in the afternoon and then I go back again. (Mauro, 17, Varela).

More common, though, is a process of isolation within the neighbourhood itself. Young people who are not integrated into the street culture of their neighbourhood withdraw from the public space. They do not make friends locally, they avoid certain streets and corners, they restrict their contacts with local residents, and they try to attend private schools, or schools outside the community. The main consequences of the “outs” strategy of withdrawal and isolation are: firstly, a greater presence of the “ins” in the neighbourhood public space, so that their norms, values and practices tend to consolidate even more as the dominant ones; and secondly, a loss of community social capital, meaning that relationships between local residents are weakened, interaction between different groups is reduced, alternative models to those of the

street culture become less visible, and fear, insecurity and mistrust spread in the community. In this way, the community not only cuts itself off from society at large, but begins to experience an increasing internal fragmentation.

Have you got friends in the neighbourhood? No, because it's like everyone takes care of their own house, their own family. Besides there aren't any kids my age..., well, there are, but they're like addicts, they've gone wrong let's say. They meet up a lot just near my house, by the palm tree. They get together to drink, take drugs, stir things up. (Martita, 19, Varela).

No, my friends are in the [private] school, no, I don't mix with the people from the neighbourhood. When I was more of a kid I used to, I played football, but then I stopped. Because..., well, those kids don't do anything, I mean anything at all, they just don't lift a finger. Besides they're bad company..., they hang around drinking beer on the corner all night. It's not a good crowd to make friends with. I don't know, they're a different class of people, because they were never much interested in school; for instance, none of those kids in my neighbourhood study, none of them do anything. I always see them going out to play on the pitch, then from the pitch to the shop opposite my house to drink beer and play table football, and they stay there on the corner drinking beer. (Daniel, 18, Varela).

In a neighbourhood, isolation has its limits; "an individual who is born or takes up residence in a neighbourhood is obliged to take account of his or her social environment, to participate so as to be able to live in it" (Mayol, 1999, p. 14). Literally, for the "outs" or *giles* (mainly young males), living in the neighbourhood is not a simple experience. They are doubly penalized and excluded, by society and by their neighbourhood, and they are subject to strong pressure in both directions. If they want to survive in the neighbourhood they have to adopt and follow norms and practices of street culture to deal with the "ins", but at the same time they have to stand up to the opposition from street culture and the obstacles its disadvantages and deprivation place in the way of efforts to uphold and pursue the values, norms and practices that society promotes. The experience of Alberto, who is still persevering with his plans to obtain a university degree, reflects the multiple pressures to which the "outs" are subjected.

I felt affected too. Because I didn't..., I didn't have the same mentality as them and it all looked..., the violence

reached me and I can't let them get into my thinking, I can't explain to them, so I have to do the same as they do to get by. *What do you mean, the violence reached you?* If someone turned up wanting to hit you or whatever, and I had to try to talk them out of it, but the point came when there was nothing more to be said and I had to respond in the same way because they were never going to come round to my way of thinking. *If they wanted a fight, you fought?* Absolutely. *And why did they come after you?* Stupid things. Because they saw that I was studying, I wasn't the same as them, then they wanted to test me out, something like that. *And what did they say to you?* No, they didn't say anything, no, they threw stuff. The number of times they threw stuff at me, stones... Sometimes when I could give them the slip I did, I pretended not to notice. But when I was sure they knew that I'd realized what was going on, then I had to respond somehow because that's how things work..., that's the way it is. (Alberto, 23, Lanús).

The community suffers in all kinds of ways from the violence associated with the street culture that dominates the public space of the neighbourhood. As Auyero (2001, p. 16) points out: "Today, with democracy, the people living in the *villas* are not afraid of the soldiers but of their own neighbours, particularly the younger ones." Thefts carried out by people from the same neighbourhood, the charging of "tolls" on certain access roads, fights between gangs of youths and indiscriminate violence are all a part of everyday life.

Yes, most people here, here in this neighbourhood, if you ask them they'll tell you: no, better not get involved because you're just walking into trouble. No..., it's really bad here, in my neighbourhood at least, things are bad here. (Martita, 19, Varela).¹³

Street culture arises as a defence mechanism to cope with crisis, with manifest exclusion. As Massey points out in the quote given at the beginning of this article, however, it ends up by harming society as a whole and those involved in it. The foregoing analysis suggests that the public space dominated by this street culture is one more link in a chain of disadvantage and has different but equally profound effects on the "ins", the "outs" and the community as a whole.

¹³ A few weeks after this interview Martita was raped a few blocks from her house, the latest in a series of young women to have suffered an attack of this kind in the same neighbourhood.

V

Conclusion

The public space in areas of structural poverty was long promoted (and still is) by anti-poverty specialists and international organizations in particular as a potential asset for the poor. As a place of meeting, interaction and dialogue, the public space tends to be associated with community involvement, the planning of collective action, and the promotion of mutual solidarity and cooperation. The public space is treated, although not always explicitly, as the foundation of a community's social capital. In this article I have tried to show that this is not always so, and that rather than an asset this space can actually be a liability. One of the new attributes, or rather, one of the new disadvantages of structural poverty, giving it a wholly new character, are the characteristics being developed by the public space in these communities. As Borja (2003, p. 60) notes, "the poverty of the public space makes them poorer still".

In a recent study, Sabatini, Cáceres and Cerda (2001) set forth with the utmost clarity two aspects associated with residential segregation that reaffirm the importance attributed to the role of the public space in this article: the subjective dimension of residential segregation as one of its most important attributes, and the harm done by residential segregation in Latin American cities as one of the new characteristics of these. The authors referred to define the first of these aspects as the subjective perception that the poor have of "objective" segregation. It would be helpful, however, to extend this to recognition not only of segregation itself, but also of the absence of opportunities, the sense of not belonging, the intuitive feeling of exclusion. The second aspect, the harm done, refers to the growing association between residential segregation and symptoms of "social disintegration" which, in the view of the authors cited, include indicators such as youth inactivity, school drop-out and repeat rates and teenage pregnancy, to which we might add violence, crime, insecurity and drug and alcohol use, among other things. As we can see, the harm done by residential separation ties in with the norms, values, practices and behaviour that define street culture in the areas of structural poverty studied, and with the stigmas surrounding some of these neighbourhoods or urban spaces, which predominate in the collective imaginary. It might be said that this harmfulness is the cultural dimension of segregation.

The neighbourhood public space may perhaps be regarded as the link between the subjective and cultural dimensions of segregation.¹⁴ The neighbourhood is a place of transit between the private and public spheres, an intermediate space in which matters belonging to the public domain are privatized and individuals reconstruct part of the outside world in their own way. Accordingly, the neighbourhood public space, thus appropriated, offers a way of making the outside world less alien or threatening.

It is in the neighbourhood public space that the subjective dimension of urban segregation begins to endow it with a cultural dimension. Street culture arises out of the experience and perception of exclusion. In this privatized or appropriated public space, young people construct an environment with norms, values, practices and forms of behaviour that enable them to cope with or avoid the frustration and exclusion represented for them by the outside world.

The cultural dimension of segregation (also known as the ghetto effect), whose *locus* is the neighbourhood public space, constitutes one of the principal aspects that are giving structural poverty a new character. Studies in the United States and Europe have associated this new poverty with the concept of an "underclass". Is it possible that the changes in the social structure of Argentina (in Buenos Aires and perhaps in many other Latin American cities as well) are so deep that a new type of structural poverty is emerging? As MacDonald (1997) has noted, a process of this kind cannot be perceived in the space of a single generation. Nonetheless, there are some tendencies now apparent that show specific sectors of society to be increasingly vulnerable and at risk of exclusion. This article has sought to point out that among the risk factors are changes associated with the neighbourhood public space in enclaves of structural poverty. Two aspects are worth highlighting.

As we saw in earlier sections, appropriation of the neighbourhood public space is not without its conflicts. The domain of the public space immediately generates a boundary between "us" and "them", between "ins"

¹⁴ It would also be true to say that it is the factor which enables the relationship between the two dimensions to be understood.

and “outs”. This gives rise to two observations which should be re-emphasized in these conclusions. First, the homogeneity perceived in the public space is always false or merely apparent. In the case studied, a thorough analysis of relationships within the community brought to light the divisions between “ins” and “outs” discussed earlier. In their different ways, both groups are affected by the disadvantages of the neighbourhood, the street culture. Nonetheless, the

presence of “outs” or *giles* still represents a (potential) resource that could enable the community to change the public space. Second, it is upon this false homogeneity (among other aspects) that territorial prejudices and stigmas are nonetheless constructed. Thus, the public space, and more specifically the street culture, ceases to be a defence mechanism created in response to exclusion and becomes a powerful force for exclusion for the community as a whole.

Bibliography

- Anderson, E. (1991): Neighborhood effects on teenage pregnancy, in C. Jencks and P. Peterson (eds.), *The Urban Underclass*, Washington, D.C., The Brookings Institution.
- Ariovich, L., J. Parysow and A. Varela (2000): Juegos en el shopping center, in M. Margulis (ed.), *La juventud es más que una palabra*, Buenos Aires, Biblos.
- Auyero, J. (1993): *Otra vez en la vía. Notas e interrogantes sobre la juventud de sectores populares*, Buenos Aires, Espacio Editorial.
- _____ (2001): Introducción. Claves para pensar la marginación, in L. Wacquant, *Parias urbanos. Marginalidad en la ciudad a comienzos del milenio*, Buenos Aires, Manantial.
- Avery, D. (1987): *Civilisations de La Courneuve. Images brisées d'une cité*, Paris, L'Harmattan.
- Bhalla, A. and F. Lapeyre (1999): *Poverty and Exclusion in a Global World*, New York, St. Martin's Press.
- Borja, J. (2003): La ciudad es el espacio público, in P. Ramírez Kuri (coord.), *Espacio público y reconstrucción de ciudadanía*, Mexico City, Latin American Faculty of Social Sciences (FLACSO)/Editorial Porrúa.
- Castel, R. (1999): Vulnerabilidad social, exclusión: la degradación de la condición salarial, in J. Carpio and I. Novacovsky (eds.), *De igual a igual. El desafío del Estado ante los nuevos problemas*, Buenos Aires, Fondo de Cultura Económica (FCE).
- Craine, S. (1997): The ‘black magic roundabout’: cyclical transitions, social exclusion and alternative careers, in R. MacDonald (ed.), *Youth, Underclass, and Social Exclusion*, London, Routledge.
- Elias, N. and J. Scotson (1994): *The Established and the Outsiders*, London, Sage Publications.
- Fordham, S. and J. Ogbu (1986): Black students' school success: coping with the burden of acting white, *The Urban Review*, vol. 18, No. 3, Amsterdam, Kluwer Academic Publishers.
- Freie, J. (1998): *Counterfeit Community. The Exploitation of Our Longings for Connectedness*, Lanham, Rowman/Littlefield Publishers.
- Jencks, C. and P. Peterson (1991) (eds.): *The Urban Underclass*, Washington, D.C., The Brookings Institution.
- Kasarda, J. and M. Janowitz (1974): Community attachment in mass society, *American Sociological Review*, vol. 39, Pennsylvania, University of Pennsylvania.
- Katzman, R. (2001): Seduced and abandoned: the social isolation of urban poor, *CEPAL Review*, No. 75, LC/G.2150-P, Santiago, Chile, December.
- Kessler, G. (2000): Redefinición del mundo social en tiempos de cambio. Una tipología para la experiencia de empobrecimiento, in M. Svampa (ed.), *Desde abajo. La transformación de las identidades sociales*, Buenos Aires, Biblos.
- Kuasñosky, S. and D. Szulik (2000): Desde los márgenes de la juventud, in M. Margulis (ed.), *La juventud es más que una palabra*, Buenos Aires, Biblos.
- MacDonald, R. (1997): Youth, social exclusion at the millennium, in R. MacDonald (ed.), *Youth, Underclass, and Social Exclusion*, London, Routledge.
- Makowski, S. (2003): Alteridad, exclusión y ciudadanía. Notas para una reescritura del espacio público, in P. Ramírez Kuri (coord.), *Espacio público y reconstrucción de ciudadanía*, Mexico City, Latin American Faculty of Social Sciences (FLACSO)/Editorial Porrúa.
- Massey, D. (1996): The age of extremes: concentrated affluence and poverty in the twenty-first century, *Demography*, vol. 33, No. 4, Silver Spring, Population Association of America.
- Massey, D. and N. Denton (1993): *American Apartheid. Segregation and the Making of the Underclass*, Cambridge, Harvard University Press.
- Mayol, P. (1999): Habitar, in M. De Certeau, L. Giard and P. Mayol, *La invención de lo cotidiano*, Mexico City, Universidad Iberoamericana/Instituto Tecnológico y de Estudios Superiores de Occidente (ITESO).
- Merton, R.K. (1984): *Teoría y estructura social*, Mexico City, Fondo de Cultura Económica.
- Mills, W. (1959): *The Sociological Imagination*, New York, Oxford University Press.
- Minujin, A. (ed.) (1992): *Cuesta abajo: los nuevos pobres. Efectos de la crisis en la sociedad argentina*, Buenos Aires, United Nations Children's Fund (UNICEF).
- Minujin, A. and G. Kessler (1995): *La nueva pobreza en Argentina*, Buenos Aires, Planeta.
- Musterd, S. and W. Ostendorf (1998): Segregation, polarization and social exclusion in metropolitan areas, in S. Musterd and W. Ostendorf (eds.), *Urban Segregation and the Welfare State: Inequality and Exclusion in Western Cities*, London, Routledge.
- Paugam, S. (1995): The spiral of precariousness: a multidimensional approach to the process of social disqualification in France, in G. Room (ed.), *Beyond the Threshold: The Measurement and Analysis of Social Exclusion*, Bristol, The Policy Press.
- Prévôt-Schapira, M. (2001): Fragmentación espacial y social: conceptos y realidades, *Perfiles latinoamericanos*, vol. 10, No. 19, Mexico City, Latin American Faculty of Social Sciences (FLACSO).
- _____ (2002): Buenos Aires en los años '90: metropolización y desigualdades, *EURE*, vol. 28, No. 85, Santiago, Chile, Universidad Católica de Chile.
- Rabotnikof, N. (2003): Introducción: pensar lo público desde la ciudad, in P. Ramírez Kuri (coord.), *Espacio público y reconstrucción de ciudadanía*, Mexico City, Latin American Faculty of Social Sciences (FLACSO)/Editorial Porrúa.
- Roberts, B. (1973): *Organizing Strangers. Poor Families in Guatemala City*, Austin, The University of Texas Press.
- Room, G. (1995): Poverty and social exclusion: The new European agenda for policy and research, in G. Room (ed.), *Beyond the*

- Threshold: The Measurement and Analysis of Social Exclusion*, Bristol, The Policy Press.
- Sabatini, F., G. Cáceres and J. Cerda (2001): Segregación residencial en las principales ciudades chilenas: tendencias de las tres últimas décadas y posibles cursos de acción, *EURE*, vol. 27, No. 82, Santiago, Chile, Universidad Católica de Chile.
- Sampson, R. (2001): Crime and public safety: insights from community-level perspectives on social capital, in S. Saegert, P. Thompson and M. Warren (eds.), *Social Capital and Poor Communities*, New York, Russel Sage Foundation.
- Saraví, G. (2002): *Youth and Social Vulnerability: Becoming Adult in Contemporary Argentina*, Ph.D. Thesis, Austin, Department of Sociology, The University of Texas Press.
- Sen, A. (1981): *Poverty and Famines: An Essay on Entitlements and Deprivation*, Oxford, Oxford University Press.
- _____ (1983): Poor, relatively speaking, *Oxford Economic Papers*, vol. 35, Oxford, Oxford University Press.
- _____ (1995): *Inequality Reexamined*, Cambridge, Massachusetts, Harvard University Press.
- Wacquant, L. (2001): *Parias urbanos. Marginalidad en la ciudad a comienzos del milenio*, Buenos Aires, Manantial.
- Wilson, W.J. (1987): *The Truly Disadvantaged: The Inner City, the Underclass, and Public Policy*, Chicago, University of Chicago Press.
- _____ (1996): *When Work Disappears: The World of the New Urban Poor*, New York, Knopf.

Rural non-farm employment and rural diversity in Latin America

Martine Dirven

In the 1990s, rural development specialists became increasingly interested in rural non-farm employment (RNFE) and the factors determining it. Ideas about the subject gradually made their way into the political debate and some development programmes. Location is one of the aspects mentioned in many studies as a factor influencing the characteristics of RNFE. Some others include scale, type, generated income and participating household members. This article looks at what has been written on the subject and suggests that location, and the various “distances” that go with it, are a vital determinant of RNFE.

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I

Introduction

From a policy perspective, it is important to know whether all rural areas can have diversified economies, whether the rural poor are capable of optimizing the opportunities that rural non-farm employment (RNFE) may offer them or whether they need special policies to help them. Evidence shows that patterns of participation and the scope for responding to opportunities strongly differ among population groups depending on their gender, their age and, above all, their personal or household assets, the location of their residence and their access to public and private assets. An issue tackled in this article, but hitherto little studied, is the relation between location in the territory, and therefore “distances”, and RNFE.

RNFE has been receiving increasing attention in Latin America since the 1990s. Various studies have examined how different assets (public and private)

relate to it in different income groups and how, in turn, different rural non-farm occupations affect incomes. Several of these studies were published in a special issue of *World Development* (vol. 29, No. 3, September 2001) devoted to RNFE. We shall draw heavily on these in what follows.

The article is divided into seven sections. Section II that follows explains some of the definitions used in Latin America and in the rest of the text. Section III points to reasons for RNFE growth. Section IV gives an idea of the orders of magnitude of RNFE in Latin America. Section V is about RNFE and assets, private (such as land, education and the attributes of household members) and public (such as roads and electrification), but also location and the dynamism of local agriculture. Section VI is about RNFE and “distances”. Lastly, section VII is about some conclusions for policy and further research issues.

II

Some definitions

There are several ways of looking at rural residents’ non-agricultural employment, among which three stand out. One way generally centres on case studies of one of a household’s members’ occupations, taking the household as a unit of analysis. The emphasis is not necessarily on the principal activity of the household nor that of any of its members, but the specific activity

that the author wants to analyse in more detail.¹ A second way centres on the household’s main activity or income source, often ascertained from the answers to household surveys and usually considering the answers of the household head as determining. A third way centres on the main activity of each individual, household surveys or population censuses being the main sources of information. It is this information that will be used in the analysis that follows, i.e., the primary employment in non-agricultural activities of residents of rural areas.

In Spanish, this was coined as “empleo rural no agrícola” or ERNA, that is “rural non-agricultural

□ A previous version of this article was presented at the symposium “The rural non-farm economy in the developing world and transition economies: an answer to rural poverty?”, part of the Seventy-seventh Annual Conference of the Agricultural Economics Society of the United Kingdom (AES), 11 to 14 April 2003, Seale-Hayne, Newton Abbott, Devon. A shorter version was presented at the “Social Transformations” session of the international seminar “The rural world: transformations and perspectives in the light of the new rurality”, Bogota, Colombia, 15-17 October 2003, under the title “Rural non-farm employment: the importance of ‘distances’”. The author wishes to thank Steve Wiggins of the Overseas Development Institute as well as an anonymous reviewer for their useful comments.

¹ Several examples of such studies (the making of straw hats in Peru and jeans in Ecuador) were presented at the Third Latin American Symposium on agricultural systems research and extension, “New ways of fighting rural poverty and developing local capacities” (*Nuevos enfoques para la superación de la pobreza rural y para el desarrollo de las capacidades locales*), Lima, August 1998.

employment". Thus, it does not include work which is off-farm but agricultural, whereas this may or may not be treated as part of the English concept of "rural non-farm employment" (RNFE), depending on the author. For the sake of simplicity we shall use RNFE as the equivalent of ERNA, as has in fact been done by many authors and translators. In the rest of the text RNFE will have the definition Reardon, Berdegú and Escobar (2001, p. 396) give it: "By RNFE we mean employment of rural household members in the nonfarm sector... 'Nonfarm' means an activity outside agriculture... hence in manufactures and services. We follow standard national accounts definitions, wherein agriculture produces raw agrifood products with one of the production factors being natural resources (land, rivers/lakes/ocean, air); the process can involve 'growing' (cropping, aquiculture, livestock husbandry, woodlot production) or 'gathering' (hunting, fishing, forestry)."

Both acronyms, however, induce the erroneous idea that the activity takes place in a rural area. In fact, it concerns the individual who resides in an area defined as rural by the particular country's census and who carries out a non-agricultural activity, without indication of where this takes place. This has confused analysts and policy makers alike and kindled an enthusiasm for "rural revival" which is, at least partially, based on having the facts wrong.

An important factor when analysing RNFE-related issues in Latin America are the definitions used for

"rural". There are five broad definitions of "rural" used in Latin American population censuses and therefore also in household surveys: those based on maximum population per locality (around 2,000 persons per locality in most countries); number of contiguous houses (Peru); legal definitions (Brazil, Ecuador, Guatemala, Uruguay); outside the municipal centre (*cabecera municipal*) (Colombia, Dominican Republic, El Salvador, Paraguay); and "non-urban characteristics" (Costa Rica and Haiti). Moreover, hardly any country uses exactly the same definition and several countries have changed definitions over the years.

A low population density and large physical (and other) distance(s) between settlements are characteristics of most rural areas in the region. Indeed, in Latin America, the average population density is 21 inhabitants per square kilometre (ranging from 257 in El Salvador to six in Bolivia), less than a fifth of the average for the European Union of the fifteen (EU-15), slightly below Sub-Saharan Africa and well below the other developing regions. In the case of its dispersed population,² Latin America as a whole has 6.7 inhabitants/km² while several countries have less than half this (namely Argentina, Bolivia, Chile, Uruguay and Venezuela). This is considered extremely low by European standards (Persson and Ceccato, 2001). The importance for RNFE configuration of this low population density and the "distances" that come with it is one of the points that we will try to emphasize, if not demonstrate, in this article.

III

Reasons for the growth of rural non-farm employment

According to data from Latin American population censuses, RNFE appears to have grown from some 17% of the rural economically active population (EAP) in the 1970s to 24% in the 1980s, that is an annual increase of 4.3%, while the agricultural EAP increased by only 0.03% per year. In fact, agricultural employment

growth was negative in nearly half of the Latin American countries, while RNFE growth was positive in all countries.³ RNFE grew substantially once again in the 1990s, as will be seen in the next section.

Poverty has remained more or less stable (in percentage terms) for decades now in rural Latin America. Therefore, it can be stated that RNFE as a whole did not grow in response to increased poverty,

² Calculated on the basis of 90% of total surface divided by the number of inhabitants in localities of less than 2,000 people. The calculation is rather conservative since the United Nations Centre for Human Settlements (UNCHS, 1996, p. 418) estimates that in most countries urban areas do not exceed 1% of the national territory.

³ Reardon, Berdegú and Escobar (2001), on the basis of figures from Klein (1992)

although evidence shows that a large proportion of rural microenterprises are created as a palliative against deeper poverty.

Rural population has also remained more or less stable over the past decades, as has farm employment. There has, however, been a shift of residence for those working primarily in agriculture, as they increasingly live in urban areas. This is true of both recent migrants, who find fewer barriers to employment as casual agricultural labourers than in the urban labour market (Hataya, 1992), and better-off farmers who continue farming but move to more urban areas (Berdegué, Ramírez and others, 2001). This does not at first sight explain RNFE growth.

Agriculture in the region has grown at a fairly robust average of 2% to 3% over the last three decades. No similar calculations have been made for the rural economy to my knowledge, but it can probably be conjectured that this has grown by at least the same amount. Therefore, rising RNFE could be a “normal” response to growth as well as a response to increased demand for services from agriculture as it modernizes. Why these services would be provided by rural residents while farmers move to urban areas remains an open question.

Another reason may be the rural young to middle-aged males who decide to continue residing in rural areas (because of housing, their attachment to family life, their preference for rural living, etc.) but do not wish to farm or have no access to farmland (Dirven, 2002), and thus apply for or “create” a rural non-farm job or commute daily to an urban area if distance permits.

Yet another explanation is the entrance of (mostly young) rural women into the labour force. They then face the same choices as young men: migrate, stay on outside the farm sector or commute.

A recent finding—which requires further research, but which is probably closely related to the previous two points and RNFE location, to which we will return later—is that younger people seem to concentrate i) around more dynamic areas, both near small rural towns or hamlets that have shown economic dynamism or those that have been the focus of recent government investments, often related to poverty alleviation or decentralization policies; or ii) along paved roads leading to these more dynamic centres.⁴

⁴ These findings are based on a visual interpretation of the maps prepared by Pablo Ávalos as part of his internship at the ECLAC Agricultural Development Unit and in preparation of his thesis as a

This brings us to the importance for RNFE growth of the decentralization and rural development policies that were implemented in most countries of the region in the 1990s. These have led to the creation of new jobs in municipalities and regional governments as well as in health, education, credit, technical assistance, infrastructure and other services. In fact, even extremely undynamic municipalities in areas undergoing severe desertification and with clear net out-migration patterns are actually attracting new migrants, of all ages and many employment category profiles, although with a preponderance of government civil servants and consultants, technicians and volunteers with non-governmental organizations (Morales, 2003).

Increasing demand from tourism and well-to-do urban second home owners at weekends and during vacations is yet another explanation, as is the presence of peri-urban first home dwellers, some relatively well off and others poor, who wish to live within “reasonable” commuting distance and time from urban areas and benefit from country living or cheaper accommodation.⁵

De Janvry and Sadoulet (1993)⁶ suggest that the extremely unequal distribution of assets in Latin America (worse than in any other continent) most probably has a negative effect on the creation of local linkages. Indeed, because of the highly skewed distribution of income and land (Gini coefficients of around 0.60 and 0.80, respectively), a small number of landlords receive most of the income benefits of agricultural growth. Most of them are absentee landlords and therefore most of this income does not increase local demand. However, this finding does not alter the fact that the relatively large modern agricultural sector in Latin America uses more inputs and services than the agriculture of other developing regions and therefore generates relatively strong linkages to the rest of the economy, albeit not so much locally (de Janvry and Sadoulet, 2002, p. 18). Calculations carried out in 2003 by the Inter-American Institute for Cooperation on Agriculture (IICA) point to agricultural multipliers of around 3 for several countries of the region. Compared

geographer at the University of Chile. Ávalos prepared a series of maps of Chile's VI, VIII and IX Regions, using the Retrieval of data for small areas by microcomputer (Redatam) software developed by ECLAC/CELADE to compare 1992 and 2002 population census age and gender structure data at the censal district level.

⁵ See Graziano da Silva and del Grossi (2001), among others.

⁶ Mentioned by Lanjouw (2001).

to the multipliers of developed countries (a multiplier of 11 was found for the United States in the same study), these are of course still quite modest. How

much of all this translates into RNFE and under what conditions is not clear as yet. This is definitely a point on which further research should be done.

IV

Rural non-farm employment in figures: a snapshot of the late 1990s

RNFE for 11 Latin American countries⁷ was calculated on the basis of an expansion of 1999 household survey figures. Together, these countries represent approximately 72% of Latin America's⁸ economically active population (EAP, that is the working and unemployed population). The finding was that around 39% of the working rural population were in RNFE (tables 1 and 2). This is a substantial increase over previous estimates for the early to mid-1990s, which ranged from about 30% to 35%.⁹ To obtain table 1, use was made of the answers to the household survey question: "what was your main occupation last week?"¹⁰ The total figure obtained, especially the one referring to women, substantially exceeds the ECLAC/CELADE (1999)¹¹ economically active population projections for the year 2000 (which include the 2% to 3% of the rural population that is unemployed). There are three possible explanations for this: i) a methodological one: the CELADE figures are based upon population censuses that capture employment less well than household surveys, especially in the case of women; ii) more women entered the labour force than

the projections allowed for, or iii) a phenomenon similar to that of the 1980s has taken place; namely, rural-urban migration flows tapered off as a result of the new "lost half-decade" (1998-2002) and the 1999 household surveys captured this.

The working population in the 11 countries analysed totals some 140 million, of whom 30% are rural. Of the urban employed, some 6.6% have agriculture as their main occupation (especially those aged over 45), while some 39% of the rural employed engage in non-agricultural activities (especially those aged under 45, and most particularly those aged 30 to 44).

In both rural and urban areas, female participation in non-agricultural activities is higher than in agricultural activities.¹² Women accounted for 44.4% of RNFE and 41.2% of urban non-farm employment, as against 27.3% of rural farm employment and 25.2% of urban farm employment.

In previous studies, Dirven (2000 and 2002) showed that over-60s (men and women) were much more strongly represented in the rural EAP (8.3%) than in the urban EAP (4.6%). This is explained by the weight of the agricultural EAP in the rural EAP and the fact that 10% of the agricultural EAP is more than 60 years old. In turn, the rural EAP contains a smaller share of 30- to 44-year-olds, owing to migration. The 15- to 29-year-old group is equally well represented in rural and urban areas because, on the one hand, working life starts earlier in rural areas but, on the other, this is a group in which migration is especially prevalent.

⁷ Countries with national coverage household surveys and for which the microdata were available at ECLAC, namely: Bolivia, Brazil, Chile, Colombia, Costa Rica, El Salvador, Honduras, Mexico, Nicaragua, Panama and Paraguay.

⁸ In addition to the countries lying between Mexico and Chile/Argentina from North to South, "Latin America" includes Cuba, the Dominican Republic and Haiti, but excludes the English-speaking Caribbean countries, Belize and Guyana.

⁹ See, among others, Dirven (2000) and Reardon, Berdegué and Escobar (2001).

¹⁰ In some countries the reference period is the last month. The surveys are extremely sensitive to the time of implementation and the period covered. In Brazil, for example, 14.6 million people responded that agriculture had been their main activity in 1997. When the reference period was the last week of September of that same year, only 13.4 million gave the same response (Graziano da Silva and del Grossi, 2001).

¹¹ ECLAC Population Division, formerly Latin American and Caribbean Demographic Centre (CELADE).

¹² This is partly due to under-reporting, although ILO has made great efforts to encourage the use of specific questions relating to female on-farm work to get around this. As a result of these efforts, the FAO agricultural EAP figures for Latin America rose from 40 million to 44 million people from one database to another in the mid-1990s.

TABLE 1

Latin America (11 countries): Estimated working population in rural and urban areas, 1999

Total 140 141 814		= 100.0%	
100.0% = Urban: 97 601 576 69.6%		100.0% = Rural: 42 540 238 30.4%	
100%			
Agricultural		Non-agricultural	
100% = 6 044 370 6.6%		100% = 91 557 206 93.4%	
Agricultural		Non-agricultural	
100% = 25 909 887 60.9%		100% = 16 630 351 39.1%	
100%		100%	
M	F	M	F
4 522 072 74.8%	1 522 298 25.2%	53 802 107 5.8%	37 755 099 41.2%
100%		100%	
M	F	M	F
18 836 892 72.7%	7 072 995 27.3%	9 240 035 5.6%	7 390 316 44.4%
100%		100%	
Male urban		Female urban	
100% = 58 324 179 7.8% 92.2% 59.8%		100% = 39 277 397 3.9% 96.1% 40.2%	
Male rural		Female rural	
100% = 28 076 927 67.1% 32.9% 6.0%		100% = 14 463 311 48.9% 51.1% 34.0%	

Source: Prepared by the author on the basis of 1999 extrapolations of the household surveys of Bolivia, Brazil, Chile, Colombia, Costa Rica, El Salvador, Honduras, Mexico, Nicaragua, Panama and Paraguay. The extrapolations were carried out by the Women and Development Unit of ECLAC.

TABLE 2

Latin America (11 countries): Urban population working in agriculture and rural population working in agriculture and in rural non-farm employment (RNFE)
(Number of people and percentages)

	Urban		Rural				Total rural	
	Agric.	Women (%)	Agric.	Women (%)	RNFE	Women (%)	Women (%)	
Bolivia	75 066	25.8	1 192 603	45.9	202 024	45.5	1 394 627	45.9
Brazil	4 476 541	27.8	11 689 984	36.7	4 239 238	44.3	15 929 222	38.7
Chile	279 070	19.6	456 893	10.9	235 594	39.3	692 487	20.5
Colombia	298 067	12.3	3 183 960	11.5	2 462 521	49.1	5 646 482	27.9
Costa Rica	30 791	8.8	220 977	7.7	425 662	36.3	646 639	26.5
El Salvador	72 870	9.1	399 037	7.5	386 139	48.1	785 176	27.5
Honduras	84 390	10.1	647 926	6.0	448 022	59.7	1 095 949	27.9
Mexico	536 329	23.3	6 974 498	22.5	7 528 597	42.3	14 503 095	32.8
Nicaragua	95 120	13.5	445 780	9.8	229 823	49.8	675 603	23.4
Panama	47 465	4.0	121 666	3.6	127 608	38.7	249 274	21.6
Paraguay	48 660	17.4	576 563	20.5	345 121	45.7	921 684	29.9
Total	6 044 370	25.2	25 909 887	27.3	16 630 351	44.4	42 540 238	34.0

Source: Prepared by the author on the basis of 1999 extrapolations of household surveys carried out by the Women and Development Unit of ECLAC.

TABLE 3
Latin America (11 countries): Rural working population, by economic subsector, 1999

	Agriculture	Women (%)	Mining	Women (%)	Industry	Women (%)	Elec., gas and water	Women (%)	Construc-tion	Women (%)	Commerce, hotels and restaurants	Women (%)	Transport and tele-coms	Women (%)	Financial services	Women (%)	Social and personal services	Women (%)
Bolivia	1 192 603	45.9	30 501	21.0	35 928	62.3	2 260	0.0	29 270	2.2	51 789	75.3	6 667	9.6	2 146	29.8	43 463	51.5
Brazil	11 689 984	36.7	64 669	9.5	775 079	27.0	0	0.0	568 680	10.8	745 894	43.8	184 256	10.0	22 075	55.8	1 878 584	66.3
Chile	456 893	10.9	7 296	1.9	34 395	26.4	2 485	11.4	34 545	1.2	55 201	51.2	17 662	9.6	4 721	30.1	79 288	64.6
Colombia	3 183 960	11.5	52 341	30.1	331 294	48.4	17 844	8.8	149 589	2.1	782 405	55.3	160 600	8.8	36 991	34.0	931 458	61.1
Costa Rica	220 977	7.7	1 598	10.7	93 854	35.7	5 878	2.9	46 942	0.7	103 082	41.0	30 457	7.9	16 614	22.7	127 238	56.7
El Salvador	399 037	7.5	1 139	0.0	103 053	48.6	1 139	0.0	41 788	0.5	116 295	65.7	18 086	2.4	9 484	15.9	95 155	59.9
Honduras	647 926	6.0	789	0.0	119 964	59.2	1 884	16.3	34 229	0.9	161 076	74.5	12 270	10.0	3 285	28.0	114 525	64.2
Mexico	6 974 498	22.5	73 047	6.5	1 918 459	47.1	78 045	0.0	814 473	0.6	1 959 586	51.7	223 656	12.8	29 026	32.8	2 432 306	50.3
Nicaragua	445 780	9.8	3 623	0.0	37 856	42.6	2 228	7.1	20 186	0.0	77 168	57.7	11 185	2.8	518	0.0	77 059	69.1
Panama	121 666	3.6	249	21.6	16 911	31.8	1 745	21.6	12 870	1.3	38 450	41.5	10 563	5.6	2 620	32.8	44 200	58.9
Paraguay	576 563	20.5	2 583	0.0	79 260	32.4	922	29.9	3 638	0.0	113 089	61.7	12 450	6.7	7 467	22.2	97 712	61.0
Total	25 909 887	27.3	237 834	14	3 546 053	42.5	114 430	2.7	1 784 211	4.0	4 204 036	52.5	687 850	10.1	134 947	33.5	5 920 989	58.3
% rural	60.9		0.6		8.3		0.3		4.2		9.9		1.6		0.3		13.9	
% RNFE			1.4		21.3		0.7		10.7		25.3		4.1		0.8		35.6	

Source: Prepared by the author on the basis of 1999 extrapolations of household surveys carried out by the Women and Development Unit of ECLAC.

The rural non-agricultural female EAP is very youthful, with almost half being aged from 15 to 29. As many as 51% of all working women in rural areas are in RNFE, while the figure for men is 33%.

Employment-wise, the most important sectors are i) social, communal and personal services; ii) commerce, hotels and restaurants, and iii) manufacturing, accounting respectively for 36%, 25% and 21% of total RNFE. Interestingly, all three are also characterized by a strong female participation of 51%, 53% and 43%, respectively (table 3).

Reardon, Berdegúe and Escobar (2001) found that 46% of the income of Latin American rural dwellers came from non-agricultural activities, i.e., a larger proportion than is represented by RNFE as a main activity. On average, then, RNFE seems to have higher productivity than agricultural activities. It should be noted, though, that often all non-farm income is computed, including transfers (governmental and private). In addition, some portion of RNFE is in secondary activities, while the figures for those in work refer to the main activity alone. Both lead to the average productivity of RNFE being overestimated. Just how much is illustrated by, for example, Berdegúe, Ramírez and others (2001) for Chile. They found that transfers amounted to 35% of total income in a poor rural municipality (Portezuelo), and made up 22% of income for the landless and 12% for those with land in a richer rural municipality (Molina).

RNFE can be divided, however, between low-productivity "poverty refuge" activities that generate low income, have low entry and exit barriers and are essentially supply-generated, on the one hand, and dynamic, higher-productivity activities¹³ that are more demand-generated but have relatively high entry barriers (in terms of both financial and human capital), on the other. In most instances, the contribution of RNFE income to total income versus household assets (especially land) forms a U-curve, while total RNFE income usually rises with the level of different assets (land, education, capital, and also access to roads and other infrastructure, as well as proximity to markets, or rather to larger settlements).

¹³ Most authors distinguish between "high" and "low" productivity RNFE. We have preferred to use "higher", a relative concept as compared to "low" and not to be confused with genuinely high-productivity and high-income employment in which, unfortunately, very few rural Latin American residents are engaged. In fact, as Wiggins (2003) shows for Mexico, rather than two tight categories of RNFE incomes, there is a continuum that goes from very low to relatively high incomes.

Latin American rural labour markets are far from perfect and shadow wages often differ from market wages. They are determined by the marginal productivity of labour, but also by the price of consumer goods, transaction costs, available time, non-labour income and private and public asset endowment, as well as the non-separability of some production and consumption decisions. Decisions about the allocation

of labour between wage and self-employment activities in agriculture or RNFE therefore depend on all these issues.

In what follows, we shall draw mainly upon information contained in *World Development* (2001) in an attempt to move from a “flat, indefinite picture” of “rural” life to a much richer description, with emphasis on “distances”.

V

Assets and rural non-farm employment

1. Private assets

a) *Land*

Concerning the relation between household land assets and RNFE, evidence seems to be mixed. Although in many cases the U-curve mentioned earlier holds, Reardon, Berdegúe and Escobar (2001) find rather that the share of total household income from RNFE falls as landholdings rise, since those with more land have less of an incentive to depend on RNFE. On the other hand, evidence shows that the level of RNFE earnings increases with household income.

The overview provided in the special edition of *World Development* (2001) indicates that in Peru (Escobar, 2001) and Mexico (Yúnez-Naude and Taylor, 2001) the ownership of fixed agricultural assets increases the share of farm income in total household income and reduces the need for wage employment, be it agricultural or non-agricultural. In Mexico, it also reduces migration.¹⁴ In turn, stockbreeding, which is less labour-intensive, increases a household's RNFE income share and an additional household member increases the probability of wage income.

In Honduras, on the other hand, participation in self-employment is relatively independent of the size or use made of landholdings, but RNFE wage labour is positively related to farm size, especially in the northern region (where most industrial free trade zones have been established) and when part of the household's land is irrigated and mechanization reduces labour requirements (Ruben and Van den Berg, 2001).

A possible interpretation of this mixed evidence is that, depending on location and “distances”, households with sufficient land to create a surplus for reinvestment either do this in RNFE when well located, or in agriculture and additional land when faced with distance constraints.

b) *Savings and access to credit*

The poor functioning of rural financial markets in developing countries can be ascribed not only to imperfect information, high transaction costs and ill-defined property rights that limit formal credit, but also to a failure to capture the savings of rural households. Often, then, these households cannot obtain positive returns on their savings except by investing them in a home-based enterprise (Lanjouw, 2001). Rural non-farm income may thus derive from savings turned into investments, while at the same time RNFE income is often sought as a way of coping with credit restrictions.

In line with the foregoing, in El Salvador the great majority of rural non-agricultural enterprises state that their start-up capital came from personal savings. In fact, only 7% of the enterprises were originally financed by formal credit sources (Lanjouw, 2001). In Peru, access to credit is an important determinant of self-employment (be it in the agricultural or non-agricultural sector), while in Honduras the search and transport costs involved in finding rural non-farm wage employment or the funds needed to initiate RNFE activities are usually financed by household or personal savings, or informal credit. Put differently, without savings or access to formal or informal credit, RNFE is difficult to come by, either because of search costs or investment requirements. It is however important to note that in Peru and Honduras, as in other countries, non-agricultural income sources serve as substitutes for

¹⁴ Migration to the rest of Mexico or to the United States is highly correlated with the educational level of the individual (less or more than three years of primary education, respectively) (Yúnez-Naude and Taylor, 2001).

extremely limited formal credit, relieving capital restrictions (Escobal, 2001; Ruben and Van den Berg, 2001).

In general, studies on RNFE tend implicitly to have self-employment or wage employment in micro- to small-scale enterprises¹⁵ in mind when conducting their analyses. As a result, they insufficiently stress employment in government services (education, outreach, technical assistance, social and health services, local administration, etc.), whose search costs differ from those for private-sector employment. Reardon, Berdegúe and Escobar (2001) state that public-sector RNFE is generally quite low in the Latin American countries analysed. We are not convinced that this is correct, and this issue should be looked into further. In Chile, for example, government-related employment accounts for a not-so-small 16% of total RNFE (respectively: education, 8%; public administration including defence, 6%; and social and health services, 2%). In Brazil, some 70% of people employed in the "social services" category work in State schools and 8% in public health. The rest are employed in sports organizations, private clinics and schools and social assistance services of various kinds (Graziano da Silva and del Grossi, 2001).

c) *Education and experience*

The relationship between education and the more productive types of RNFE is unmistakably positive, as all the studies point in the same direction. Less productive RNFE, however, usually does not show any significant correlation with education levels, albeit know-how and experience are unquestionably assets.

In north-east Brazil, finishing primary education¹⁶ increases the probability of RNFE participation by two percentage points in comparison with an illiterate person, all other variables being constant. With a complete secondary education this probability is 24

percentage points higher. The same trends can be observed in south-east Brazil. When RNFE is divided between higher- and low-productivity activities, this is much more evident still (Ferreira and Lanjouw, 2001).

In Mexico, the positive relationship between education and income (from both agriculture and RNFE) becomes especially visible when the household has an additional member with more than nine years of formal education. This causes a large increase in wage income of around US\$ 780. By contrast, an additional household member with incomplete primary education (1 to 3 years) is associated with the production of staple goods, since people with this level of education have no choice but to engage in a traditional activity such as maize-growing (Yúnez-Naude and Taylor, 2001).

In Ecuador, education is again closely associated with RNFE. Households have a higher probability of being engaged in rural non-farm enterprises when at least one member has formal primary or secondary schooling. Additionally, if all household members have some education the probability of being involved in a rural non-farm business is much higher still, while those with post-secondary education are more likely to be involved in wage labour than to establish a family business (Elbers and Lanjouw, 2001).

In Peru, the effects of education are very clear as well: the higher the formal education level, the less the incentive to obtain income from the family plot and the greater the incentive to engage in RNFE, be this self-employment or wage employment. Data indicate that skilled labour receives around 30% more wage income than unskilled labour in agriculture, and around 50% more in RNFE. However, this difference is only noticeable on the coast, while in the highlands (*altiplano*) and the Amazon region there is hardly any difference. Escobal (2001) interprets this as being due to relatively underdeveloped labour markets in those regions.

In Nicaragua, people who do not own land but have high education levels earn high RNFE incomes in activities such as teaching, particularly if they live near roads and towns (Corral and Reardon, 2001).

Interestingly, what Schultz (1964) concluded for agriculture in general and, later, Figueroa (1986) for Latin America, also seems to hold true for RNFE, namely that the returns to an additional year of education are not the same in a poor, lethargic zone as in a richer, dynamic one. Thus, Berdegúe, Ramírez and others (2001) found that more educated workers in Portezuelo (a lethargic rural municipality) tended to do the same tasks as less educated ones in Molina (a dynamic rural

¹⁵ Wiggins (2003) points to the fact that categorizing activities as either "waged" or "self-employed" can be misleading, since many self-employment jobs are carried out so flexibly to customer requirements that they are tantamount to wage labour; the author then goes on to give the example of the farm hand and the painter, each bringing their own tools (respectively, machete and brush), each paid by the day, each usually directed by the contractor as to some of the specifics of the work, but one being considered a wage labourer and the other self-employed.

¹⁶ It should be noted that Brazil has among the lowest average rural education levels in Latin America and that these are even worse in the north-east than elsewhere. On average, 63% of Brazil's rural population aged between 15 and 24 has five years or less of primary education, while among those aged between 25 and 59, 83% have spent five years or less at school (ECLAC, 2001).

municipality), and that in Molina there were more opportunities for people with more education. In fact, figures for several Latin American countries show that people working primarily in RNFE have more years of formal schooling than rural residents employed primarily in agriculture, but a similar number to urban residents employed primarily in agriculture. Urban residents employed primarily in non-agricultural activities have the highest educational levels.¹⁷

d) *Household members*

The farming household is an important decision-making unit in many settings. It is distinguished by the fact that it is both a producer and a consumer of a range of goods. Food products and family time (used as labour or leisure) are common examples of such goods. In theory, the household will maximize in a two-step process that is recursive and hence separable. It will first maximize profits as a producer, which will maximize household income, and then it will allocate its income so as to maximize utility as a consumer. The separability of the maximization process depends, however, on whether or not there are differences between the market prices of production/consumption goods and the value of those goods within the household (their shadow prices). Shadow price endogeneity¹⁸ may arise under a wide range of circumstances. It is potentially present whenever the market for at least one production/consumption good is “imperfect”, i.e., when the household is not a price-taker, when it views the good sold in or purchased from the market as an imperfect substitute for the good that is produced and used on the farm, and/or when it faces gaps between purchase and sales prices (due to transaction costs). It also occurs when household labour on and off farm are distinct arguments in the household utility function. Similarly, shadow-price endogeneity follows when no household labour works off farm (despite having the option to do so) in a situation where family and hired labour are separate arguments in the household production function (Löfgren and Robinson, 1999).

In both Honduras and El Salvador, households apparently first use family labour for covering their self-produced staple food requirements and only then engage “supernumerary household members” in RNFE.

Therefore, household size has a positive influence on the probability of a household member engaging in RNFE. RNFE is important as an income diversification strategy when there are sufficient resources to replace the more educated family members who can obtain higher incomes outside agriculture (Lanjouw, 2001; Ruben and Van den Berg, 2001).

In Brazil, by contrast, household size does not seem to be correlated to RNFE. In fact, the data even suggest that in a household which specializes in agricultural activities (i.e., which has a high percentage of its members in agriculture), it is unlikely that any members will go to work in a non-agricultural activity (Ferreira and Lanjouw, 2001).

The principal type of RNFE varies by income stratum. Middle-income households¹⁹ are mostly active in non-agricultural wage labour, high-income households are self-employed in RNFE or have small and medium-sized RNFE enterprises, while poor families are mostly employed in agricultural wage labour activities with some additional non-agricultural income from activities such as handicrafts or petty trading. This is in line with the capital accumulation that usually takes place over the life cycle and the capital requirements of RNFE. The corollary of all this is that, in order to increase their participation in RNFE, rural households need to i) overcome financial barriers to entry, and ii) have access to labour-saving technologies or the possibility (investment-wise) of such access, or iii) have a large household. RNFE probability increases with age until about 40 and then decreases, although in Honduras it is older people that tend to access wage RNFE and age has an important positive effect on non-farm income, most probably implying that RNFE requires both higher qualifications and experience.²⁰

As to gender, the figures for the 11 Latin American countries analysed show that men represent somewhat more than half of total RNFE (56%). However, as already mentioned, because women are much less active in agriculture than men (at least as per the official figures), the proportion of women in RNFE as compared to the total female rural EAP is much higher (about 51%) than for men (about 33%). Men who are not household heads tend to work in wage labour, while women and male household heads tend to work on their

¹⁷ Results of special household survey tabulations run at ECLAC.

¹⁸ That is, the price of a good that is determined not by the market but endogenously by the interaction between household demand and supply.

¹⁹ With 38% of households living below the indigence line and 64% below the poverty line in rural Latin America (ECLAC, 2002), this is a relative concept.

²⁰ Ruben and Van den Berg (2001), Dirven (2000), Ferreira and Lanjouw (2001) and Corral and Reardon (2001).

own account. Men and women are active in different sub-sectors, however. Men work essentially in construction, transport and heavy manufacturing, and women principally in administration, the textile industry, education, own-account activities and personal and domestic services (table 3). In general, women are more likely to be self-employed but tend to earn much less than men, all other characteristics being equal; up to 29% less in El Salvador, for example, according to Lanjouw (2001).

Controlling for other characteristics, the probability of RNFE participation does not seem to be associated with race in Brazil, contrary to the experience in other countries (Ferreira and Lanjouw, 2001). In Mexico, it is harder for indigenous people to get access to RNFE than for their non-indigenous peers with a similar level of education; in addition, there is a substantial educational gap between the two groups (de Janvry and Sadoulet, 2001). A possible explanation that goes further than mere discrimination, although this certainly exists, is that there tends to be a significant correlation between membership of indigenous groups and residence in more remote areas, with low population densities and less RNFE (Corral and Reardon, 2001).

Another interesting finding, at least in Brazil, is that individuals still living in the municipality where they were born are slightly less likely to participate in RNFE (Ferreira and Lanjouw, 2001). A parallel can be drawn with findings that indicate greater openness to innovation (and its risks) among return migrants (from the capital, Lima) in Peru and ex-soldiers (or guerrilla fighters) in Central America and Colombia. The fact of having been exposed to experiences and activities different from those they would have encountered in their home village seems to bring about a change in mentality and abilities that affects investment and labour decisions, among other things.

2. Public goods, infrastructure and other location assets

a) *Dynamism in agriculture*

The great variety of linkages between the non-agricultural and farm sector and the different forces underlying them have been the object of considerable theoretical and empirical analysis. Johnston and Kilby (1975), and many others, have maintained that a virtuous circle can arise from the intensification of agricultural and non-agricultural activities on the basis of production and consumption linkages. In principle, of course, this is so and most studies point that way. However, the foreign trade and investment liberalization

policies followed to different degrees by all Latin American countries from the mid-1980s, plus improvement to transport networks, have increased the scope for strengthening non-local linkages, resulting in the partial “leakage” of local effects to the “rest of the world”; either to elsewhere in the national economy, or to foreign economies. The contrary is true too, and there is also more likelihood of external “engines” kindling local dynamism.

We share Elbers and Lanjouw’s (2001) opinion that the traditional growth model in which Lewis points to intersectoral transfers retains all its relevance when it is recognized that the modern non-agricultural sector can develop just as well in rural as in urban areas. Data indicate that this process tends to increase inequity, but this should not be interpreted as meaning that the poor do not benefit. Also, the possibility that it is the agricultural sector which is the force behind changes in welfare, as well as in RNFE patterns, cannot be ruled out.

Several of the authors of the studies reviewed in this article find strong linkages. Thus, Escobal (2001) finds that, in Peru, the higher the land productivity in a certain district, and thus the more vigorous the local agricultural sector, the greater the share of non-agricultural income in total income. Ruben and Van den Berg (2001) conclude that microenterprises in Honduras have important linkages with the agricultural sector, be it through the provision of inputs (backward linkages) or the transformation of products or their distribution to (mostly) rural consumers (forward linkages).

Lanjouw (2001) is more cautious and states that with the data available for El Salvador it is difficult to verify the strength of backward and forward linkages due to an increase in agricultural income. He does conclude though that these linkages are present (i.e., both those stemming from agriculture and those from consumption), because a large proportion of non-agricultural activities are somehow centred around trade, food preparation, transport and repair activities.

In Chile however, in two different rural municipalities, one (Molina) with much more dynamic agriculture than the other (Portezuelo), the income generated in RNFE is less linked to agriculture (only 22%) in Molina than in Portezuelo (57%), and average incomes from RNFE are higher when less linked with agriculture. Indeed, RNFE productively linked in a direct way to agriculture, such as agro-processing, generates returns only 33% to 43% as high as those for RNFE not linked in this way. In addition, earnings from non-agricultural activities carried out by rural households in rural areas are only about 70% as high as those from

such activities carried out in urban centres. The latter, though, help generate a large influx of income into rural areas (Berdegúe, Ramírez and others, 2001).

To explain the types of linkage that take place, a recent study on dairy clusters and value chains in several Latin American countries (Dirven, 2001) clearly showed the relevance of von Thünen's nineteenth-century theory on land value gradients, on the one hand, and the type of enterprises (micro, small, medium, large national or transnational) that participate in each node, on the other. Thus, near large cities, dairy farms use land much more intensively and therefore have a much more intensive use of inputs of all kinds. As a consequence they have far more backward linkages to production and services than dairy farms in more remote regions, albeit often with importers rather than local input producers. Secondly, industrial processes also vary in relation to location, with the production of high-value yoghurt, fresh cheese and liquid milk near the largest cities and of ripened cheeses and powdered milk in more remote milk-producing areas, while in tropical zones these latter products are made using milk from dual-purpose cattle (meat and dairy). Obviously, the resulting linkages to machinery, transport, packaging and other input providers are extremely different. Whether farms, agro-industry or input and service providers are microenterprises or multinationals (or somewhere in between) also has significant effects on technology use and the resulting linkages (Dirven, 2001). The integration of agriculture and its linkages with the effects of distance, and the combined impact of these on RNFE, have not received much attention in the literature as yet.

b) *Roads and other infrastructure*

In general, RNFE in Latin America seems to be closely linked to location. The level of non-agricultural earnings is determined above all by the economic

context, in particular the level and dynamism of the economy in the particular locality or territory, but also by the quality of roads. Access to good roads is especially important for participation in agricultural and non-agricultural wage employment. It seems to be less important in own-account non-agricultural activities, however. Data so far indicate that rural own-account activities are dominated by small enterprises, mostly run by women, which serve local rural markets (Berdegúe, Ramírez and others, 2001; Corral and Reardon, 2001).

In particular, there are clear signs that RNFE is more dynamic in areas that are well connected to markets and endowed with at least a minimum of standard infrastructure (Ferreira and Lanjouw, 2001).²¹ Thus, access to public assets like rural electrification and roads noticeably increases overall income, from agriculture but above all from non-agricultural activities (Escobal, 2001). The correct interpretation probably is not that roads are less important for agriculture, but rather that due to von Thünen's "law", agriculture adapts to areas that are less close to main roads, while non-agricultural activities often have to be located nearer to them and near to rural-urban concentrations (Corral and Reardon, 2001). In general, however, few rural enterprises have access to this basic infrastructure. Thus, in El Salvador, 35% of enterprises stated that they had difficulties with transport due to bad road conditions and very few had a telephone connection. And while access to infrastructure seems to have had similar effects on RNFE in El Salvador as those noted above, and low-productivity RNFE seems to have been more concentrated around small rural hamlets and other settlements, surprisingly this does not seem to have influenced remunerations significantly and, in the case of higher-productivity RNFE, distance does not seem to have played an important role (Lanjouw, 2001). As noted earlier, though, El Salvador is densely populated, unlike most other countries in the region.

VI

"Distances" and rural non-farm employment

1. Territories and location

As can be inferred from the previous section, and as is indeed slowly taking place in the region, rural development and rural poverty alleviation policies

²¹ The anonymous reviewer who commented on this article pointed out that investments in roads and other infrastructure often follow more dynamic activities and that the cause-effect relationship of infrastructure and RNFE should therefore be interpreted with caution. No doubt he has a point.

should explicitly consider the heterogeneity of territories. A recent overview of rural territorial development in Latin America (Schejtman and Berdegú, 2003) distinguished four types of territories, each the result of different historical, socio-economic and institutional trajectories and potentials, and therefore calling for different sets of policies. They are: i) territories that have made progress with productive development and attained a degree of institutional development that permits of a reasonable degree of social dialogue and inclusion; ii) territories that have experienced significant economic growth which has, however, had little impact on local development and, in particular, on the opportunities of their poorest segments; iii) territories with strong institutions, often expressed through a strong cultural identity, but lacking in endogenous economic options capable of sustaining long-term poverty alleviation processes, and iv) territories that are clearly undergoing a process of social and economic destructuring.

This typology was designed for territorial development policies. It undoubtedly has its uses as well for explaining RNFE types found in these territories, as RNFE both influences and is influenced by the type of territory in which it takes place. One of its shortcomings, however, is that the authors did not explicitly take into account the location of the territory and therefore its distance to markets. Slowly, influenced among others by Krugman, economists are starting to look again at location as an explanatory factor in economic development.

Wiggins and Proctor (2001) put it this way: "Around most cities lies a peri-urban zone of intense interaction with the city, an area that might be defined as that where people may commute daily from village to city for work. Beyond lies a countryside where distance prevents daily commuting, and the cost of movement to and from the city is significantly greater. Further away still, there are rural areas that are remote, cut off by lack of infrastructure, great distance, and physical obstacles. Here, the costs of movement of goods and people to and from urban areas are unusually high.²² Note that density of settlement will usually correlate positively with closeness to the cities (and the natural wealth of the area)." The authors then

superpose natural resource quality upon location (peri-urban, middle-distance countryside and remote rural) to arrive at a table with six types of locations and resources (land quality, natural beauty, etc.) indicating the likelihood of certain types of activities being found in certain places (or, seen from another angle, the territory's development potential). In addition (and especially in Latin America, with its highly skewed income and asset distribution), availability of and control over assets, particularly land, also play an important role in each of these settings.

2. "Distances" and transaction costs

Location is crucial because it plays a determining role, together with infrastructure, in the distance to markets. Distance here is understood as physical distance weighted by transaction costs. A study in Peru (Escobal, 2000) calculated the transaction costs for the sale of agricultural goods, potatoes in this case, for two districts of Huancavelica. On average they were equivalent to around 50% of the value of the goods sold. For farmers connected to the market via a trail they were 60% higher than for those connected via a road that was practicable for cars all year round. The study also confirmed that transaction costs were much larger for small farmers than for larger-scale ones (67% versus 32% of the sales value, respectively).

There are several other "distances" that play a role in transaction costs, however. Escobal (2000) showed that farmers' decisions were influenced not only by the cost and time involved in reaching a market, but also by their experience in a particular market, the stability of relations with buyers, and the resources invested to obtain information and supervise implicit contractual arrangements.

A study on "organizational distance" in Peru showed that rural organizations and institutions had a marked tendency to relate to organizations of the same kind. This means that professionals and technicians do not see the organizations of the community as equal partners. This tendency to establish relationships with peers introduces an additional exclusion factor for the poor and the more rural (Andersen, 2003).

Social and cultural²³ "distances" also play a fundamental role in transactions involving goods,

²² Markets can even "fail" for a particular person or household when the difference between the selling price and the buying price of a specific good is too large. In such a case, the household may be better off producing the good for self-consumption (Escobal, 2000; Key, Sadoulet and de Janvry, 2000).

²³ Primi (2002) defines cultural distance as the differences in language, concepts, logic, ideas, beliefs and values between different households, social groups and localities.

labour, services and ideas. The location of households within the hamlet, district or region is also crucial in this two-way interaction of causes and effects. The social and economic isolation that may result from these different “distances” can be quite marked, even between households in the same locality, because of the great dispersion that characterizes many rural localities. And because “distances” increase information asymmetries, the poor and isolated (who already have little choice as to where, with whom and at what price to trade) will participate in the different markets on unequal terms (Primi, 2002).

In sum, the decision to offer or use labour or investment resources for RNFE rather than for agriculture or migration is determined by the expected wage or income minus the transaction costs (information, “supervision of the contract” or risk that the expected contract will not materialize or will be discontinued before long, transportation of oneself or the goods produced to market, etc.). The specific combination of transaction costs will depend on the particular person or household (human capital, social capital, experience, accumulated information and information channels), on local specificities and on the specific market (Escobar, 2000). The different types of “distance” play a crucial role in this.

3. The RNFE income and activity gradient

Returning to the more economic view of “distance” (i.e., that of transaction costs generated by physical distance), evidence as to RNFE is still scant, but there is no doubt that distance and the transaction costs that ensue play a role both directly and indirectly, either through the non-separability of production/consumption goods at the household level, or because if RNFE has at least partial linkages to agriculture and to the consumption of goods and services by agricultural households, then the effect of “distance” on agriculture and its products should also have an effect on RNFE.

Reardon, Berdegúe and Escobar (2001) conclude that the share of income from wage employment in non-agricultural rural activities and from services tends to increase when transiting from the rural hinterland to rural areas close to towns and well served by roads. They explain this as empirical evidence that small rural manufacturing firms have difficulty competing with urban or imported manufactures and only tend to survive in isolated areas. This was also one of Renkow’s (1998) conclusions, namely that the construction of roads was

a double-edged measure, improving mobility both ways with the risk of crowding out local manufactures and services. Reardon, Berdegúe and Escobar (2001) continue their analysis by saying that these effects require further study, but that at first sight it seems likely that, as rural Latin America becomes better served by road infrastructure and thus better connected to national and international markets, RNFE will increasingly be of a wage employment and service kind.

Much of a piece with Wiggins and Proctor’s (2001) description of different rural areas referred to above is the division of such areas into four categories by the Brazilian Geographical and Statistical Institute (IBGE). Although “exclusively rural” areas (dispersed population, less than two community services such as school, church or health centre, no commercial centre or factory) are home to 82% of the total rural working population, they only represent 59% of RNFE. This shows that RNFE is closely linked to commercial centres and the basic infrastructure that usually accompanies them. The data also suggest that manufacturing and allied activities are not specifically concentrated in more urbanized centres, unlike commercial activities, which do tend to be more common there. Location thus influences the likelihood of participating in RNFE, even after controlling for all other characteristics. In relation to those residing in *rural exclusive* areas, those residing in *extensão urbana* areas have an 11 percentage point greater probability of participating in RNFE. The other types of rural settlements (*rural povoado* and *rural núcleo*) are also associated with a 3.6 and 9.8 percentage point higher probability of RNFE, respectively (Ferreira and Lanjouw, 2001). The same authors conclude that it is highly probable that the economies of smaller towns are more closely related to the rural economy than to the economies of larger urban areas.

In relation to the greater dependence of smaller towns on the rural economy and vice versa, Wiggins (2003) states that the goods and services resulting from RNFE are, with few exceptions, made from local raw materials and sold locally. The supply chain therefore often consists of no more than two or three actors who generally live in the same locality, know each other well and negotiate directly, face-to-face.

Per capita monthly incomes diminish as one moves from urban to rural areas and, in the latter, from multiple-activity zones to more specialized agricultural ones, both for households depending solely on agriculture and for those depending on multiple

activities. Per capita incomes also vary by region, so that in Brazil, for example, the highest are found in rural areas of the state of São Paulo and the lowest in the regions to the north-east and south-east of the country (Graziano de Silva and del Grossi, 2001).

De Janvry and Sadoulet (2002)²⁴ analysed the determinants of employment growth in manufactures and services in rural and semi-urban municipalities (15,000 inhabitants or less) in Mexico. They found that proximity to urban centres of 250,000 or more inhabitants, the regional context and the quality of the connections between rural and urban areas accounted for 94% and 67% of this employment growth in rural and semi-urban municipalities, respectively.

In El Salvador, Honduras and Nicaragua, RNFE significantly varies with regions, with most being concentrated around the capital and other especially dynamic or densely populated zones. Thus, in the central zone of El Salvador (which includes the capital San Salvador), some 50% of the rural EAP is occupied in RNFE, while in the east the figure is only 23.2%, although the range of RNFE activities is fairly similar across regions and RNFE remunerations do not seem to be significantly influenced by geographical location (Lanjouw, 2001). In Nicaragua, non-agricultural rural income tends to be concentrated in rural areas around the capital, Managua; in more educated households in densely populated rural zones of the Pacific region that are well served by roads and close to major towns, cities or ports; and in the upper income quartile of rural households. By contrast, areas in the interior are restricted to small-scale manufacturing, stagnant local markets and RNFE jobs with low returns to labour (Reardon, Berdegúe and Escobar, 2001). In Honduras, non-agricultural wage employment is particularly important in the northern region, where industrial free-trade zones have been established in the neighbourhood of San Pedro Sula and near Puerto Cortez, creating employment for some 50,000 people, especially young women. Rural non-farm wage employment in small-scale industries or services is particularly important in rural villages. Self-employment is more common in the southern region, where distribution services are relatively satisfactory. It includes services, handicrafts, food processing and commerce, all activities that require a higher population density to be sustainable. People without land and the residents of rural hamlets tend to be those that participate most in RNFE. In turn,

farmers who reside in small rural hamlets tend to rely on production systems that are relatively input-intensive (Ruben and Van den Berg, 2001).

In Peru, most rural households still obtain the bulk of their income by working their own farms. Because the coastal zones are richer and have a denser road network and better access to markets and cities, the expectation was that wage employment would feature more strongly in total family labour allocation there. However, data indicate few differences in regional patterns of agricultural employment versus RNFE and waged versus self-employment. In fact, rural non-farm income from both waged work and self-employment was found to be more important in the poorer regions, most probably due to “push” factors. This contrasts with large interregional variations in per capita income, coinciding with large variations in agricultural wages (wages in the coastal region are higher). Wages reflect agricultural productivity differences between the coastal and highland regions due to climate and farm size. RNFE productivity differs much less, though (Escobar, 2001).

In Ecuador, too, the 1995 household survey broke down the data for rural areas, this time into three categories. By contrast with the situation in Brazil, Mexico and Central America, people in the urban periphery (and also in dispersed areas) in Ecuador are less likely to be working in RNFE than those who live in rural *amanzanado* areas (settlements with some basic infrastructure but less than 5,000 inhabitants), and this holds true for both higher- and low-productivity occupations. Elbers and Lanjouw (2001) state that this is not particularly surprising in the case of dispersed areas, since households there are more likely to be employed in agriculture. However, the relatively low occurrence of RNFE in the urban periphery is disconcerting in view of the opportunities for non-farm employment in urban centres. There is also more poverty in the periphery than in the *amanzanado* areas or urban areas. The authors surmise that, in Ecuador, peri-urban areas function as temporary settlements for rural dwellers desirous of settling in urban areas. As such, few would be ready to make the investments needed for RNFE of any scope. A second reason is that the proximity to large urban markets induces intensive agriculture. Yet another reason, not explored by the authors, is that many recent migrants to peri-urban areas work as temporary agricultural wage labour. Hataya (1992), for example, explained that in Manizales, Colombia, most first-generation adult migrants did not qualify for any but menial, informal

²⁴ Cited in Schejtman and Berdegúe (2003).

jobs, owing to lack of education and documentation (birth certificate, military status certification, etc.). As a consequence, they could earn more in temporary agricultural jobs (mainly coffee-picking). Their children, however, worked during their school vacations as agricultural wage labour, which had low barriers to entry, but looked forward to finding formal urban jobs upon finishing school.

By contrast with the situation in neighbouring Peru, in Ecuador people living in the coastal region are more likely to be working in RNFE than those in the highlands. This difference is not significant for higher-productivity RNFE, however, meaning that the coast has a higher proportion of low-productivity RNFE. This is consistent with a World Bank (1995) finding that in the coastal region of Ecuador poor people are mostly engaged in agricultural and non-agricultural wage employment while in the highlands the poor are more likely to be subsistence farmers. In the east, the probability of RNFE is lower than in the highlands, especially for low-productivity occupations (Elbers and Lanjouw, 2001).

In their analysis of RNFE in Chile, Berdegué, Ramírez and others (2001) were the first, to our knowledge, to look at where rural dwellers actually worked. They found that, both in an agriculturally dynamic area and in an agriculturally depressed area, around half of all those active in RNFE actually travelled daily to a nearby small town. This is a very important finding to which much more attention should be paid in future empirical studies because, if it transpires that it is not restricted to the particular circumstances of these two municipalities in Chile, or to some special characteristics of Chile, but is widely valid for most Latin American countries—and possibly also for other continents—then it will have a sobering effect on the enthusiasm that has arisen for RNFE as a rural “revival strategy”. The foregoing illustrations show that, with very few exceptions, RNFE is more common and of a more dynamic type near more densely populated areas, or areas that are well connected to towns. This sheds new light on RNFE and the policies required to foster it, as well as their chances of success.

VII

Conclusions and issues for further research

Rural non-farm employment (RNFE) has received increasing attention in Latin America since the 1990s, and some 30% to 40% of economically active rural dwellers are engaged in RNFE while more than 40% of rural income stems from non-farm sources. Nonetheless, policy makers still essentially gear their rural development policies and actions toward the agricultural sector. This bias should be removed and rural development efforts should foster production and service linkages between “growth engines”—agricultural or not—and the local economy, considering the latter not only as the rural areas *per se*, but including the “natural” territory within which the local area is embedded and of which local residents feel they are a part, encompassing also the area in which most rural-urban linkages occur. And, as Reardon, Berdegué and Escobar (2001) put it, the challenge consists in mobilizing extra investment funds and capacities, public and private, as RNFE should not be promoted with resources diverted from agricultural development activities.

Most Latin American countries put decentralization policies in place in the 1990s, and almost all of them boosted rural infrastructure. The influence of these measures on migration patterns, whether of incoming public servants or private-sector workers or of rural people seeking new jobs, has not been studied so far. Decentralization policies have also given local governments the opportunity to control or participate in decisions concerning land-use planning, education, training, public infrastructure, etc., including the levying of taxes and the granting of permits that also tend to constitute high entry barriers for RNFE. They should make use of such opportunities to the utmost. Rural development projects financed by multilateral or bilateral donors are often the principal manifestation of public policies, especially in the poorer countries or regions. A fruitful dialogue is therefore needed in order to reach a common understanding as to priorities, complementarities and essential conditions. The possibility of building alliances with the private sector, i.e., with national and transnational conglomerates or

even smaller firms²⁵ that have a stake in the area or nearby, should also be explored. Of late, some large firms in the region have been showing increasing concern about their impact on the physical environment, and about their image. A few are also taking a more social approach. This should definitely be encouraged and taken advantage of by the national and local authorities as well as civil society.

Figures clearly show that some population groups are better represented in RNFE than others, namely: women (relative to their participation in the rural EAP), the more educated, and younger people (40 or so being the peak age for men and 30 or so for women). More analysis is needed to ascertain why this is so. It may be partly due to correlation, as younger people tend to have several more years of formal education than the previous generation; or to lack of access to land owing to the relative immobility of land markets, and customs and laws that lead to late inheritance; or to the widening of horizons and weakening of peasant traditions, so that younger people have more freedom of choice than their parents.

Asset endowment—both public and private—also clearly plays a role in RNFE. Although the evidence does not always point clearly in one direction, in most instances a U-curve is found between RNFE income as a proportion of total income, and asset endowment (including land, number and education of household members, savings, etc.). Most of those with little access to assets who are in RNFE find themselves working in low-productivity jobs, being motivated more by “push” factors than by “demand” factors, whether they are in self-employment, wage employment or (although this was not mentioned in any of the studies we reviewed) unremunerated employment. Because of the characteristics of the left-hand side of the U-curve (both personal or household assets and activity type and remuneration), policy makers face great challenges in promoting rural non-agricultural employment and income for the alleviation of rural poverty. They should however be alert to the role that low-productivity RNFE has as a safety net for the poor and refrain from taking measures that could undermine this. It should be noted

too that the ultimate poverty refuge activity seems to be agricultural wage labour.

Indeed, all the evidence on Latin America shows that access to RNFE reduces poverty in two different, but equally important ways. Firstly, higher-productivity activities seem to provide sufficient income for households with limited access to land to avoid poverty. Secondly, the most vulnerable population segments, such as women, minorities and many of those who live in extreme poverty, tend to be concentrated in less productive RNFE. Nonetheless, these occupations provide crucial extra income, preventing more severe want.

Differentiated treatment must be given to richer and poorer rural areas. In the former, it is important to reduce the transaction costs faced both by agents investing in the engines of RNFE and by rural households seeking to participate in such employment. An active role on the part of the public sector is required to create conditions that increase the attractiveness of these regions for the private sector (roads, electrification, telecommunications, irrigation), as is a strong focus on public investment to develop the capacities of rural households so that they can participate in a broader range of activities (through education, access to credit, activation of land markets, etc.). In the case of poor areas whose relation to dynamic markets is weak or non-existent, it is essential to be prudent and avoid promoting microenterprises that end up providing “refuge RNFE” because they are unable to link up with dynamic markets where there is demand for the goods and services they produce (Reardon, Berdegúe and Escobar, 2001). The point made in the previous paragraph should also be kept in mind.

Most RNFE studies point to the importance of infrastructure in rural development. It seems, however, that it is better to have a basic package combining simple—even rudimentary—services in communications, transport, energy and water than to have one or even a few of these services provided at a more sophisticated level. A concerted public (or private) investment effort directed at a given territory would thus bear much more fruit than isolated efforts. Other studies have shown that this should go together with access to credit and technology (or technical assistance). Yet other studies indicate that all these efforts should be directed at the population group that shows the requisite openness to change (often below a certain age group and above a certain educational level). Unfortunately, such concerted efforts directed at specific population

²⁵ The Fundación para la Superación de la Pobreza in Chile has recently started a project that involves identifying successful entrepreneurs to advise microentrepreneurs on their plans, in regular one-to-one discussion meetings, for a year. Willingness to do so has been unexpectedly high, especially among entrepreneurs from the same locality who themselves started out with small businesses a few decades ago.

subgroups are often difficult (not to say impossible) to decide upon and then co-ordinate among different public institutions used to working sectorally and independently. Such focused efforts also go against the interests of local politicians (and often national ones too) who require as broad a constituency as possible to be re-elected. The timing of policies and projects is also a difficulty here, as not all have the required visibility or bear fruit at the required political time. The trade-offs between impact and *Realpolitik* are harsh. For development and poverty reduction, efforts should lean towards impact.

Although rural development specialists are starting to look at territories and their heterogeneity in their analyses and when formulating development policies, and economists are slowly starting to see location as an explanatory factor in growth, the clustering of economic activities, etc., somehow location within rural areas and the “distances” (in relation to markets, information and organizations, as well as to concepts, logic and values) that go with it have not received sufficient attention so far. These issues are especially relevant in a continent where rural population densities tend to be low and rural infrastructure and services do not cover basic needs, either human or

productive. Most of the studies on RNFE in Latin America reviewed in this article seem to show close associations between location and the type and dynamism of RNFE, but most of the authors fail to link this to their other findings or to identify location as—possibly—the central explanatory factor.

In the same vein, more attention should be given to the type of linkages that ensue from extensive versus intensive agriculture, from agro-processing and other activities, whether or not the latter tie in with agriculture, and from the economic agents engaged in each (from microenterprises to multinationals) in relation to location and “distances” (from physical to social) and local RNFE creation as well as the occurrence of “leakages” to the “rest of the world”. There is definitely scope for policy options aimed at fostering more locally oriented linkages and therefore more RNFE as well.

Lastly, it is absolutely indispensable to look more closely at rural residents’ daily journeys to work in urban areas (and vice-versa), rural-to-rural migration patterns and their relationship with access to public infrastructure and services, and RNFE. The results of this analysis will probably modify quite substantially the understanding we now have of RNFE, and this in turn will have its consequences for policy.

Bibliography

- Andersen, J. (2003): Redes interorganizacionales e intervenciones en la salud, paper presented at the Seminar “Social capital, a tool for urban and rural poverty reduction programmes”, (Santiago, Chile, ECLAC, 8 and 9 January 2003), Pontificia Universidad Católica del Perú.
- Berdegúe, J., E. Ramírez and others (2001): Rural nonfarm employment and incomes in Chile, *World Development*, vol. 29, No. 3, special edition, Amsterdam, Elsevier Science.
- Corral, L. and T. Reardon (2001): Rural nonfarm incomes in Nicaragua, *World Development*, vol. 29, No. 3, special edition, Amsterdam, Elsevier Science.
- De Janvry, A. and E. Sadoulet (1993): Rural Development in Latin America: relinking poverty reduction to growth, in M. Lipton and J. Van der Gaag, *Including the Poor*, Washington, D.C., World Bank.
- _____ (2001): Income strategies among rural households in Mexico: the role of off-farm activities, *World Development*, vol. 29, No. 3, special edition, Amsterdam, Elsevier Science.
- _____ (2002): World poverty and the role of agricultural technology: direct and indirect effects, *Journal of Development Studies*, vol. 38, No. 4, April, London, Frank Cass & Co.
- Deininger, K. and P. Olinto (2001): Rural nonfarm employment and income diversification in Colombia, *World Development*, vol. 29, No. 3, special edition, Amsterdam, Elsevier Science.
- Dirven, M. (2000): Empleo rural, grupos etarios y género, document presented at the Seminar “Ocupações rurais não-agrícolas” (Londrina, Brazil, 16-20 October 2000), Londrina, Paraná, Parana Institute of Agronomy (IAPAR).
- _____ (2001): Dairy clusters in Latin America in the context of globalization, *International Food and Agribusiness Management Review*, vol. 2, No. 3-4, Amsterdam, Elsevier Science.
- _____ (2002): *Las prácticas de herencia de tierras agrícolas: ¿una razón más para el éxodo de la juventud?*, Desarrollo productivo series, No. 135, LC/L.1837-P, Santiago, Chile, ECLAC, December. United Nations publication, Sales No. S.02.II.G.143.
- ECLAC (Economic Commission for Latin America and the Caribbean) (2001): *Social Panorama of Latin America, 1999-2000*, LC/G.2068-P, Santiago, Chile. United Nations publication, Sales No. E.00.II.G.18.
- _____ (2002): *Social Panorama of Latin America, 2001-2002*, LC/G.2183-P, Santiago, Chile. United Nations publication, Sales No. E.02.II.G.65.
- ECLAC/CELADE (Economic Commission for Latin America and the Caribbean /Population Division-Latin American and Caribbean Demographic Centre) (1999): Latin America: Economically active population 1980-2025, *Demographic Bulletin*, No. 64, LC/G.2059, Santiago, Chile.
- Elbers, C. and P. Lanjouw (2001): Intersectoral transfer, growth and inequity in rural Ecuador, *World Development*, vol. 29, No. 3, special edition, Amsterdam, Elsevier Science.
- Escobal, J. (2000): *Costos de transacción en la agricultura peruana: una primera aproximación a su medición e impacto*, working document, No. 30, Lima, Grupo de Análisis para el Desarrollo (GRADE).

- _____ (2001): The determinants of nonfarm income diversification in rural Peru, *World Development*, vol. 29, No. 3, special edition, Amsterdam, Elsevier Science.
- Ferreira, F. and P. Lanjouw (2001): Rural nonfarm activities and poverty in the Brazilian Northeast, *World Development*, vol. 29, No. 3, special edition, Amsterdam, Elsevier Science.
- Figueroa, A. (1986): *Productividad y educación en la agricultura campesina de América Latina*, Río de Janeiro, Program of Joint Studies of Latin American Economic Integration (ECIEL).
- Graziano da Silva, J. and M.E. del Grossi (2001): Rural nonfarm employment and incomes in Brazil: patterns and evolution, *World Development*, vol. 29, No. 3, special edition, Amsterdam, Elsevier Science.
- Hataya, N. (1992): Urban-rural linkage of the labour market in the coffee growing zone in Colombia, *The Developing Economies*, vol. 30, No. 1, March, Tokyo, Institute of Developing Economies.
- IDB/FAO/ECLAC/RIMISP (Inter-American Development Bank / Food and Agriculture Organization of Economic Commission / The United Nations for Latin America and the Caribbean / Red Internacional de Metodología de Investigación de Sistemas de Producción) (2004): Empleo e ingresos rurales no agrícolas en América Latina, Seminarios y conferencias, Series No. 35, LC/2069-P, Santiago, Chile, ECLAC, April. United Nations Publication, Sales No. S.04.II.G.12.
- Johnston, B. and P. Kilby (1975): *Agriculture and Structural Transformation: Economic Strategies in Late Developing Countries*, London, Oxford University Press.
- Key, N., E. Sadoulet and A. de Janvry (2000): Transaction costs and agricultural household supply response, *American Journal of Agricultural Economics*, vol. 82, No. 2, May, Massachusetts, Blackwell Publishers.
- Klein, E. (1992): *El empleo rural no agrícola en América Latina*, Documento de trabajo, No. 364, Santiago, Chile, Regional Employment Programme for Latin America and the Caribbean (PREALC).
- Lanjouw, P. (2001): Nonfarm employment and poverty in rural El Salvador, *World Development*, vol. 29, No. 3, special edition, Amsterdam, Elsevier Science.
- Löfgren, H. and S. Robinson (1999): *To Trade or Not to Trade: Non-separable Farm Household Models in Partial and General Equilibrium*, TMD Discussion Paper, No. 7, Washington, D.C., International Food Policy Research Institute (IFPRI), Washington, D.C.
- Morales, C. (2003): Lo rural y lo urbano: un ejercicio de simulación sobre estos conceptos, Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), unpublished.
- Persson, L. and V.A. Ceccato (2001): *Dora-Dynamics of rural areas. National report: Sweden*, Nordregio, Nordic Centre for Spatial Development, October (electronic version).
- Primi, A. (2002): *The Costs of Distance: Rural Poverty Through a Territorial Perspective*, thesis elaborated on the basis of the work performed at the Population Division-Latin American and Caribbean Demographic Centre (CELADE) (September-December 2002), Pavia, Italy, University of Pavia.
- Reardon, T., J. Berdegue and G. Escobar (2001): Rural nonfarm employment and incomes in Latin America: Overview and policy implications; *World Development*, vol. 29, No. 3, special edition, September, Amsterdam, Elsevier Science.
- Renkow, M. (1998): *Cities, Towns, and the Rural Non-farm Economy*, document presented at the Workshop of the International Food Policy Research Institute (IFPRI) "Strategies for stimulating growth of the rural non-farm economy in developing countries" (Washington, D.C., 17-20 May 1998).
- Ruben, R. and M. Van den Berg (2001): Nonfarm employment and poverty alleviation of rural farm households in Honduras, *World Development*, vol. 29, No. 3, special edition, Amsterdam, Elsevier Science.
- Schejtman, A. and J. Berdegue (2003): *Desarrollo territorial rural*, draft paper presented at the Inter Agency Group for Rural Development Workshop (Milan, 21 March 2003).
- Schultz, T. (1964): *Transforming Traditional Agriculture*, New Haven, Yale University Press.
- UNCHS (United Nations Centre for Human Settlements) (1996): *An Urbanizing World: Global Report on Human Settlements, 1996*, HS/382/95/E, Oxford, Oxford University Press.
- Wiggins, S. (2003): *Can the Rural Non-farm Economy Beat Poverty in the Developing World? An Overview*, document presented at the Symposium "The rural non-farm economy in the developing world and transition economies: an answer to rural poverty?", 77th Annual Conference of the Agricultural Economics Society (AES) (Seale-Hayne, Newton Abbott, Devon, 11-14 April 2003).
- Wiggins, S. and S. Proctor (2001): How special are rural areas? The economic implications of location for rural development, *Development Policy Review*, vol. 19, No. 4, London, Overseas Development Institute.
- World Bank (1995): *Ecuador Poverty Report*, Report No. 14533-EC. Washington, D.C.
- Yúnez-Naude, A. and J.E. Taylor (2001): The determinants of nonfarm activities and incomes of rural households in Mexico, with emphasis on education, *World Development*, vol. 29, No. 3, special edition, Amsterdam, Elsevier Science.



Food security and family farming

Gustavo Gordillo de Anda

This paper stems from the debate on food security that has been under way since the World Food Summit of 1996. It discusses the viability of a type of programmatic proposal deriving from the Rome Declaration and Plan of Action signed by the Governments of 148 countries, and it suggests that the implementation of the Plan of Action requires the establishment of a structural link between the population affected by food insecurity –usually unable to make its views known or exert pressure– and the various authorities responsible for initiating public action. The central hypothesis of this paper is that this structural link can be centred upon family farmers. It argues that food security, underpinned by the right to food, is a territorial expression of civic rights.

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I

Food security: new ideas and new practices

Although we now know that the world produces far more food than is required to meet the needs of its inhabitants, almost 800 million human beings, or one in seven, suffer from hunger (FAO, 2002a). The answer to overcoming this scourge lies not so much in increasing farm output in developing countries, as was formerly believed, as in generating work and income opportunities and in increasing the scope for marketing the agricultural products produced by the population of these countries.

The last 50 years in family farming have been marked by a combination of: rising prices for farm inputs and equipment, cutbacks in State subsidies and protection systems, and a dramatic decline in market prices for agricultural products.

This decline has been due to transformations in telecommunications and information technologies, the green revolution, and changes in biotechnology. At present, however, the main cause seems to lie in the production and export subsidy policies applied by developed countries, particularly those of the Organisation for Economic Co-operation and Development (OECD). A study by the United States Department of Agriculture (Burfisher, 2001) found that the tariffs and subsidies of developed countries depressed agricultural prices by up to 12% and were the cause of almost 80% of distortions in world trade.

Taken together, the distortion of the export capacity of developing countries and the fall in international farm prices seem to be holding back the development of agriculture in these countries to a very marked degree (Rello and Trápaga, 2001).

Nonetheless, Burfisher (2001) argues that abolition of tariffs and production and export subsidies in developed countries would not in itself be enough to remove the distortions that affect the exporting capacity of developing countries. This measure would

need to be combined with others: improvements in the competitiveness of the agricultural economy in developing countries (particularly where small farmers are concerned), chiefly through investment in infrastructure and human capital formation, together with institution-building and, no less importantly, steps to reduce the high levels of social inequality, poverty and malnutrition that afflict them.

1. The situation in Latin America and the Caribbean

As noted above, in the short term the issue of world food security is, strictly speaking, not a technical one. The problem is that the means of production required to meet food demand are lacking, and that the neediest groups in rural and urban areas have insufficient purchasing power (FAO, 2000). In Latin America and the Caribbean, almost 54 million people are suffering from hunger and malnutrition. Instead of falling, this number has risen in some subregions, the situation in Central America and the Caribbean being of particular concern. Furthermore, some 211 million people in the region are poor, a rise of 11 million since 1990, and 89 million of these live in extreme poverty. The highest incidence of poverty (ECLAC, 2002) is in the countryside, where almost 54% of the population are below the poverty line and 31% are below the indigence line, i.e., their income is too low to meet their basic food requirements.

The problems of food insecurity and poverty are aggravated by the inequality of income distribution. In most of the region's countries the richest 10% of households receive more than 30% of all income and, in almost all of them, the percentage of total income received by the poorest 40% of households ranges from 9% to 15% (ECLAC, 2002). Because local wages are low, some countries have achieved sufficient levels of production and productivity to become exporters of certain agricultural products and increase their incomes. Nonetheless, the fact is that extreme poverty and chronic undernutrition have not

□ The information and views in this article are the author's alone and do not necessarily coincide with those of FAO. The author is grateful to Hernán Gómez, Carlos Icaza, Paul Lewin and Rodrigo Paillacar for their comments and assistance with the preliminary editing of this article.

disappeared and have even increased in many countries (FAO, 2002a).

To sum up, the agricultural transformations of the last half-century have taken the region's agriculture towards two extremes: at one extreme there is a modern, profitable and mechanized agriculture that uses agrochemicals and high-yield varieties, while at the other, there is a subsistence agriculture with all its poverty, exclusion and hunger (FAO, 2000).

2. FAO and the Special Programme for Food Security

With the goals of the World Food Summit in mind, the Food and Agriculture Organization of the United Nations (FAO) has launched the Special Programme for Food Security (SPFS). The Programme consists of measures to improve a country's food security and aims to be something more than a pilot project, as the idea is to propose and develop national food security policies in countries requesting this. As originally conceived, it set out from the premise that viable technologies were available which, if applied properly in the countries worst affected by problems of food security, could increase agricultural productivity and food output. The original approach was too heavily oriented towards food supply and did not consider the role of institutions and actors in the results that would ensue.

Current trends in the economic, political and social dimensions of this issue¹ have led to a new conception of food security, and hence to the need for FAO to refocus its programmes in this area. Evaluations of the SPFS have highlighted the following (FAO, 2002c):

i) "When the SPFS started it had what the Evaluation Team regards as a rigid and inflexible design. It also required that it initially be implemented in those areas where there was the potential for rapidly increasing production. These areas were characterised as being where there were irrigation possibilities. It was envisioned that the production

focus would help solve food security problems both at the household and national levels. It soon became apparent that the early 'micro' oriented production focus was insufficient to ensure progress in solving the food security problem and that 'meso' and 'macro' type issues were important in enabling production increases to occur, and in ensuring benefits accrue to the producers."

- ii) As a result, "the sites selected for SPFS activities in the case study countries, have in general been of relatively high productivity, compared with the more marginal areas where the degree of malnourishment in rural areas is higher but the potential for increases in agricultural productivity are lower. Thus, although in the opinion of the Evaluation Team the areas selected for SPFS activities are likely to be the best as far as potentially improving national food security is concerned, in terms of improving individual household food security the impact of SPFS type activities was likely to have been higher in the marginal areas."
- iii) "Success of the SPFS type of approach is very dependent on the strength of the institutional structures, including extension, credit, input distribution and product marketing systems. Where there are deficiencies in this, it is very unlikely that a two to three year period will be sufficient to demonstrate impact."
- iv) "Systematic evidence of the degree of adoption/uptake of the technologies demonstrated by the SPFS was not available, partly because the SPFS has not generally collected such information and partly because many of the projects are ongoing, or have only recently ended. [...] there was relatively little evidence of continued use of technologies after project demonstrations, or of adoption by farmers who had had no association with SPFS."
- v) "The SPFS has made extensive use of subsidies to encourage technology adoption. This has taken two forms: providing inputs free to farmers and/or giving inputs at subsidised rates. This needs to be re-examined particularly since it does not bode well for the sustainability of the technologies after direct SPFS support to initiatives ceases."
- vi) "In general, to date, the impact of SPFS on national policies relating to food security, and on the donor community in terms of strategies for enhancing food security in Low Income Food Deficit

¹ Including lower international prices; high levels of poverty, hunger, undernutrition and inequity; heterogeneity in the asset endowment of family farmers; segmentation of labour markets; low investment by rural families; information asymmetry in markets; inadequacy and misallocation of public goods in the rural sector; duality of the rural sector, with the coexistence of competitive and subsistence farming; lack of rural infrastructure; lack of institutional capabilities; limited response capabilities of research and development systems, and the existence of a digital divide between town and countryside.

Countries (LIFDCs) and resource mobilization for SPFS follow-up, has been limited.²

The SPFS has also undergone adaptations to suit it to the specific conditions prevailing in Latin America and the Caribbean: i) it is financed out of the public-sector resources of the countries themselves; ii) it operates in countries at an intermediate level of development³ and not only in those with low incomes and a food deficit; iii) it is multisectoral; iv) coverage is national from the outset, and v) it is of long duration. Again, some phenomena specific to the region, or to certain areas within it, affect food security. These include institutional weakness; problems with consolidating decentralization; high vulnerability to natural disasters and an urgent need to improve risk management (by means of early warning systems, for instance), the high social and economic risk entailed by overdependence on some commodity whose price can suddenly fall sharply, such as coffee; and the various tensions caused by trade integration processes (such as the process whose objective is the Free Trade Area of the Americas) and treaties.

With this revised approach to food security, conceived as a right and having the central objective of improving family access to food, the unit of reference ceases to be the farm and becomes the rural family instead. The result is a comprehensive approach that focuses more on people's welfare than on raising agricultural output or productivity.

Thus, food security is no longer treated merely as an exercise in technology transfer, but has been established as a civic right. This raises a crucial question: what segment of the population are these food security programmes aimed at?

Any food security policy whose central thrust is the right to food obviously needs a clear definition of the population at risk, such as landless peasants, small farmers, rural families, indigenous populations, women, children and settlers in peri-urban areas. Nonetheless, targeting the population at risk does not in itself guarantee that this population will be incorporated into food security programmes and projects. There needs to be a structural link between this population, which generally has no way of making its views heard or exerting pressure, and the various authorities responsible for initiating public action. Without such a structural link, the gap tends to be filled by political patronage, or the measures taken do not reach the population at risk but are captured by other sectors with greater bargaining power. The present article suggests that this structural link can be made with family farmers, both because of their dynamism and because of the enormous presence that ensues from the multifunctional character of their production activities.

The key question, after presenting the type of programmatic proposal stemming from this expanded version of food security programmes, is how politically and economically viable this type of proposal can be in Latin America. A basic strategy to pursue new forms of public intervention in the countryside clearly requires building a consensus in relation to the objectives, terms and costs of the main rural advancement policies. These agreements then need to be converted into legal reforms to ensure that commitments will be honoured and to guarantee policy continuity. To be able to gauge the viability of this proposal, it is now necessary to examine the conditions under which consensus could be arrived at. I shall begin with some reflections on recent social movements in the countryside and on the nature of the structural reforms of the 1990s, which have been one of the main causes of these movements, before laying out a set of specific proposals based on the concept of the right to food.

² The evaluation was conducted by a representative team of nine senior external consultants with the operational support of the FAO Evaluation Service. The Evaluation Team visited the regional offices of FAO and 12 countries in the developing regions where the SPFS has been applied (Bangladesh, Bolivia, Cambodia, China, Ecuador, Eritrea, Haiti, Mauritania, Niger, Senegal, Tanzania and Zambia). The Team selected the countries to be visited from a list of 18 countries representing all the developing regions drawn up by FAO. These were countries where fieldwork had begun at least three years before and had covered at least three of the four components of the SPFS. The selection criteria made it certain that the evaluation work of the Team would be based on considerable experience with SPFS implementation.

³ Brazil, the Dominican Republic, Mexico and Venezuela.

II

Social mobilization as a means of generating institutions

1. Some thoughts about the meaning of rural movements

The profound changes that Latin America is undergoing make social protests and unrest inevitable. From the standpoint adopted in this paper, social protests can be seen not just as a means of changing the correlation of forces and increasing the bargaining power of certain social actors, but also as a force for productive restructuring and institutional innovation in societies that are quite unequal, fragmented and fragile from an institutional point of view. This approach yields a specific dilemma: how can social conflicts be solved in this sphere without irreversible confrontation between social actors? And how can conflict resolution processes and efforts be guided so that institutional agreements are strengthened, or new ones generated?

Social movements arise as a form of positioning in response to change, when social actors and organizations feel affected, or potentially affected, by the appearance of new institutional arrangements or the abandonment of old ones. It must be stressed here that any attempt to classify rural movements into exclusive categories comes up against the frequent overlaps between different demands and types of struggle, owing to the ambivalent and changing nature of rural actors in their relationship with society at large and with the State and market in particular.

Social mobilization can be channelled through agreements based on an ethics of responsibility that makes it possible to experiment with innovative institutional arrangements. Obviously, not all social movements result in institutional innovation, since they entail a high risk of disruption, spurred in Latin America by two factors whose conjunction has helped shape the current situation in the region: structural social inequality, which is of very long standing and does not date only from the current period of reforms, and extremely rapid change, carried through hastily and clumsily, which is undermining social cohesion and cultural certainties.

After almost two decades of structural reform, it should be clear that any society is a highly dynamic

human construction where conflicts and tensions are not the exception, but the rule. It is even more obvious that these conflicts come to the surface at times like the present, when societies are in the grip of profound changes of both global and local origin. It is precisely at such times that it is essential to establish a strong link between a sound legal framework and social movements, to assist in the transition from social protest –which is spontaneous and disruptive by its very nature– to collective civic action. This transition from spontaneity to rationality in collective action is not just a change from the short term to the long in the outlook of social actors. It is also the basis for mutual agreements between State organs and social actors. More importantly still, this bridge between legality and spontaneous mobilization can ensure that social protests and conflicts are transformed into innovations, experiments and solutions, both in the sphere of the actual rules used to channel conflicts and in the spheres that gave rise to mobilization. This bridge-building process is what I call social mobilization as a means of generating institutions.

What has happened recently in many of the social movements that have arisen in the region has been a spontaneous, violent upheaval in certain sectors of society, followed by direct repression and short-termist, ad hoc solutions to contain them. In many cases, protests have led to the resignation of democratically elected Presidents: De la Rúa in Argentina, Fujimori in Peru and, recently, Sánchez de Losada in Bolivia.⁴

The message of recent rural movements seems fairly clear, even though these have differed from one another and varied in intensity. They have not only been insisting on more equal opportunities, but rejecting a view of redistributive justice centred exclusively on corporate agreements. Involvement in making and implementing decisions is another demand. The unifying principle is an expanded vision of popular sovereignty, in which the principle of justice is associated with the principle of democracy. The freedom

⁴ What Luis Maira has called “the revocation by society of presidential mandates”.

being fought for involves equal participation at the various levels of society and the State.

Faced with these demands, the promise held out by reforms aiming at economic and political liberalization in Latin America was the formal abolition of policies with an anti-agricultural bias; however, appreciating exchange rates, the systematic decline of international agricultural prices and tight credit have cancelled out many of the advantages that this model offered to the farm sector. Consequently, public policies for the countryside have been exploited by a small oligarchy that has skewed their content and implementation in their own favour, or subordinated them to the interests of the most powerful urban actors, so that they have tended to become appendages of a development strategy.

2. The rage to conclude:⁵ the pace of reform

Developments in the rural sector of Latin America in recent years can be described as a long transition towards institutionalized forms of democratic governance.

The structural reforms of recent decades sought economic stabilization as a means towards competitiveness. The main changes implemented were: deregulation, the modernization of bureaucracies and the privatization of the main State-owned firms.⁶

These reforms gave way to a period of institutional crisis in the rural sector, marked by four factors: i) an institutional vacuum, as economic liberalization was affected by the unsuccessful or incomplete transfer of operating functions from the State to the private sector in particular areas, such as agricultural extension, the marketing of agricultural products and formal credit;⁷

ii) a mismatch between the desire and ability of rural institutions to renew themselves; iii) resistance to change and reforms, manifested in the absence of mechanisms for dialogue and coordination, and iv) a lack of coordination between institutional development in the countryside and changes in the rest of the economy and society.

The combination of these factors has often resulted in selective modernization in particular sectors or regions, based on simplistic economic criteria classifying regions, and even individuals, as “viable” and “unviable”. In fact, this has been the surest way of intensifying productive and social imbalances in the countryside.

Meanwhile, the efficiency factor in institutional change cannot be separated from the distributive factors involved in institutional reforms of all kinds, which involve changes in power and political processes.

Under present circumstances, the macroeconomic environment of the region’s countries cannot by itself offer any real, lasting alternative to displaced rural actors or areas. Thus, the absence of active development policies inevitably results in an institutional vacuum and social exclusion.

It makes no sense, therefore, to promote flexibility, transparency and participation without recognizing the crucial importance of public-sector intervention. At the same time, it is surely vital to bring all the many differentiated strategies and the social actors embodying them into a broad dialogue whose outcome is inclusiveness: the cornerstone of any effective rural reform strategy is the inclusion of all social actors in whatever institutional agreements are being worked towards, i.e., the incorporation of rural workers, family farming, indigenous populations, women, commercial farmers, agro-industrialists, investors, and other increasingly important actors such as supermarket chains.⁸

But this dialogue needs precise rules and a structure of incentives to ensure the inclusion of all within the framework of an ethics of responsibility.

In this context, what I understand by institutional reconstruction is a deliberate process undertaken by sectors representing majority opinion in the State and society in response to an extreme situation caused by

⁵ This is an allusion to Flaubert’s well-known phrase, quoted by Albert Hirschman in his pivotal work on the unfinished drive for reform in Latin America in the second half of the last century, entitled *Journeys towards Progress* (Hirschman, 1963).

⁶ An initial phase sought to achieve economic stabilization by adjusting macroeconomic prices (exchange rate, interest rate and inflation control) to correct biases against certain sectors and encourage non-inflationary economic growth. A second phase addressed market failures through “structural change”; the main measures taken (trade liberalization, privatization and deregulation) sought to make market financing better and more transparent in order to solve the problems of asymmetrical information. A third phase, which is barely beginning in many of the region’s countries, seeks to address failures of cooperation between social actors (see Gordillo, 1999).

⁷ The institutional vacuums left by the withdrawal of State action in certain areas (in the absence of any deliberate policy to create new institutional arrangements) have been filled haphazardly by parallel markets and informal arrangements. The economic and social cost has been high, especially when these processes are analysed over the longer term.

⁸ Sectoral policies are no longer enough to safeguard the interests of most families working in agriculture alone. What is needed now is convergence with territorial policies that look beyond agriculture to reduce inequalities and exploit natural resources rationally.

a combination of social fragmentation and institutional weakness and requiring a mutual pledging of rights and obligations. These pledges are what I call *pactos de garantías*, institutional constructs specific to these situations that cover all three institutional spheres: operational, governmental and constitutional. Because the pledge cannot exist in a vacuum, the role of social actors and movements has to be built into this institutional scaffolding. A *pacto de garantías* has a single purpose: to create a basis upon which the differences that are inevitable in pluralist societies can be resolved. The idea is not to attribute a mythical value to consensus-building, but to appreciate that there is no substitute for it when it comes to modulating the pace of change. This process of institutional reconstruction, of which the *pacto de garantías* is the expression, can be driven by social movements, by particular policies, and by a good structure of enforcement institutions.

Institutional reconstruction seeks to address problems of social cohesion. This has to be the central objective of public policies in the rural sector, and it needs to have the unquestionable social legitimacy that can only be conferred by the participation of rural actors in the design and implementation of such policies.

Rural actors are interrelated with institutional change: they are active agents⁹ and at the same time they may be among those affected by change. Not all actors participate in institutional change in the same way or at the same time, but they all feel its repercussions, albeit to differing degrees. Institutional reconstruction in the countryside may mean, of course, that particular agents find that their existence is imperilled,¹⁰ or that they have to adopt a different collective identity. The

vital thing, though, is the pace at which these changes are to be implemented.

As regards the political economy of reforms, of their adoption and implementation,¹¹ an important consequence of the approach I suggest here is that consensus-building is the only way of setting a “pace of change” that allows the inevitable instability to be managed. The idea is to map out a route towards change that reflects consensus, directionality and certainty in agricultural and rural policies, with a view to creating security and avoiding the risks of discretionary actions and authoritarian agricultural and rural policies. These elements establish a vital basis that enables future institutional development to acquire the desired characteristics of autonomy, inclusiveness and effective subsidiary action by the State.

It is necessary, then, to visualize an institutional framework that takes in not only the different forms of State intervention or the organization of State agencies, but also the whole range of informal rules and conventions, and indeed the ethical and moral norms of conduct that are part of social interaction. In this broader view, the main role of institutional development is to increase efficiency and reduce uncertainty by designing a stable (although not immutable) structure conducive to economic and social interaction. This structure of opportunities and incentives is the determining factor in economic performance.

This overarching institutional framework, emerging from these bottom-up and top-down changes, calls for a series of reflections about the right to food as a territorial expression of civic rights, and about decentralization in the framework of a regional development policy.

⁹ They participate in or promote institutional change, for example, by mobilizing; or, where local forums or councils exist (i.e., where social interaction is institutionalized), by participating in discussions or decision-making.

¹⁰ A local party chief, or an inefficient or incompetent public-sector actor, may be deposed or taken to task as a result of institutional change.

¹¹ Probably one of the most important works dealing with the pace of change is Karl Polanyi's book *The Great Transformation: The Political and Economic Origins of Our Time* (Polanyi, 1957).

III

Decentralization and the right to food

1. Progress with the human rights-based approach to development

In seeking to design public policies that enhance the competitiveness of family farmers and to establish fair rules that give their products access to international markets, it is necessary to get past the idea that the development of peoples or individuals and the struggle against hunger are acts of kindness on the part of authority, and to recognize once and for all that they are in fact part of any State's obligation to guarantee the exercise of universal human rights by its citizens.

Although human rights have traditionally been associated in the main with the civil and political sphere, it is worth emphasizing that equal status was accorded by the 1948 Universal Declaration of Human Rights to various economic, social and cultural rights that became the basis for the 1976 International Pact on Economic, Social and Cultural Rights. This Pact laid down the obligation for States to guarantee the right to food, which is deemed to have been fulfilled when people have physical and financial access at all times to adequate food and to the means of obtaining it.

This is often wrongly interpreted as meaning that the State is obliged to feed its population, when what the right to food actually means is that the State, and particularly the government, has to respect and protect people's right to feed themselves. To clear up any doubts, in 1999 the Committee on Economic, Social and Cultural Rights laid down the scope of State obligations in this area in its General Comment No. 12.¹² These can be classified into three levels:

- i) *The obligation to respect.* This lays down the limits on the exercise of State power. It means that the government must not interfere with people's means of subsistence, or obstruct their access to food, or deprive them arbitrarily of their right to this.
- ii) *The obligation to protect.* This means that the government has to pass laws to prevent powerful individuals or organizations from infringing people's right to food, and must appoint

authorities to investigate and provide effective recourse if this right is violated.

- iii) *Obligation to facilitate and if necessary to provide.* This means that the government has to take pro-active measures to identify vulnerable groups and apply policies so that they have access to adequate food, facilitating their ability to feed themselves. The obligation to provide goes further than the obligation to facilitate, but only arises when people's food security is imperilled for reasons beyond their control. As a last recourse, it is considered that the need may arise to provide direct assistance through protection networks.

These three levels give a better idea of the scope of State obligations when it comes to guaranteeing the right to food, and provide an ethical, political and legal frame of reference. Basing public-sector rural development policies on the exercise of human rights, particularly the right to food, removes these policies from the realm of charity or welfare and makes them less vulnerable to the vagaries of politics. They become legally enforceable, subject to scrutiny and, where appropriate, arbitration.

Although the right to food has been recognized in different international instruments, the concern to have it treated as such in rural development and anti-hunger policies only began to gain strength in the 1990s, as part of the debate about third-generation rights. The 1996 World Food Summit took up this debate and included among its commitments an undertaking to clarify the substance of the right to adequate food and freedom from hunger, and to pay particular attention to its application.

Establishing a better definition of the right to food, with a view to creating concrete instruments so that it can be better applied, has begun to be a major concern of civil society and some of the world's governments. It is worth giving a mention here to the proposal to create an international code of conduct for the right to food. Although this code would essentially be a political document rather than a legal one, its approval would establish a series of national and international obligations and responsibilities, so that it would make a valuable contribution to the construction of a new system of world institutions based on the right to food,

¹² See United Nations, Committee on Economic, Social and Cultural Rights (1999).

which would strongly influence the design of development policies.

2. Decentralization and regional disparities

Despite almost universal acceptance of the merits claimed for decentralizing reforms, and although these have spread very widely in the region, there is still only a fairly limited scientific understanding of the institutional arrangements needed to underpin effective decentralized administration. Furthermore, a growing body of empirical evidence suggests that decentralization, be it administrative, fiscal or political, or a combination of these, can facilitate the emergence of collective action institutions but does not automatically yield the advantages envisioned by its supporters. It is necessary to be wary, therefore, of the simplistic notion that decentralization alone resolves some of the most pressing problems in the countryside. As in any institution-building process, what is needed is the right mixture of national and local action. While decentralization has generally been regarded as a mechanism that strengthens social participation in the design and implementation of public policies, to avoid isolated measures that are likely to dislocate government action it may be essential to place decentralization within the framework of a regional development policy.

More recently, as a result of globalization itself, there has been a growing need for different measures designed specifically to reduce socio-economic disparities between territories and cities and to optimize their development opportunities. These measures are now known as territorial development policies (or more simply, territorial policy). These policies are not aimed just at the most disadvantaged territories, but at all of them, from the richest to the poorest. Their objective is not to attract investments to marginalized territories by offering subsidies and other benefits to investors, but to ensure that they are all in a position to maximize their endogenous development opportunities. To achieve this goal, it is essential to capitalize on the advantages of each, the pull effect of their towns and cities and the creation of assets. Of course, this does not mean discontinuing assistance and compensation for poorer territories, which need to benefit from "financial equalization", but generating the right kinds of bonds and ties between those that progress more rapidly and those that do not. Furthermore, infrastructure needs to be provided for all to ensure a minimum level of accessibility. Since this depends on the individual characteristics of each, infrastructure

policies need to be based on a typology of territories (Schejtman and Berdegué, 2003).

Territorial approaches are by definition multisectoral and certainly need to help build bridges among different development objectives and reconcile them. Furthermore, these approaches offer two additional benefits: they trigger a greater awareness of the nature and urgency of problems, and they offer solutions that are more compatible with local constraints, be these institutional, financial or environmental. Thus, when the heterogeneity of the rural sector is overlooked and the countryside is identified with agriculture,¹³ the scope for improving competitiveness and mitigating rural poverty is reduced because factors which dynamize agriculture itself and which may derive from stronger links with nearby urban centres are not considered. The bulk of activities are thus targeted on farming, whereas the diagnosis ought to include in its understanding of the countryside those urban centres with which small producers are directly linked.

Examining demand in these urban centres and the territorial sphere of small farmers can provide clues as to needs that are going unmet, or that are being met but with high transaction costs. Simple measures can be taken to remedy this and thereby help to raise the competitiveness of some of these producers or, in the case of families with little or no land, to improve their living and working conditions by lowering their transaction costs across a range of activities. If projects are to be key components in rural development strategies, then, their design needs to take account of the territory involved, the economic sectors acted upon, the social structure of the territory and the duration of processes, and to provide for an institutional structure that ensures their sustainability over time.

Territorial development policies seek to raise a territory's value-added, achieve significant growth in the rural economy and, in particular, enhance the social capital of the territory rather than promoting the development of any one economic activity in particular (Abramovay, 1999). To this end, territorial development takes a view of production chains that goes beyond broader agriculture¹⁴ to the linkages between the various sectors and actors in a given chain.

¹³ Thus it fails to take account of the links between the countryside and urban centres, or the importance of rural non-farm employment, which is expanding and influencing rural performance to an ever greater degree.

¹⁴ Broader agriculture means the different linkages that agriculture has with activities of other types generated around it. These activities include, among others, demand for inputs, instruments and machinery, post-harvest or processing activities applied to agricultural products, and marketing.

IV

Family farming

1. A mobilizing factor: family farmers

The experience of the last decade, whether in relation to social mobilization or productive effort and institutional innovations, tells us that the most dynamic segment in the countryside are family farmers, characterized in the region by the heterogeneity of their resource endowment and assets, i.e., their natural, physical, financial, human and social capital (de Janvry and Sadoulet, 2001a). This inequality of conditions, along with market failures, is one of the causes of rural poverty.

In a simplification that does, however, reflect the main characteristics of the Latin American and Caribbean countryside, family farmers can be classified into two major groups by asset level. The first group comprises peasants whose territorial resources are so small that they live essentially from wage labour, in agriculture or elsewhere, supplementing their income by farming. The second comprises family farmers who own varying quantities of land and obtain much of their income from crop growing, supplementing this by selling their labour (ECLAC, 1999).

Workers in both groups are compelled to have recourse to non-agricultural forms of rural employment that supply a large part of rural households' income and act as a substitute for land as a source of earnings. In a compilation study¹⁵ put together by de Janvry and Sadoulet (2001a) it was found that in the Mexican *ejido* (common land), for example, rural non-farm employment accounted for 55% of total income (de Janvry and Sadoulet, 2001b), while the figure was 61% in Nicaragua and Panama (Davis, Carletto and Sil, 1997; World Bank, 1998), 67% and 60% in Chile and El Salvador, respectively (López and Valdés, 1997), and 86% in Ecuador (Lanjouw, 1996). It should be pointed out, however, that these methods of supplementing income are not enough to rescue family farmers from the poverty in which they live. Owing to institutional and market failures, moreover, families have recently come to depend more and more on rural

non-farm income (especially remittances) and on investment in animals and grains as a source of savings and liquidity for emergencies.

The transition from protected agriculture to agriculture with a broad basis of growth and competitiveness will require the currently low levels of investment prevailing among family farmers to increase, and this will take a great deal of time. The goal of improving access to food is closely linked to the need to improve the competitiveness of family farmers, on a territorial basis and with a focus on families and family incomes.

But if we follow Easterly (2002), we can say that the competitiveness of small farmers is also related to the degree of inequity in a country, since inequality hinders development. Sokoloff and Engerman (2002)¹⁶ suggest that asset endowment determines inequity, which in turn is the root cause of poor institutions (undemocratic and unstable), poor redistribution policies, low investment in human capital, and underdevelopment.

Strengthening the role of family farmers means improving their competitiveness in markets for land, products, labour and financing, which requires them to have the information needed to operate in these markets on advantageous terms. The theory, according to Escobal (2002), is that there are four types of failures in institutions that affect the competitiveness of rural families: i) information asymmetry, ii) the availability and allocation of public goods, iii) externalities and iv) the problems of poverty and equity.

Information asymmetry reduces access to markets that are necessary for small producers to be competitive. There are problems with access to information on rural credit mechanisms, both on the side of rural families and on the side of the banks themselves, and the same is true of access to land ownership. It is also very important for grass-roots organizations¹⁷ to be provided with information on local development programmes and policies,

¹⁵ Based on a pioneering study of rural families in the reformed sector in Mexico (Gordillo, de Janvry and Sadoulet, 2000).

¹⁶ Cited by Easterly (2002).

¹⁷ These being groups with common interests, such as women's groups, saving clubs, cooperatives, producers' or irrigation associations, etc.

mechanisms for applying for project financing funds and procedures for interacting with the government and market (Alkire and others, 2001).

Misallocation and scarcity of public goods hinder the development of rural sectors. Geographical dispersion and lower population densities are directly related to inadequate infrastructure and limited access to public services, so that investment in these sectors is considered risky and costly. Furthermore, restricted access to public goods and services undermines local input and product markets, and this combines with high transaction costs to restrict the ability of rural families to save. It is possible that local efforts towards collective organization may enable progress to be made in this area, particularly in the case of small-scale, low-complexity¹⁸ goods and services that require local cooperation, be they communal (common pastureland, water for irrigation and so on) or public (local infrastructure).

The problems of poverty and inequality create a vicious circle.¹⁹ When market institutions do not resolve these problems, the combined institutional arrangements of public-sector bodies and civil society organizations have to underpin the equity and sustainability of policies and consensus between parties. For this it is necessary to improve the structure of social policy through public-sector management that is based on transparency, citizen oversight and accountability.

For all the reasons given, there is a need for policies to raise the competitiveness of rural families so that these can increase their incomes. It is essential for the productivity of the poorest to be improved, and for this improvement to involve their participation in a growing economy with fair markets. If families are able to improve their income levels, they will enjoy food security.

As a number of studies have pointed out, almost half the income received by rural families in the region comes from non-agricultural activities. Furthermore, as a logical consequence of this diversification in rural economies, capital investment processes in the rural sector are very heterogeneous. This being so, policies

to raise the competitiveness of rural families need to take account of the heterogeneity and diversification of rural markets²⁰ and aim at territorial rather than sectoral development.

In agriculture, heterogeneity entails the coexistence of two sectors, each of which has internal differences as well. One of these two sectors is modern, businesslike, capital- and technology- intensive and chiefly export-oriented. The other is intensive in low-productivity labour, displays major deficiencies and segmentations, is underendowed with assets and has very low investment, all of which makes it hard to attain the efficiency, competitiveness, modernization and profitability that a sectoral policy might aim at. Experience has shown that most rural families in a situation of food risk depend on this type of agriculture. The modern agricultural sector, meanwhile, instead of creating strong demand for labour has displaced people and absorbed most agricultural aid owing to its greater bargaining and political power. This has intensified the concentration of land and productive resources and widened the gap between commercial agriculture and family farming.

Family farmers, therefore, face internal and external obstacles to improving their competitiveness. One way of confronting these is to try to expand their social and human capital by participating more in organizations that enable them to influence the design and application of development and marketing policies, and also by improving their production techniques. In turn, governments should work to improve the functioning and reliability of product, land, labour and financing markets and to increase producer confidence in social security mechanisms for overcoming constraints on natural resources, markets and infrastructure. Furthermore, States should try to mitigate inequity through more democratic and stable institutions, better redistribution policies and greater investment in human capital.

2. A programme of support for family farming

On the basis of the foregoing, a minimum programme to support agriculture and rural development has been

¹⁸ Low complexity in this context refers to the homogeneity of actors and their interests.

¹⁹ Lynn Karl (2002) has explained this vicious circle as a situation where poverty and high levels of inequality perpetuate each other and in turn restrain economic growth. This situation makes it considerably harder to deal with the problems that derive from poverty and inequity.

²⁰ The rural world has seen vigorous growth in service sectors not directly linked to agrifood and industrial chains, but meeting demand from human settlements in the countryside. Furthermore, construction, infrastructure and public services are featuring ever more strongly in the rural economy, reducing the share of the agricultural sector.

stylized,²¹ combining different development policy measures to improve the functioning of rural markets. The starting point was the observation that the dispersion of instruments harmed rural actors (especially family farmers), raised transaction costs, encouraged corruption and fomented disputes between State bureaucracies, leading to duplication of effort. It can never be stressed too strongly that what matters even more than the amount of public resources going to the countryside is the way these are channelled.

This minimum programme needs to contain certain elements to underpin a basic strategy for new forms of public support in the countryside. Its objectives are as follows:

- i) To increase the competitiveness of what is produced by rural inhabitants affected by the region's economic changes and structural reforms by means of direct, temporary, selective support that equips them to compete in new areas of specialization, fully respecting the need to conserve natural resources. A rural incomes policy whose continuity is guaranteed by law and periodically reviewed²² can provide the core of a unified support programme for family farming.
- ii) To promote voluntary, self-sustaining partnership initiatives among the rural groups affected, so that these can form organizations capable of sustaining the initial achievements of such income support programmes over time.
- iii) To provide direct assistance and services to households in disadvantaged areas. This direct support policy can become the starting point for a set of policy instruments which, properly designed, should help strengthen the new links between policies, producers and other economic agents.
- iv) A system of rural financing that mobilizes saving in the family farming sector and emphasizes capital formation.
- v) An infrastructure policy that, without neglecting certain large-scale strategic irrigation projects, aims at a considerable increase both in small-scale production infrastructure (irrigation, soil and aquifer conservation) and in commercial infrastructure (roads, warehouses, refrigeration plants and transport systems).
- vi) A policy of support for innovation and technology transfer that involves universities and technology institutes in a programme of mass transfer and dissemination of skills and know-how, supported by new interactions with producers and underpinned by the premise that human capital is a key factor in competitiveness.
- vii) Equitable, sustainable policies for access to the natural resources needed to sustain adequate livelihoods for the rural populations of the region, these policies to include land reforms and other land access mechanisms as appropriate.

Bibliography

- Abramovay, R. (1999): Sete desafios para desenvolvimento territorial, Fundação Lyndolpho Silva/Banco Nacional da Agricultura Familiar (BNAF), www.bnaf.org.br/palest04.htm.
- Alkire, S. and others (2001): Community-driven development, *PRSP Sourcebook*, www.worldbank.org/poverty/strategies/sourctoc.htm.
- Burfisher, M.E. (ed.) (2001): *Agricultural Policy Reform in the WTO: The Road Ahead*, ERS Agricultural Economics Report, No. 802, Washington, D.C., United States Department of Agriculture.
- Davis, B., C. Carletto and J. Sil (1997): *Los hogares agropecuarios en Nicaragua: un análisis de tipología*, Berkeley, University of California.
- De Janvry, A. and E. Sadoulet (2001a): La inversión en el desarrollo rural es buen negocio, in R. Echeverría (ed.), *Desarrollo de las economías rurales en América Latina y el Caribe*, Washington, D.C., Inter-American Development Bank (IDB).
- _____ (2001b): Income strategies among rural households in Mexico: The role of off-farm activities, *World Development*, vol. 29, No. 3, Amsterdam, Elsevier Science.
- Easterly, W. (2002): *Inequality Does Cause Underdevelopment: New Evidence*, Washington, D.C., Center for Global Development.
- ECLAC (Economic Commission for Latin America and the Caribbean) (1999): Efectos sociales de la globalización sobre la economía campesina: reflexiones a partir de experiencias en México, Honduras y Nicaragua, LC/MEX/L.382, Mexico City, ECLAC Subregional Headquarters in Mexico.
- _____ (2002): *Social Panorama of Latin America, 2001-2002*, LC/G.2183-P, Santiago, Chile, October. United Nations publication, Sales No. E.02.II.G.65.
- Escobar, J. (2002): Nuevas instituciones para el desarrollo agrícola y rural en América Latina y el Caribe, *CUREMIS II*, Rome, Food and Agriculture Organization of the United Nations (FAO).
- FAO (Food and Agriculture Organization of the United Nations) (2000): *The State of Food and Agriculture, 2000*, Rome.
- _____ (2002a): *The State of Food Insecurity in the World, 2002*, Rome.

²¹ In other words, a set of invariable elements has been identified, obviously requiring adaptation to the very heterogeneous character of the region's countryside and to priorities that will likewise depend on the particular context.

²² One example is the Programme of Direct Support to the Countryside (PROCAMPO) in Mexico, which can provide a basis for this, particularly since the recent amendments to the Rural Capitalization Act.

- _____ (2002b): World Food Summit: Five Years Later, www.fao.org/worldfoodsummit
- _____ (2002c): *Independent External Evaluation of the Special Programme for Food Security*, Rome, www.fao.org/spfs/ y www.fao.org/docrep/
- Gordillo, G. (1999): *La ansiedad por concluir: lecciones de las reformas estructurales en América Latina. Mercado de valores*, Mexico City, Nacional Financiera, October. Also available at www.rlc.fao.org/quienosom/rlc/gordillo/default.htm.
- _____ (2003): *El desarrollo rural y el combate al hambre, la pobreza y la desigualdad*, document presented at the Workshop "La importancia del enfoque territorial en el desarrollo rural de América Latina y el Caribe" (Milan, 20-21 March 2003), organized by the International Fund for Agricultural Development (IFAD)/Food and Agriculture Organization of the United Nations (FAO)/Inter-American Development Bank (IDB), and financed by the Government of Italy.
- Gordillo, G., A. de Janvry and E. Sadoulet (2000): *La segunda reforma agraria en México*, Mexico City, Fondo de Cultura Económica.
- Hirschman, A. (1963): *Journeys toward Progress*, New York, Twentieth Century Fund.
- Izam, M and V. Onffroy (2000): *El sector agrícola en la integración económica regional: experiencias comparadas de América Latina y la Unión Europea*, Comercio internacional series, No. 8, LC/L.1419, Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC). United Nations publication, Sales No. S.00.II.G.91.
- Karl, T.L. (2002): *The Vicious Cycle of Inequality in Latin America*, Working Paper, No. 2002-177, Berkeley, University of California.
- Lanjouw, P. (1996): *Rural Poverty and Non Agricultural Employment in Ecuador*, Washington, D.C., Policy Research Department, World Bank.
- López, R. and A. Valdés (1997): *Rural Poverty in Latin America: Analytics, New Empirical Evidence and Policy*, Washington, D.C., Technical Department, World Bank.
- Polanyi, K. (1957): *The Great Transformation: The Political and Economic Origins of Our Time*, Boston, Beacon Press.
- Rello, F. and Y. Trápaga (2001): *Libre mercado y agricultura: efectos de la Ronda Uruguay en Costa Rica y México*, LC/L.1668-P, Mexico City, ECLAC Subregional Headquarters in Mexico. United Nations publication, Sales No. S.01.II.G.203.
- Schejtman, A. and J. Berdegué (2003): *Desarrollo territorial rural*, Santiago, Chile, International Network for Farming Systems Research Methodology.
- Sokoloff, K. and S. Engermann (2002): *Factor Endowments, Inequality, and Paths of Development among New World Economies*, NBER Working Paper, No. 9259, Cambridge, Massachusetts, National Bureau of Economic Research, October.
- Szekely, M. and J. Londoño (1998): *Sorpresas distributivas después de una década de reformas: Latinoamérica en los noventa, Pensamiento iberoamericano*, special volume, Madrid, Universidad Complutense de Madrid.
- United Nations, Committee on Economic, Social and Cultural Rights (1999): *Substantive issues arising in the implementation of the International covenant on Economic, Social and Cultural Rights*, General Comment 12, Twentieth Session of the Committee, Geneva 26 April.
- World Bank (1998): *Panama LSMS*, Washington, D.C.



Growth, competitiveness and employment in Peru, 1990-2003

Norberto E. García

The growth of high-quality employment needed to reduce the share of informal occupation and open unemployment in Peru will require an acceleration and diversification of private investment in the tradable sector. One of the main constraints faced is the uncompetitiveness of the non-extractive tradable sector. In 1990-2003, competitiveness improved in this sector essentially as a result of lower labour costs, a socially unjust and economically ineffective route to follow. To raise competitiveness, it is essential for the macroeconomic regime to include a competitive real exchange rate (to which there are obstacles) and higher productivity at the microeconomic level. This latter goal needs to be pursued through microeconomic and mesoeconomic policies, the main obstacle being the narrow outlook prevailing from the mid 1990s onward, which emphasized the reduction of average labour costs as the main way to raise competitiveness.

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I

Employment, poverty and growth

In Peru there is a close link between the type of jobs generated and the poverty trends. In medium- and low-income families, the earnings of working members are the main source of income. It should be no surprise that poverty has persisted at very high levels, then, since most of the jobs generated in the 1990s were of very low quality in terms of productivity, earnings, stability and the social protection that went with them. In that decade, formal employment grew at an annual rate of 1.2% but informal employment by 4.7%, intensifying the trend seen in earlier decades.

At present, less than 25% of economically active Peruvians have access to a stable job that is productive enough to afford them a decent remuneration. The other 75% work in informal self-employment activities with very low productivity, in even less productive farm work or as wage earners without labour contracts in informal microenterprises that offer neither stability nor decent pay, or they are openly unemployed in the country's urban areas. It is important to note that only some 10% of these 75% are openly unemployed, while most of the other 90% work in very low-productivity occupations. Consequently, the employment problem in Peru is not perceived by the population as being mainly one of open unemployment. Rather, people

have a very low expectation of obtaining a decent, stable job that will improve their standard of living.

As for earnings from labour, wages fell by 65% between 1980 and 1991. Although there was a recovery in 1992-1997, by 2000 they were still far below their 1980 level, and most informal and agricultural workers were earning less than the poverty line per active person. As a share of gross domestic product (GDP), remunerations fell from 37% in 1978 to 32% in 1992 and 24.5% in 2001.¹

These figures indicate that the employment problem in Peru cannot be addressed solely with short-term policies, active employment policies and direct employment programmes, which by their nature do not reach more than 5% or 6% of the economically active population (EAP). A medium- and long-term policy is therefore needed, i.e., a growth strategy.

In the medium term, the expansion of high-quality employment is determined by the rate of investment growth. To increase high-quality employment in modern segments and make resources available to modernize production methods in unreformed traditional segments and improve the lot of those working there, it will be necessary to speed up investment and economic growth.

II

Recent macroeconomic policy

The administration that took office in mid-2001 inherited a recession that had begun in 1998 and deepened in the following years until early 2002. From mid-2001 onward a recovery policy was implemented, including a measured increase in public spending and an expansionary monetary policy that focused on lowering the domestic interest rate. This policy was successful in bringing the country out of recession without raising inflation, but it did little to improve competitiveness. As this reactivation took effect and new extractive investment projects came on stream, GDP grew by 4.9% in 2002 and 4% in 2003 (INEI, 2004).

Not only did public spending increase, but in 2001-2003 the fiscal deficit came down owing to rising tax revenues and, above all, to public-sector external borrowing in 2002-2003; this heightened the country's financial and real vulnerability to any rise in international interest rates.

¹ Three shocks account for this tendency: the debt crisis of the early 1980s, the hyperinflation of 1989-1990 and the labour deregulation that effectively ensued from the reforms to make employment more "flexible" in the 1990s.

It was thought that economic recovery driven by higher public spending and lower interest rates, combined with a policy of macroeconomic balance and price and real exchange-rate stability (via a dirty float), would open the way for higher private-sector investment. Nonetheless, total gross investment, which had fallen by 26% in 1997-2001, grew by just 0.7% in 2002 and 4% in 2003, a year when the total gross investment ratio stood at 15.2% of GDP. This was some 10 percentage points less than was necessary to attain the annual economic growth of 7% required to make inroads into the employment problem. In particular, monthly imports of capital goods remained low in 2001-2003, despite the fact that they included demand from the large Antamina and Camisea projects,² and the monthly investment records for the construction sector tell the same story. The weakness of private-sector investment is explained in part by the slowdown of the main economies of the North in 1999-2002. As will be seen later, however, there were also further-reaching domestic reasons.

The boost provided by higher public spending and monetary expansion in 2001 and 2002 tended to tail off over time. Since late 2003 there has been a further slowdown in GDP and employment, despite the liquidity in the economy. The sudden rise in exports in early 2003 (the rate for the year was 15%) partly offset the weakening in the effects of the country's expansionary

public spending and monetary policy. Since 70% of this increase was due to higher prices and volumes for Peru's traditional commodity exports, it is difficult to regard the improvement as permanent, although it is true that non-traditional exports have been growing rapidly as well.

The expansion generated by the reactivation measures in 2001-2002 produced very low growth in formal employment and a high expansion in informal employment, in line with the very low growth of private and public investment and with long-term trends. The absence of any strong investment boost meant that high-quality employment increased only very modestly.

These circumstances give a new urgency to the debate about what course needs to be taken and what policies adopted to boost private-sector investment and achieve steady growth in high-quality employment. The present work contributes with a hypothesis to this debate, focusing on the modern formal sectors of the Peruvian economy, since the main obstacle to high and sustainable growth lies there. High growth in modern segments is a necessary but not sufficient condition for productive transformation and growth in more backward segments. At least, this seems to be the experience of Chile (1983-2003) and Mexico (1986-2003), among others.

III

A strategic course

The Peruvian economy faces two urgent problems: its poor competitiveness, and the need to create high-quality employment. Consequently, any growth strategy necessarily has to address both issues.

In a small, open and indebted economy like Peru's, this means applying macroeconomic, mesoeconomic and microeconomic policies to: i) accelerate private-sector investment decisions in tradable sectors (producers of exportable and importable goods and services), and ii) expand the markets for these goods and services. From a strategic standpoint, the important thing is how policies at the three levels are combined (García, 2004).

As has occurred in other Latin American countries, Peru has integrated far more fully into international financial markets (through borrowing and capital inflows) than into international trade, where it remains essentially an exporter of commodities subject to price and quantity fluctuations. This imbalance in its external profile needs to be corrected if the country is to speed up export growth, achieve rapid economic expansion, reduce the burden of debt payments and create jobs. For exports to grow faster, it is useful to know which are the most dynamic in world markets, i.e., to consider the quality of the trade profile and not just the coefficient of openness (Svarzman, 2004).

In 1990-2000, world exports of commodities (which are what Peru exports) grew more slowly than all other categories. This holds true if they are

² Antamina mining company and Camisea gas field.

compared to high-technology exports, which are knowledge- and capability-intensive and grew fastest in the period; with intermediate-technology exports, whose products and processes are based on economies of scale and which grew faster than average; or even with low-technology exports, such as wearing apparel and footwear, or natural resource-intensive manufacturing (Svarzman, 2004). Only the strong demand for extractive commodities resulting from high growth in China began to change this tendency in 2003, by straining the supply of commodities. Nonetheless, this development is unlikely to mean a permanent change in the structural tendencies underlying commodity exports.

Consequently, economic policy needs to create the conditions for consolidating the progress made with exports and gradually encouraging the production of goods and services with greater value-added and for which international demand is stronger. Particularly important for Peru are exports of goods and services that are natural resource-intensive but have one or more processes that increase their value-added by incorporating a higher employment content and improved backward employment linkages.

The priority is rapid growth of private-sector investment in non-extractive tradable (and particularly exportable) products. The steadily rising availability of foreign currency that would ensue is a necessary but not sufficient condition, in an economy with external debts like Peru's, for faster growth of investment in non-tradable products, and thus of aggregate investment in modern sectors generally. It must be stressed that non-tradable sectors will not be boosted automatically (as the experience of Mexico in 1994-2002 shows) and that actions and policies are required to achieve this.

In turn, high and sustained growth of private investment in tradable products, when accompanied by rising private investment in non-tradable products in modern segments, enables a rapid creation of high-quality jobs in modern segments and provides the resources needed for productive transformation in traditional segments, if the country succeeds in enhancing productive transformation policies and linking traditional sectors to the growth in modern ones.

Preliminary estimates calculated for this study show that to achieve high-quality employment growth of 4% annually over the coming years (and this is the minimum needed to absorb high EAP growth in modern segments and significantly reduce informal working over a reasonable time scale), private investment in

tradable sectors will need to rise by about 8% a year, entailing annual export growth of almost 9%. These figures are compatible with sustained GDP growth of 7% a year.³

Sustained private investment growth in tradable sectors of just over 8% a year, accompanied by annual investment growth of 7% a year in non-tradable sectors, would bring significant results in 20 years: the volume of high-quality employment would almost triple, thanks to the creation of more productive new jobs and the rise in real remunerations resulting from higher productivity. Given the high growth rate expected in the total EAP (over 2.6% a year), the proportion of people working in very low-productivity occupations would fall from 67% to about 39%. Parallel policies would be needed to transform and improve the productivity of those still working in such occupations.

While it is stressed, rightly, that the decisive factors for speeding up private investment are: i) macroeconomic balances, ii) stable ground rules for private investment, iii) legal security and iv) the credibility of the government and country and the confidence they inspire, a fifth, omitted factor also needs to be considered: competitiveness, which determines the rate of return on private-sector investment. This rate has to be high enough for firms to invest at the rapid rate required.

High returns in non-extractive tradable sectors are essential to attract new ventures and diversify investment there, an important issue for a country where private investment is largely confined at present to mining, industrial fishing and oil and gas. High returns are also needed so that some of them can be passed on in the form of lower prices and higher quality. From a long-term perspective, non-extractive tradable sectors gradually need to become profitable enough to induce high growth in private investment there.

³ The projections given in the text were prepared using the reduced expression of the model presented in full in García (2002a). This is a macroemployment model that distinguishes between a tradable sector and a non-tradable one and incorporates functions that adjust the return on private investment by the real exchange rate and overall productivity. Investment in tradable and non-tradable sectors depends on the returns and expected demand growth of tradable products. The increase in investment in each sector determines the medium-term growth of employment, given the increase in the overall productivity of each sector already referred to. The model distinguishes between a high-quality employment sector associated with the behaviour of the tradable and non-tradable sectors, and a low-quality employment sector associated with underdeveloped rural and urban segments.

In the case of Peru, increasing the rate of return essentially depends on raising the competitiveness of firms and the country at large. Competitiveness is determined by the real exchange rate and overall productivity at the microeconomic level (that of all the resources used by firms), including productive infrastructure and other factors in the microeconomic environment. To raise returns in non-extractive tradable sectors to the required level, it is indispensable: i) to have a competitive real exchange rate in order to spark investment in non-extractive tradables; ii) to start closing the productivity gap between Peru and competitor countries. Raising productivity at the microeconomic level reduces total unit costs, creates scope for quality improvements and enhances investment returns. Since this process operates with

a time lag, however, it is important to have a competitive real exchange rate at the outset, as this can be achieved more quickly and maintained until sustainable growth in overall productivity takes the leading role.

While high returns are a necessary condition, they are not sufficient. To raise expectations and inject dynamism into private-sector investment decisions in a situation like the present one, it will be necessary to make large institutional changes that encourage these decisions. The new external trade agreements can fulfil this role.

In practice, the need is to stimulate local private-sector investment decisions, since a very high proportion of the investment hoped for will be domestic and not external.

IV

Private investment growth, the real exchange rate and productivity

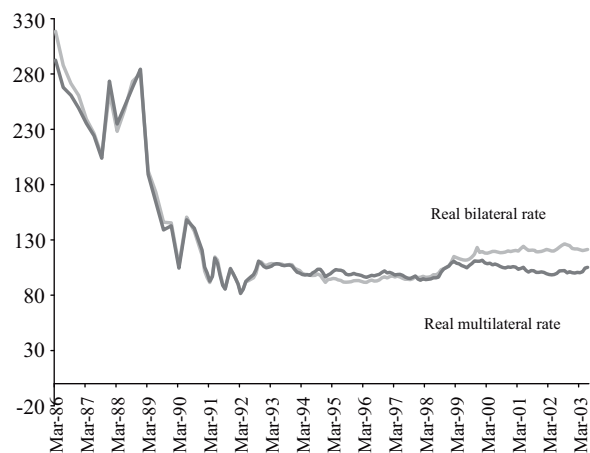
In a context like Peru's, the rate of return in non-extractive tradable sectors is determined essentially by the real exchange rate and by productivity growth at the microeconomic level. Let us see how these variables have behaved in the recent past.

1. The real exchange rate

As figure 1 shows, Peru's real multilateral exchange rate has strengthened persistently. From early 1985 to early 2003 it strengthened by about 64%, according to the statistical series of the Central Reserve Bank of Peru, while from 1985 to 1992 its value increased by 73%, the year of comparison taken in this case being one subsequent to the 1990 shock programme. Going back to the late 1970s, we also find a substantial appreciation of 70% between 1978 and 1995 (Moguillansky, 1996). Even if the hyperinflation of 1989-1990 distorted the data and the actual appreciation of the real exchange rate was less than the statistical series show, it is undeniable that the real multilateral exchange rate strengthened significantly between 1978 and 1992, because a large appreciation had already been seen prior to 1990 (in 1978-1989). From 1992 to 1994 it fell back somewhat and from

FIGURE 1

Peru: Real exchange rate, 1985-2003^a
(Real exchange rate indice, 1994=100)



Source: Statistical series, monthly bulletins and database of the Central Reserve Bank of Peru (BCRP).

^a The real exchange rate is defined for present purposes as the ratio between external and internal prices, multiplied by the nominal exchange rate.

then onward, with fluctuations, tended to remain stable until 2002. In 2003 the Central Reserve Bank

successfully tracked the weakening dollar, resulting in a partial correction of the real multilateral exchange rate.

The price ratio between tradable and non-tradable products, as measured by the Central Reserve Bank index, fell by 68% in 1985-2002, thus confirming that the appreciation of the real exchange rate substantially reduced the average returns on non-extractive tradables, even if the hyperinflation of 1989-1990 may have caused the extent of the fall to be overestimated. The outcome of this tendency has been a worsening of relative prices for the industrial, agriculture and tourism sectors, with adverse effects on profitability in each of them. In the Peruvian economy, both agriculture and tourism are major currency earners and sources of direct and indirect employment.

It should be noted that objections to a weaker real exchange rate on the grounds of its adverse impact on real wages cease to hold when the depreciation is gradual and the rate of productivity growth offsets the effect on real wages.

2. Total productivity

The second important factor in profitability is the behaviour of overall productivity at the microeconomic level. The productivity of all the resources used by businesses matters here, as does the availability of competitiveness-critical infrastructure. The indicators available are macroeconomic and are thus an aggregate of microeconomic situations.

As table 1 shows, all the empirical studies available reveal very slow or even negative overall productivity growth in 1970-1990, followed by a small rise in 1990-1997, estimates of which vary from author to author, but which amounted to approximately 1% a

year. After 1997, the recession that affected the country in 1998-2001 very probably led to a drop in overall productivity. A recent World Bank study (De Ferranti and others, 2003) confirms the results given for the 1970s and 1980s and estimates total productivity growth of 0.7% a year in 1991-1997. Consequently, between 1970 and 2000 the net long-term trend for total productivity was one of virtual stagnation. This happened at a time when many competitor countries (China, Chile, Japan, the Republic of Korea, the United States and others) were highly productive and/or were making substantial progress in this respect, with productivity growing by between 1% and 5% a year. A recent study (García, 2002a) concludes that the medium-term stagnation of productivity took place in all sectors except mining.

An indicator which confirms this total productivity trend is the long-term behaviour of investment in machinery and equipment as a proportion of GDP. According to Iguñiz (2001), this indicator fell from 24% in 1975 to approximately 8.6% in 2001. Long-term capital accumulation in machinery and equipment is a significant indicator in itself, given its effect upon the composition of the capital stock and thence upon overall productivity. But it is also important because it is normally complemented by other key variables which form part of the capital stock. This stock, broadly defined, includes the long-term growth of the skilled portion of the workforce, the spread of management criteria in relation to productivity and competitiveness, the growth of all the specific forms of know-how required to improve productivity, the introduction of soft and hard technological innovations, and other aspects. To put it another way, the fall in the proportion of GDP going to

TABLE 1

Peru: Estimates of total factor productivity, 1950-1959 to 1991-2000
(Average annual change, percentages)

Period	IPE	Beltrán and Seminario (1998)	Vega Centeno (1989)	Vega Centeno (1997)	Vallejos and Valdivia (1999)	Calvo and Bonilla (1998)
1950-59	1.5 ^a	1.0	1.5	1.1	2.7	...
1960-69	1.4 ^b	2.5	2.0	1.3	1.7	...
1970-80	-0.8 ^c	0.3	1.1	-0.8	-0.6	...
1981-90	-3.9	-3.6	0.3 ^d	-2.4	-4.0 ^e	...
1991-2000	1.0	3.4 ^f	...	-0.4 ^g	1.8 ^h	1.8 ⁱ

Source: Peruvian Institute of Economics (IPE, 2001).

^a 1951-1960. ^b 1961-1970. ^c 1971-1980. ^d 1981-1988. ^e 1980-1990. ^f 1991-1995. ^g 1991-1996. ^h 1991-1998. ⁱ 1993-1996.

investment in machinery and equipment is signalling that other factors crucial for raising productivity, like those listed, are also being affected or neglected. This is confirmed by Iguiñiz (2001) himself when he states that real public spending on education per pupil, used as a proxy for the quality of education spending on the lowest-income 80%, fell steadily from the late 1960s onward and is now less than half its 1968 level.

Porter's (2003) empirical analyses also confirm this by showing that Peru is one of the more backward countries when *microeconomic* competitiveness is considered, as will be seen later.

To sum up, tendencies in the real exchange rate and overall productivity resulted in a long-term decline in returns in non-extractive tradable sectors.

Thus, when tariffs were reduced and administrative controls lifted in the early 1990s, the real exchange rate was appreciating and overall productivity was very low. All of this undoubtedly had

an impact on effective protection and the profitability of tradable sectors, and the safety valve was the reduction of average labour costs. As will be seen in a later section, the reduction of these costs only partially offset the combined effect of the strengthening real exchange rate, trade liberalization and stagnant productivity. Although it did permit the survival and emergence of some tradable activities whose productivity gave them a competitive edge, it was not enough to give any significant impetus to investment diversification in exportables and in competitive import substitution, and this had severe effects on employment.

To put it another way, the trends described meant that the effective protection rate on profits fell significantly in tradable activities, affecting returns. Sectors such as mining, oil and fishing did not suffer ill effects, as their profitability depends more on the characteristics of the natural resource they exploit.

V

The real exchange rate and competitiveness

At present, it is generally held that the real multilateral exchange rate should remain stable. In fact, it has been fairly stable since 1994, albeit with fluctuations. The exception was 2003 when, as noted earlier, the devaluation of the dollar affected the real exchange rate because the Central Reserve Bank managed to track it down against other currencies.

There are a number of reasons for the stability of the real exchange rate. The following can be highlighted: i) when the economy was opened up in the early 1990s the Central Reserve Bank was struggling to control hyperinflation, and used the nominal exchange rate as an anchor; ii) in 1990-1998, the Central Reserve Bank accepted that improving competitiveness depended, as the Government maintained, on reducing labour costs and improving infrastructure, and not on the real exchange rate; iii) the Peruvian economy generates currency from large-scale traditional extractive commodity production and from illegal activities and crops, so that the equilibrium exchange rate which balances the external accounts tends to be stronger than the rate needed to achieve high returns in non-extractive tradable sectors; iv) the goal of a stable real exchange rate became entrenched in the

business and economist culture of the 1990s, but little thought was given to how competitive this rate was or what effect the 1980-1992 appreciation might have had; v) in the late 1990s, heavy private- and public-sector currency borrowing led to a situation in which a real devaluation would have caused instant losses for many businesses, increased the fiscal cost of public external debt servicing and gravely undermined confidence in the country; vi) the recessionary syndrome affecting many companies' investment decisions has resulted in weaker currency demand, and vii) currency inflows in financial accounts were only regulated in early 2004.

These factors do not justify the failure to establish a competitive real exchange-rate regime, but they do explain why in practice the Central Reserve Bank had to be very active in the currency market to prevent the real bilateral exchange rate from strengthening against the dollar. In fact, in 2002, 2003 and the early months of 2004 the Bank made large net purchases of foreign currency, constituting a very high proportion of international reserves. Then in March 2004, for the first time since financial liberalization, it had to introduce a capital-account regulation establishing a 20% reserve requirement for external credits.

The main point, however, is that it is not feasible to alter exchange-rate policy in isolation. It would be necessary to change the macroeconomic regime in its entirety, aligning monetary, fiscal and exchange-rate policy to defend not only an inflation target, as is done now, but also a target for a competitive real exchange rate.⁴ A competitive real exchange rate can only be achieved and maintained if exchange-rate, monetary and fiscal policies are closely coordinated in pursuit of the two intermediate objectives described, and if unorthodox instruments are used to regulate large-scale movements of short-term capital and, in situations of crisis, to prevent currency flight. By definition, as Frenkel (2004) points out, an expansionary macroeconomic policy in a small, open economy with large external debts depends on a competitive real exchange rate, and not on expansionary monetary and fiscal policies.⁵ Consequently, while a gradual weakening of the real exchange rate would be desirable, in Peru this would

only be viable if the macroeconomic regime as a whole were altered, and not just exchange-rate policy. A change as far-reaching as this is particularly unlikely in present circumstances, since the prevailing strategy is the opposite: a stable and uncompetitive real exchange rate, and expansionary monetary and fiscal policies.

Delaying exchange-rate adjustment affects not just non-extractive exportable output, but also output that competes with imports, which is oriented towards the home market and creates a great many jobs.

Unless the real exchange rate weakens, the only way to improve competitiveness is to reduce unit costs and/or increase overall productivity at the microeconomic level. When the exchange rate is expected to weaken very slowly or not at all, there is additional pressure for rapid total productivity growth, as this will be needed to boost competitiveness in a world where many countries are devaluing and all are striving to raise their productivity.

VI

Average labour costs versus total unit costs

In the 1990s, efforts were made to raise competitiveness partly by improving infrastructure, but mainly by reducing average labour costs. By the average labour cost is meant the total labour cost per unit of work (hours, weeks, months), and by unit labour cost is meant the total labour cost per unit of output.

The adjustment to the external debt crisis of the early 1980s, and the impact of hyperinflation in 1989-1990, drove real remunerations down by 65%. Consequently, the trade liberalization of the early 1990s was underpinned by very low labour costs, and over the course of the decade average remunerations

recovered only very slowly, so that by 2000 they were still 20% lower than in 1980.

Although non-wage labour costs⁶ fell and statutory redundancy payments were reduced, the main factor bearing down on costs in the 1990s was the labour reform and the behaviour this induced. By introducing flexible contracts (multiple contracts that cost less than stable ones) and effectively reducing workers' bargaining power, labour reform directly influenced average labour costs; but it also led to deregulatory behaviour (wage employment without labour contracts) that likewise affected these costs (figure 2).

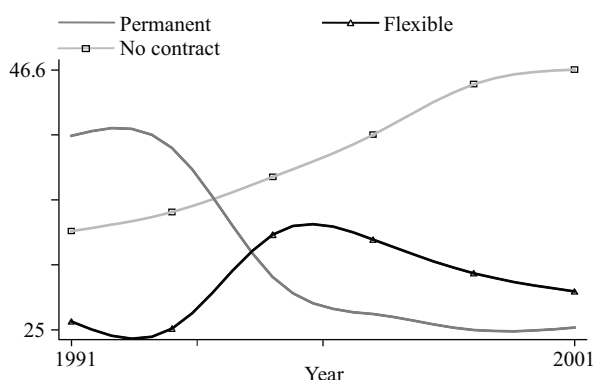
The main course adopted was to transfer a majority of wage earners to cheaper contracts.

⁴ Frenkel (2004), Ball (1998), Rodrik (2003) and Williamson (2003).

⁵ Following Frenkel (2004), we would say that a stable, competitive real exchange rate helps to increase employment in three ways: i) by making tradable sectors more profitable, which increases net exports, investment and the growth rate in the medium term; ii) by lowering the cost of the domestic and labour components of output and increasing the cost of imported components and equipment (which affects tradable and non-tradable sectors), and thereby increasing employment-output elasticity, and iii) by playing a preventive role and limiting job losses when external shocks occur.

⁶ In Peru, non-wage labour costs (*sobrecostos laborales*) are defined as all the items that are added to the cost of wages to arrive at the employer's cost of labour. They include a notional amount for vacations and public holidays, the payroll solidarity tax, the employer's contribution to length of service payments, contributions for occupational health and injury insurance, and other non-wage labour costs.

FIGURE 2

Private-sector wage earners by employment contract, 1991-2001

Source: Chacaltana and García (2002); National Institute of Statistics and Informatics (INEI), National Household Survey, third quarter (various years).

According to Martínez and Tokman (1999), around 1996 the cost of employing someone in industry on a permanent basis was US\$ 2.1 per hour, but the figure was only US\$ 1.37 for those with short-term contracts and US\$ 1.1 for those without contracts.⁷ Figure 2 shows that between 1991 and 2001 the proportion of wage earners with temporary (flexible) contracts rose to 32%, as was to be expected after the reform. Paradoxically, though, the proportion of wage earners without contracts rose by far more, to 47% in 2000.

The large rise in the proportion of wage earners without contracts in the private sector was due to an increase in evasion (to reduce costs) and to the rise in the proportion of private-sector wage earners working in small firms and microenterprises. Evasion tends to be more widespread in these companies than in medium-sized and large ones.

Owing to these tendencies, the proportion of private-sector wage earners with stable contracts fell to 21% in 2000: 79% of the country's private-sector wage earners had short-term contracts or none at all.

The massive transfer of wage earners to less costly contracts cut average labour costs by 14%, equivalent to a one-off drop of 4.7% in total unit costs (García, 2002a). Even if it did provide a safety valve, then, the

drop in labour costs was wholly insufficient to offset the pressure generated by the rise in the real exchange rate, the reduction of tariff protection and controls, and the stagnation of productivity.

The reduction in average labour costs led to a considerable increase in precarious employment and to underlying labour unrest that became manifest in the early years of the transitional and democratic Governments. This created a severe problem for the incipient export model, as became apparent in 2002 and 2003.

In essence, this problem is one not just of social justice, but of economic efficacy as well. By contrast with the very modest reduction in total unit costs that can be obtained through a controversial reduction in labour costs, a steady increase in productivity of 2% to 4% a year causes unit costs to fall by about 25% over seven years. Cutting non-wage labour costs can make a contribution, but it cannot be the main basis for a significant rise in medium-term competitiveness.

Reducing non-wage labour costs is insufficient: i) because unit labour costs are a small fraction of total unit costs, given the dramatic fall in remunerations as a proportion of GDP in 1980-2000, and ii) because even with a large reduction in non-wage labour costs the one-off reduction in average labour costs that can be achieved is only 7% to 8%, equivalent to a one-off reduction of about 3% in total unit costs. This gives an idea of what this strategy can achieve.

What has been said so far suggests that, going forward, the strategy of attaining competitiveness by cutting labour costs is a dead end. By contrast, a strategy based on a sustained rise in overall productivity to reduce total unit costs and improve product quality is more socio-politically viable, as improvements in competitiveness are not obtained at the expense of one actor or another and, above all, they are compatible with long-term growth in real wages, at a rate determined by the rate of productivity growth.

The issue, then, is not just the reduction of average labour costs and non-wage labour costs, a simplified approach that was used in the recent past and has lingered on until the present. The question is how we can rapidly commence a sustained effort to raise the productivity of all resources at the firm level and thereby achieve steady reductions in total unit costs and quality improvements. Martínez and Tokman (1997) propose the option of increasing labour productivity to reduce labour costs per unit in dollar terms, in order to raise competitiveness. In García (2002a) and in this article the stress is on increasing overall productivity to

⁷ Wage earners without contracts are defined statistically as those who do not declare an employment contract or social security, health or pension contributions in household survey responses.

reduce total unit costs in dollars at the microeconomic level, including transaction costs and the infrastructure to facilitate investment, and a weakening of the real exchange rate to bring costs down in currency terms. In this proposal, then, lower labour costs result from higher labour productivity, but this is not the only factor bearing down on total unit costs, since by definition raising overall productivity means paying attention to all the main components of total unit costs, and a weakening of the real exchange rate reduces costs in currency terms.

Total costs per unit produced at the microeconomic level can be seen as the sum of the inputs needed per unit of output multiplied by the price of each input. An across-the-board reduction in the input required per unit of output (an increase in the productivity of each input) is the main way of reducing total unit costs and improving quality at the microeconomic level over the medium term. Hence, lowering total unit costs depends on increasing the productivity of all inputs (total productivity) at the microeconomic level.

One way of incorporating the required increase in total productivity as an objective of economic policy is to suppose that with the "right" short-run macroeconomic policy over successive short terms, the long-term adjustment process of markets will spontaneously generate a sustained increase in overall productivity. Nonetheless, Katz (2000), García (2002a)

and Porter (2003) argue that deliberate actions and policies at the microeconomic level, and not just the macroeconomic level, are indispensable if successful modernization and productivity improvements are to be attained under today's conditions. It is not enough just to apply macroeconomic policies, because these have longer lags and Peru's social situation does not give us much time. There can be no delay, therefore, in adopting policies that have a significant effect at the microeconomic level in raising the overall productivity of businesses and improving the environment they operate in.

This approach does not ignore the need to transform the least advanced segments, in rural areas or in informal activities, even though this is not the subject of the present study. But in order to transfer resources to these segments so that they can achieve significant improvements in their productivity and incomes, it is essential for the more modern sectors to be able to grow very rapidly, thereby permitting a larger transfer of resources. Otherwise, transfers to raise the productivity of the least advanced segments will continue to be very small in relative terms, as they have been over the last 30 years. To speed up the growth of modern segments it is vital to raise the overall productivity of non-extractive tradable activities and establish a macroeconomic regime that includes a competitive, stable real exchange rate.

VII

Export and employment growth

Nonetheless, it needs to be stressed that while higher overall productivity may make the country more competitive, it does not in itself guarantee an increase in high-quality employment. To achieve this it is vital to combine productivity-raising policies with really effective measures to expand external markets and boost exports.

A small country, three quarters of whose active population are employed in very low-productivity activities or simply unemployed, does not have a dynamic domestic market to stimulate private-sector investment decisions in an open-economy context. If the real exchange rate weakens over the medium term, activities that compete with imports can be expected to perform better. But unless this happens, activities in

tradable sectors that are oriented towards the domestic market are unlikely to be able to contribute much to faster growth until the effects of higher productivity in exportable sectors have played their part in dynamizing that market.

It is therefore necessary to apply a range of measures to remove obstacles to exports, diversify them and ensure that they grow much faster than productivity, i.e., at sustained rates of 8% to 9% a year over long periods. For the desired effect on employment to be attained, the rise in exports needs to precede, and then accompany, the rise in overall productivity.

It is worth recalling here that the starting point is the absolute and relative weakness of Peru with regard to exports. In 2001, per capita exports at constant prices

were lower than in 1975, and in the early twenty-first century Peruvian exports continue to be dominated (almost 70%) by commodities, mainly minerals and metals, just as they were 50 years ago.

Furthermore, exports are highly concentrated in three ways (Aráoz, 2002): i) 68% are traditional products from industries such as mining, fishing, oil and gas and agriculture, although this last category has declined greatly so that it now accounts for just 5% of traditional exports; ii) 25% go to the United States, 24.9% to three European Union countries and Switzerland, and 15% to five Latin American countries (Brazil, Mexico, Colombia, Chile and Venezuela); and iii) 95% are generated by 12% of exporters. Consequently, policy should aim at diversifying exports by product type, destination market and exporter.

There are eight main issues for increasing exports: i) the negotiation of trade agreements, progress having been made with the signing of the Andean Trade Preference and Drug Eradication Agreement (ATPDEA) with the United States, the forthcoming negotiations with Brazil and Mercosur, and those now in progress with the United States, the European Union, Japan and China; ii) access to pre- and post-shipment credit and increasing use of the respective insurance policies and bonds; iii) the spread of product quality and classification norms; iv) the identification of markets, niches and standards for exported products, which will require a more powerful public-private strategy than any implemented so far; v) the spread of productivity and quality management practices to the majority of businesses, as they are currently confined to some 400 foreign and large domestic companies; vi) lower and more homogeneous tariffs, these having undergone major changes since 1992; vii) the development of production infrastructure, which involves speeding up the awarding of concessions to the private sector, and viii) the removal of obstacles to the development of the tourism sector.

Aráoz (2002) reminds us that in 1993-2002 there were eight substantive reforms to the tariff regime, resulting in a lowering of the original average rate and, more importantly, in large variations between the specific rates for different types of goods. In late 2002, the average tariff, weighted by imports, had been cut to 10.8%, but the coefficient of variation of the tariff distribution had risen to almost 32%. Furthermore, there are the temporary import surcharges ("safeguards") hastily imposed in 2003 to contain imports from China and other Asian countries. These changes are not the result of any programme but of

one-off decisions intended to reduce the cost of importing intermediate inputs and capital goods or to raise the cost of consumer goods, and reflect initiatives to benefit local producers by this means, since the real exchange rate cannot be used for this purpose. Consequently, and paradoxically, a stable real exchange rate has been associated recently with a policy of variable tariff rates and surcharges to improve competitiveness by this second method.

As regards infrastructure, in 2002 the Peruvian Institute of Economics (IPE) estimated the amount of investment needed to bring port, airport, communications, motorway, road, energy and other infrastructure up to the standards currently found in Colombia or Chile (IPE, 2002a and 2002b).

To provide Peru by 2014 with an infrastructure similar to that existing in Chile and Colombia in 2002, investment of some US\$ 18.2 billion will be required over the decade, equivalent to 3% of GDP over 10 years. Since the public sector does not have the financial, human and material resources necessary to meet this challenge, there is an urgent need to bring in a strategy of private-sector concessions, something that inexplicably has been in abeyance for the last four years.

A conservative estimate made for this study suggests that infrastructure investment of US\$ 18.2 billion would result in the direct creation of some 200,000 jobs lasting an average of one year apiece, distributed over 10 years, and the indirect creation of about 500,000 jobs, with some lag. This indicates that fostering private investment in public infrastructure that helped improve firms' productivity would create jobs not only because these firms' competitiveness would be enhanced, but also because the actual construction of the infrastructure would create a large amount of direct and indirect employment. This, then, is an activity that should be given priority.

Concerning the tourism sector, its development is a matter of priority for three reasons: i) it has enormous currency-earning potential; ii) it has a large direct and indirect effect on employment; iii) it is a sector that does not have barriers to entry related to know-how and major innovations, since the technical and organizational characteristics of the different activities making it up are already well known and understood in the country.

According to Chacaltana (2002), the development of tourism in Peru accelerated in 1992-1998, when the number of visitors tripled. In 1998 there were 600,000 tourists and currency revenue totalled US\$ 920 million.

In 2003, despite the difficulties created by conflicts elsewhere in the world, the number of tourists rose to 900,000 and currency earnings from this source rose proportionately.

In the late 1990s, even in the absence of any active policy to support the sector, tourism supplied 40% of all currency earnings from non-traditional exports. Tourism-related employment, meanwhile, grew very rapidly between 1992 and 1998, by 15% a year. In 2000 tourism employed practically the same number of people as the construction industry, and 40% as many as manufacturing, even though tourism was only just beginning to be developed after many years of

stagnation and the real exchange rate was not favourable. Being a net currency earner, again, tourism indirectly creates employment in other sectors. As a result, it has at least as much potential to create jobs as the construction sector, with the advantage over the latter that it is a tradable sector which contributes positively to the balance of payments. All of this suggests a need for policies to support the development of the sector through improvements in personal safety and tourism infrastructure in different parts of the country, wholesale tourism packages, diversification of tourism activity into the Amazon region, the development of adventure tourism and other measures.

VIII

Training, labour flexibility and productivity

In line with the theoretical arguments of Amadeo and Camargo (1996), the empirical evidence on Peruvian manufacturing industry (whose profile is close to the average for the tradable sector) suggests that the large rise in contractual instability has reduced average labour costs, but held back improvements in labour productivity. Consequently, the net effect on unit labour costs has been less than it might seem if only average labour costs were looked at. The reason is simple: increased occupational instability discourages companies from spending on training and thus holds back the growth of labour productivity (Chacaltana and García, 2002).

A large dose of contractual instability (which, as was seen in an earlier section, affected 79% of private-sector wage earners in 2000), and the fear of being made jobless that it entails, results in greater labour-intensiveness and higher labour productivity. On the other hand, though, it discourages spending on training by companies, since in these circumstances they become less willing to invest in human capital and prefer to recruit trained workers from other firms. The net effect of increased occupational instability on productivity therefore has to be determined empirically.

Chacaltana and García (2002) found that manufacturing firms in Peru with a higher proportion of unstable employment contracts were 28% less likely to invest in training than those with a higher proportion

of stable employment. They also showed empirically that companies which carried out training generated 25% more value-added per worker than those which did not, taking into account other variables such as business size, asset levels and branch of activity. Again, they found an elasticity (labour productivity in a firm / spending on training by the company) of close to 0.1. In other words, a reduction (increase) of 50% in a company's training expenditure generated a fall (rise) of 5% in its labour productivity. Consequently, the effect that predominates is the negative net impact on productivity.

The empirical evidence, then, has far from negligible policy implications: insofar as the adverse effect on labour productivity prevails, the reduction of average labour costs caused by a significant increase in contractual flexibility is partially neutralized by the adverse effect this flexibility has on unit labour costs, owing to lower productivity growth.

In Peru, labour reform sought to reduce average hourly labour costs and facilitate labour management. In doing so, however, it ignored the implications for training and productivity. Lack of training thus became a constraint on overall productivity growth.

According to Chacaltana and García (2002), the evidence presented also raises a kind of conceptual paradox. To mobilize private investment a certain degree of labour flexibility is required. If this flexibility

is too extreme, however, as it seems to have been in Peru, disincentives to training begin to arise, and thus obstacles to higher productivity and competitiveness.

How can the requisite dose of labour market flexibility be reconciled with the equally necessary investment in the human capital of workers which, as already pointed out, leads to higher productivity at the firm level?

There are at least three options, and they are not exclusive. The first is to have a public training system with wide access and high coverage, at no cost to companies. But this option requires fiscal resources on an enormous scale, and these are not available in Peru at present.

The second is to ensure that the length and characteristics of labour contracts established by labour institutions provide a time frame long enough to generate a reasonable return to firms' investment in training. The main thing here is that, both *de jure* and *de facto*, these regulations should not encourage average employment periods shorter than required for

investment in training to be profitable. A far-reaching shift that reduces the average duration of employment contracts to a few months is tantamount to an assumption that investment in training can generate returns that will repay it in those few months, which is clearly unrealistic.

The third option is to create conditions that give firms the flexibility to raise productivity, something that not only acts as a buffer against external shocks, but requires a lesser degree of labour instability.

In addition, Chacaltana and García (2002) drew attention to a factor related to the economic context. In an economy that grows for short periods and then falls back into recession, many firms cannot plan for the long term. Consequently, the discount rates they use in their businesses are quite high, which means that they rule out any investment in training that offers a return lower than these rates. For this reason, it is crucial to generate expectations of high, permanent growth if companies are to be induced to invest more in training so that overall productivity can be raised.

IX

External liberalization and microeconomic behaviour

1. External liberalization and productivity growth at the microeconomic level

The liberalization of external trade and financing ought to have brought significant increases in overall productivity at the microeconomic level. It is important to reflect on why this did not happen, so that the lessons learned can be incorporated into the design of new proposals. García (2002b) indicates the factors that are listed below.

Firstly, a more open economy provides greater opportunities for information and knowledge about innovations than a more closed one, and it therefore offers a much more favourable environment for potential productivity growth. Edwards (1998) analysed the experience of 93 countries empirically and concluded that total factor productivity tended to increase more rapidly in an open economy than a closed one, since in an open economy there were greater opportunities for absorbing the technological

progress generated by the leading countries; although he did not strictly identify causal factors, he pointed to the need for further empirical microeconomic research into liberalization of this kind and growth in total factor productivity. Regarding the latter, Baily and Solow (2001) prepared international productivity comparisons, conceptually based on the firm level, and concluded that the intensity of international (and domestic) competition had a strong impact on productivity. In the case of Peru, this must lead us to ask what factors have inhibited overall productivity growth at the microeconomic level. This subject will be returned to in the paragraphs that follow.

A second important aspect is the influence of export efforts. For exports to increase, productivity and competitiveness need to rise. But it is also a fact that an emphasis on exports requires a configuration that leads to productivity improvements. The effort to raise exports demands lower-cost and higher-quality products, storage, transport, communications and

delivery. It also obliges companies to adapt to the markets and standards of more advanced countries. All this creates a requirement for higher productivity and quality that will spread through different segments of the economy as the export effort diversifies. But if this effort is confined to traditional enclaves (mining, industrial fishing and oil and gas in the case of Peru), the pressure for higher productivity will not spread.

The third aspect has to do with the way Peruvian businesses, many of which have no experience with external competitiveness, actually perceived the greater competitiveness demanded by liberalization. If the main approach to achieving competitiveness is the reduction of average labour costs through labour deregulation and cuts in non-wage labour costs, as it was in Peru in the 1990s, then there is no relationship between perception and reality, since not even a large fall in average labour costs would result in quality improvements and an appreciable and systematic decline in total unit costs year after year. Only a continuous rise in overall productivity can bring down costs in such a way. Thus, while the emphasis on cutting average labour costs seen in the 1990s was defensive in nature, it also acted as a "myth" that prevented the real problem from being perceived and incorporated into firms' policies, as a result of which no attention was paid to strategies for raising corporate competitiveness.

All this is of particular importance today. What should be done to dispel the myth and send Peruvian businesses a realistic message so that they can overcome the limitations of their approaches in the 1990s? The information on competitiveness indices supplied by the World Economic Forum bears out what has been said. In the Growth Competitiveness Index ranking, based on a sample of 80 countries, Peru dropped from number 54 to 57 in the 1999-2002 period. In the Microeconomic Competitiveness Index it fell from 47 to 68, chiefly because of the worsening in the business environment and company strategies.⁸

Taking the decision to raise productivity at the microeconomic level is also important from the point of view of equity. Macroeconomic growth spreads more widely at the microeconomic level when productivity is rising than when adjustment is achieved through a reduction in average labour costs. The reason is simple: rising productivity allows real pay to

increase, whereas a strategy of reducing labour costs does not.

A fourth aspect is the following: in order to turn the potential offered by external liberalization into a systematic, permanent drive towards higher productivity, microeconomic decisions need to be aligned with this objective (Porter, 1998; Katz, 2000). This in turn means that businesses strategies (Porter, 2003) and institutions (Stiglitz, 1998; Katz, 2000) have to be pulling in the same direction at the microeconomic level. Perhaps the most important thing is to improve the business environment and the institutional fabric with a view to facilitating and stimulating a permanent drive for microeconomic productivity growth (Porter, 1998; Katz, 2000). The elements in the microeconomic environment that need to be improved or reformed are examined in Porter (2003), while García (2002a) explores institutional aspects of the microeconomy in the Peruvian experience. A market economy cannot work without institutions. Likewise, competitiveness cannot be adjusted through rising productivity, other than very slowly, unless there are institutions that stimulate this kind of decision-making.

Stiglitz (1998) spoke of the importance of applying new forms of institutional engineering and new models of public-private interaction if the aim was to create a firm basis for the new growth models, increase overall productivity more rapidly and make modernization more equitable. Porter (2003) argued that improving the business environment and company strategies was a key factor in raising productivity, while Katz (2000) also stressed the need to analyse microeconomic changes to understand what had happened with the emergence of the new open, market-oriented models.

Fifth, as well as creating a business and institutional environment that facilitates and stimulates productivity growth at the microeconomic level, there is a need to synchronize intermediate-level public policies to the same end. The typical example, absent from the Peruvian experience of the 1990s, is a set of policies to systematically improve workforce training and productivity.

2. The Microeconomic Competitiveness Index and productivity growth

In his analysis of how a country's enterprises operate, Porter (2003) identifies three stages. In the first, which is typical of the poorest countries (among which Porter

⁸ See Cornelius (2003), Porter (2003) and World Economic Forum (<http://www.weforum.org>).

includes Peru), competitiveness is based on cheap labour and use of the country's natural resources, while technology is introduced through imitation, importing, and direct investment. In the second stage, which is investment-driven and typical of middle-income countries, competitiveness results from improvements in the efficiency with which standard goods and services are produced; this stage is characterized by large infrastructure investments, government concern with the development of companies and strong incentives for private-sector investment and capital inflows, all of which results in higher productivity; goods and services become more sophisticated, but technological change still comes from outside, although the ability to adapt and improve foreign technology does exist. In the third stage, which is typical of high-income countries, the main source of competitiveness is skill at producing innovative goods and services at the global technology frontier, using the most advanced methods available; the business environment is characterized by strengths in a number of areas and by the existence of production chains and clusters.

Two remarks should be made here on Porter's (2003) argument, given its importance for the present work. The first is that the stages can be understood as processes in which certain factors gradually acquire critical mass, or disappear, as the result not of some historical law but of a variety of causes, among which are the effects of private and public policies. This means that changes in attitudes, ideologies and approaches to the development of firms, projected in the rules governing their conduct, have a real influence and effect.

The second is that Porter's (2003) analysis refers to countries. But in the many situations in Latin America where modern segments exist side-by-side with a range of unproductive traditional activities, this analysis is only valid for the modern segments of each country, which have the desire and ability to invest. Only for these does it make sense to speak of the sequential construction of interdependent capabilities at the microeconomic level. The structural heterogeneity emphasized by the Latin American structuralist school in the 1960s and 1970s is typical of many countries in Latin America, where modern and relatively developed segments continue to exist alongside others that are very far from being modern. What this means is that if the focus is on a country's

modern, structured sector, for which microeconomic modernization strategies make sense, then the factors influencing competitiveness, the degree of organization and per capita GDP will not correspond to the average for the country as a whole. Consequently, it is the data for modern segments and not the averages for the country that are relevant when the most appropriate competitiveness strategy is being sought.

An example of this does in fact emerge from Porter (2003), whose figure 6 correlates the distribution of the Microeconomic Competitiveness Index by country with the distribution of per capita GDP by country in 2001, adjusted for purchasing power parity. In that chart, Brazil has a Microeconomic Competitiveness Indicator slightly lower than Tunisia's, while Mexico is below Croatia, Namibia, Jordan and Morocco. The thing is that the indicators used to construct this index are for the country as a whole, while in the cases of Brazil and Mexico it would make more sense to use those for their modern segments. The same is true of Peru. According to the chart referred to, Peru's Microeconomic Competitiveness Index is lower than that of Jordan, Botswana, Namibia, Vietnam, Morocco, El Salvador and Tunisia, and this is because the indicators taken as the basis and normalized for the country are only relevant to the modern segment of the Peruvian economy. The same thing happens when we consider Peru's per capita GDP. In the late 1990s this was about 4,650 1994 soles (about US\$ 2,400), but an estimation of GDP per capita in the modern segment, which is what counts for the analysis of competitiveness, yields a figure almost three times as high. The implication is clear: if per capita GDP in the modern segment is considered, Peru classifies as a middle-income country, so that Porter's analysis places it at the stage where investment should have contributed to higher productivity, and not at the stage where competitiveness depends solely on cheap labour.

Taking all the above into account, the modern segments of the Peruvian economy certainly could have moved into the second stage in the 1990s. What prevented them was a narrow view of competitiveness, confined to the reduction of labour costs, that caused serious social harm and had even more serious economic consequences. The question now is how this view can be changed.

X

Policies to raise overall productivity

This section will review the type of proposals that have been formulated for improving overall productivity.

Porter (2003) describes a set of microeconomic factors to which priority needs to be given because of their effect on firms' competitiveness, grouping them as follows: i) factors that determine the microeconomic environment, such as physical infrastructure (particularly important in Peru), administrative infrastructure, the quality of human resources, the legal and judicial system, technological infrastructure, the development of financial markets, the regulatory framework for investment, incentives for competitiveness, trade barriers and the intensity of domestic competition; and ii) factors that influence company strategies, such as the nature of their competitive advantage, the sophistication of production processes, staff training, marketing, the delegation of decision-making, foreign market penetration, innovation capacity and the professionalism of management.

García (2002a) argues for changes in the institutional and economic framework influencing microeconomic decision-making, including:

- i) Gradually replacing the dominant collective bargaining model with one that, in addition to the usual issues of wage purchasing power and social protection, takes in:
 - aspects and commitments on both sides that raise corporate productivity, and
 - pay incentives for productivity that link real pay rises to productivity increases.
- ii) Developing the necessary institutions so that productivity-raising practices and behaviour can gradually be spread to medium-sized and small businesses.
- iii) Strengthening and modernizing the enforcement of employment legislation to bring down the very high proportion of wage earners without contracts; for reasons of efficiency, this will probably have to be accompanied by stricter enforcement of companies' compliance with their direct and indirect tax obligations.
- iv) Implementing active policies to foster and finance technological innovation. Given that most of the countries competing with Peru now have policies of this kind, the lack of them in Peru is yet another

factor holding the country back where productivity improvements are concerned. The idea should be not to give up on a strategy based on valuable natural resources, but to add value to these resources by processing them and pursuing innovation. This will also help to lay the groundwork for a gradual shift towards an innovation-based competition model, via the adaptation of innovations from abroad. Since Peru is part of a world that is moving towards competition in knowledge- and innovation-intensive products and services, our proposal is that a competitive fund should be created for innovations and other measures to stimulate and facilitate innovation in companies, generate critical mass in technology and university centres and, above all, link these segments together. The fund would lend money to finance the initial development and testing stage for innovations.

- v) Fostering a training services market and establishing a regulatory framework for this. To this end, the following is proposed: create a national training council and establish by law a regulatory framework for the training services market; establish a national training fund; encourage the development of high-quality providers for this market; orient this market towards training by competency; establish a quality certification system for training services providers; develop a method for evaluating and certifying the usefulness of providers and their services; make far greater use of in-house training and help spread productivity-raising practices; establish tax incentives for companies to invest in occupational training and in enhanced productivity and quality management; and, following Sierra and Sato (2002), increase the resources for subsidizing "bonopymes" (vouchers entitling small and medium-sized enterprises to discounts on business development services), but target their use on productivity management training. According to Chacaltana and García (2002), in-house training contributes significantly to higher productivity at the microeconomic level. In fact, it is not just a question of improving in-house training. Companies also need to adopt new

- working practices and more advanced ideas about human resources management, communicate more with their workers, provide ongoing training, and translate all this into pay incentives. It is all this, in combination with more in-house training, that results in significant productivity increases.⁹
- vi) Encouraging small and medium-sized enterprises to form clusters or production chains, or to link up with production networks led by larger companies, as the current state of SME development dictates. Combined with greater access to resources, all such links help raise productivity, so that removing

obstacles to the development of such clusters, chains or networks is a very effective way of improving the competitiveness of the SMEs that make them up. The Government of Peru is already implementing initiatives of this kind, and it would be very helpful for it to enhance them by facilitating the development of systems that pooled information on markets, suppliers, benchmarking systems and best practice among SMEs. These measures are far more significant than they might appear, as most Peruvian companies are small or medium-sized.

XI

Conclusions

This article stresses that the idea of attaining competitiveness by reducing average labour costs, which was pursued in the 1990s and still persists in Peru, has not only failed to generate returns sufficient for a sustained increase in private-sector investment in non-extractive tradable sectors, but has masked the need for essential measures to improve productivity in Peruvian companies: i) a stable, competitive real exchange rate at the initiation stage, and ii) steady growth in overall productivity at the microeconomic level. The question now is how the macroeconomic regime and microeconomic decision-making can be gradually reoriented in the directions described. It is in this context that the following conclusions should be read.

1. Competitiveness, the real exchange rate and overall productivity at the microeconomic level

Since the late 1970s, productivity has gradually ceased to be an exogenous variable and increasingly become a policy variable, capable of being altered for the better by private and public actions. This has happened in both developed and emerging economies, albeit in different ways. In the present situation, when the most profound technological and organizational revolution in history is taking place, this potential for influence has gradually led to a general acceptance that in a

globalized environment improved competitiveness can only come from higher overall productivity.

Two things stand out here. The first is that for productivity improvements to be achieved at the microeconomic level, it is necessary for companies to be willing to invest (in innovations, training, equipment, etc.), particularly in tradable sectors. A macroeconomic regime in which there is a stable, competitive real exchange rate during the long initiation period can guarantee the returns needed to speed up investment decisions in these sectors.

The second thing is that a regime of this type should serve to buy time for the maturation process that is needed before the effects of policies to raise overall productivity at the microeconomic level make themselves felt.

To correctly ascertain the competitiveness criterion that is right for a country like Peru, due weight should be given to the fact that there, as in many other Latin American countries, modern and relatively developed sectors continue to exist side by side with very backward ones. This means that in considering what microeconomic modernization strategies make sense for the country's modern, structured segments, it is the data for these segments, and not the average data for the whole country, that should be used to assess the most appropriate competitiveness strategy. It is on this basis that the reduction of labour costs can be rejected as the sole method of raising competitiveness, and that a central thesis of this paper can be accepted: that competitiveness improves as

⁹ See Ichniowski, Shaw and Prennushi (1995).

overall productivity at the microeconomic level rises, in the context of what Porter (2003) calls the “investment-driven stage”.

The approach suggested—a stable, competitive real exchange rate and higher total microeconomic productivity—does not mean that reducing non-wage labour costs cannot make a contribution, but it does place it in a more realistic light.

2. The real exchange rate, productivity, exports and employment

A competitive real exchange rate at the initiation stage and a sustained rise in overall productivity in tradable sectors at the microeconomic level are the basis for competitiveness. But for high-quality employment to grow at the rates desired, demand for tradable and non-tradable products needs to grow far more quickly than productivity. With a stable, competitive real exchange rate, higher demand initially depends on growth in exports and in output that competes with imports. To make faster progress in this area, then, there is a need for export support policies and trade agreements. Higher output and investment in tradable sectors will gradually help, both directly and indirectly, to dynamize domestic demand for goods that replace imports. Investment in tradable sectors can grow rapidly and, if appropriate linkage policies are applied, induce a faster rate of economic growth in the aggregate and a significant rise in high-quality employment in modern sectors. In turn, higher employment and wages (the latter due to productivity improvements) will dynamize domestic demand. In consequence, the best employment policy is to combine measures for maintaining a competitive real exchange rate and raising overall productivity and product quality at the microeconomic level, on the one hand, with measures for speeding up export growth yet further, on the other.

3. Microeconomic institutions

To take advantage of the access to innovations that an open economy offers, it is necessary not only to apply the “right” macroeconomic policy but also to create an appropriate microeconomic environment and, above all, to establish an institutional context that facilitates adoption of innovations at the microeconomic level. To put it another way, it is vital to have an institutional context (understood as a set of ground rules that govern the behaviour of firms) which impacts the

microeconomic level and encourages the adoption of productivity-raising policies there.

An important corollary of this is that the institutional system of incentives should not obstruct the adoption of microeconomic strategies for improving productivity, as was the case in Peru in the 1990s, when microeconomic strategies were skewed towards the reduction of average labour costs while the need for overall productivity improvements was removed from the business agenda.

4. Flexibility in labour markets and the flexibility to raise productivity

In 1990-2003, the Peruvian labour reform and the swing of the pendulum away from decades of employment protection led to behaviours that in practice went further than the reform intended. Whether because of ingenuousness on the part of policy makers, or because of neglect, the result was a large increase in low-quality employment in the labour market, with an excess of unstable, unprotected contracts arising from the shift of private employment towards wage earners without labour contracts. This lowered employment standards and increased social conflict. It also held back spending on training by companies, thereby constraining overall productivity growth. The worst thing was that the emphasis on reducing average labour costs blinded decision makers to the country’s real sources of competitiveness. The most damaging part of this was that it took the competitiveness debate into an area that was not just irrelevant, but economically ineffective and socially disruptive as well, and convinced the main actors, Peruvian businesses, that it was the one that mattered. Thus, one of the greatest tasks ahead is to explain to businesses that the approach which predominated in the 1990s gradually needs to be replaced by a strategy for raising microeconomic and mesoeconomic productivity. This entails keeping real labour costs aligned with microeconomic productivity growth and bringing in a competitive real exchange rate.

Consequently, what economic policy needs to clarify in this area is:

- i) what concrete measures can be taken to phase out the old labour flexibility, whose usefulness as a competitiveness strategy is now over, and instead foster “flexibility in the production process to increase overall productivity” under the umbrella of a stable, competitive real exchange rate during the *ignition* period of this strategy; and

- ii) how the transition from one approach to competitiveness to the other can be effected, which involves combining empirically the general flexibility needed to raise productivity, on the one hand, and the margin of labour market flexibility that companies actually need, on the other, since in practice a country's competitiveness depends on this mix.

Without a macroeconomic regime that includes a stable, competitive real exchange rate, microeconomic strategies to raise productivity and an aggressive policy for diversifying exports and signing trade agreements, it is unlikely that there will be any significant increase in competitiveness, private investment or high-quality employment.

The arguments put forward in this article differ from the usual recommendations for Peru, heard from both within and beyond the country, which continue to stress the reduction of average labour costs. What is being argued here is that the best employment policy is a determination to extend and diversify external markets and to continually improve competitiveness through a competitive real exchange rate and rapidly growing productivity, particularly in the non-extractive tradable sector. Although this might look contradictory from a traditional economic perspective, it is after all consistent with what common sense would suggest for a small, open economy in a context of globalization and at a stage in history characterized by the quality and variety of innovations available.

Bibliography

- ADC (Andean Development Corporation) (2002): *Obstáculos al aumento de la productividad en el Perú*, Caracas, unpublished.
- Amadeo, E. and J.M. Camargo (1996): Labour flexibility, productivity and adjustment, in J.B. Figueiredo (ed.), *Las instituciones laborales frente a los cambios en América Latina*, Geneva, International Institute for Labour Studies (IILS)/International Labour Organization (ILO).
- Aráoz, M. (2002): Perspectivas de la política arancelaria y de integración, *Economía y sociedad*, No. 48, Lima, Inter-American Economic and Social Council (CIES).
- Baily, M. and R. Solow (2001): International productivity comparisons built from the firm level, *Journal of Economic Perspectives*, vol. 15, No. 3, Nashville, Tennessee, American Economic Association.
- Ball, L. (1998): *Policy Rules for Open Economies*, NBER Working Paper, No. 6760, Cambridge, Massachusetts, National Bureau of Economic Research (NBER).
- Cornelius, P. (2003): *Growth Competitiveness Report, 2003*, www.worldeconomicforum.org.
- Chacaltana, J. (2002): *El desarrollo del sector turismo y el empleo*, Red de políticas de empleo, Lima, Inter-American Economic and Social Council (CIES).
- Chacaltana, J. and N. García (2002): *Estabilidad laboral, capacitación y productividad*, Red de políticas de empleo, Lima, Inter-American Economic and Social Council (CIES).
- De Ferranti, G. and others (2003): *Cerrando la brecha en educación y tecnología*, Washington, D.C., World Bank.
- Edwards, S. (1998): Openness, productivity and growth: what do we really know?, *The Economic Journal*, vol. 108, No. 447, Oxford, Blackwell Publishing, March.
- Frenkel, R. (2004): La política macroeconómica para el crecimiento y el empleo, *Estrategia de crecimiento y empleo en el Mercosur*, Lima, International Labour Organization (ILO), April, preliminary version.
- García, N. (2004): Estrategia de crecimiento y empleo: el enfoque, *Estrategia de crecimiento y empleo en el Mercosur*, Lima, International Labour Organization (CIES), April, preliminary version.
- _____ (2002a): *Productividad, competitividad y empleo*, Lima, Inter-American Economic and Social Council (CIES).
- _____ (2002b): *La calidad del empleo en el Perú*, Red de políticas de empleo, Lima, Inter-American Economic and Social Council (CIES).
- Iguñiz, J. (2001): Desarrollo económico reciente del Perú, *Pobreza y desarrollo en el Perú*, Lima, Oxford Famine Relief Organization (OXFAM).
- Ichniowski, C., K. Shaw and G. Prennushi (1995): *The Effects of Human Resource Management Practices on Productivity*, NBER Working Paper, No. W5333, Cambridge, Massachusetts.
- INEI (Instituto Nacional de Estadística e Informática) (2004): *Cuentas nacionales del Perú*, www.inei.gob.pe, April.
- IPE (Instituto Peruano de Economía) (2001): *Productividad y crecimiento económico en el Perú*, Lima, May.
- _____ (2002a): *Estado actual de la infraestructura de servicios públicos: estimación de la brecha de inversión*, Lima.
- _____ (2002b): *Impacto de la infraestructura de servicios públicos sobre la productividad de la economía peruana*, Lima.
- Katz, J. (2000): *Reformas estructurales, productividad y conducta tecnológica*, Santiago, Chile, Fondo de Cultura Económica (FCE)/Economic Commission for Latin America and the Caribbean (ECLAC).
- Martínez, D. and V. Tokman (1997): Costo laboral y competitividad en el sector manufacturero de América Latina, *Costos laborales y competitividad industrial en América Latina*, Geneva, International Labour Organization (ILO).
- _____ (1999): Costos laborales y productividad: estrategias para la competitividad, *Inseguridad laboral y competitividad*, Lima, International Labour Organization (ILO).
- Moguillansky, G. (1996): The macroeconomic context and investment: Latin America since 1980, *CEPAL Review*, No. 58, LC/G.1916-P, Santiago, Chile, April.
- Porter, M. (1998): *The Competitive Advantage of Nations*, New York, The Free Press.
- _____ (2003): *Building the Microeconomic Foundations of Prosperity: Findings from the Microeconomic Competitiveness Index*, www.worldeconomicforum.org.
- Rodrik, D. (2003): *Growth Strategies*, NBER Working Paper, No. 10050, Cambridge, Massachusetts, National Bureau of Economic Research (NBER).
- Sierra, J. and E. Sato (2002): *Políticas para mejorar la calidad del empleo en las PYMES*, Red de políticas de empleo, Lima, Inter-American Economic and Social Council (CIES).

Stiglitz, J. (1998): Más instrumentos y metas más amplias para el desarrollo: hacia el consenso post-Washington, *Desarrollo económico*, vol. 38, No. 151, Buenos Aires, Institute of Economic and Social Development, October-December.

Svarzman, G. (2004): La política de exportaciones y la integración en el MERCOSUR, *Estrategia de crecimiento y empleo en el*

MERCOSUR, Lima, International Labour Organization (ILO), April, preliminary version.

Williamson, J. (2003): Exchange rate policy and development, *Initiative for Policy Dialogue (IPD)*, Columbia, University of Columbia.

The market and water management reform in Peru

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This article examines the unsuccessful attempts made in the 1990s to introduce a market for water in Peru. This reform was thwarted because market operations were identified with water rights privatization, even though a market can perfectly well operate on a basis other than that of private rights, with the State retaining full ownership of the resource. The argument made here is that if these shortcomings were corrected, the creation of a water market would be desirable to improve allocation and management of water and to deal with the increasingly serious difficulties associated with the administration of water access, the lack of investment incentives and serious problems of efficiency and equity. The economic advantages and disadvantages of a water market are analysed, as are the legal and regulatory prerequisites for promoting the kind of market that would really improve water allocation in the increasingly necessary institutional reform of this sector in Peru.

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I

Introduction

Over the past few decades, creating market mechanisms for water allocation has been one of the most controversial ideas in the debate about how best to manage natural resources. This idea, which originally came up in certain developed countries, has begun to be raised in some developing ones that face growing water shortages, such as Peru.

During the 1990s the Peruvian economic system underwent a profound change, shifting from an approach that relied heavily on State intervention in the economy to a model of far-reaching liberalization and non-interference by the State in the market. As part of this economic liberalization approach, a radical proposal was made to reform water legislation by privatizing water rights and introducing a market system of allocation, a model taken from the Chilean legislation then in force. This option was not ultimately adopted, owing to the objections of different social and political actors, and it was never the subject of much public debate.

Against this background, a new government initiative was recently launched to reform the legislation and create new water management institutions. This initiative drew on many of the ideas and debates of the 1990s, but it definitely ruled out the idea of privatizing water, while keeping open the option of introducing market mechanisms for its allocation.

This proposal is being widely debated in Peru. One of the issues that is still controversial is the idea

of introducing a water market, as this continues to be viewed as problematic by many social and economic actors, particularly farmers, who consume 85% of the water used in the country. The fear is that a market mechanism may reduce access to water for agriculture and favour other sectors with greater economic power, and that it may become a source of legal uncertainty for acquired rights. Likewise, different groups believe that the water market may result in access being affected by monopolistic dominance, and thus in water access becoming more unequal. Generally speaking, opposition to the idea of a water market has arisen as part of an adverse reaction to water privatization, confusing two different concepts.

It now seems essential for the future of water management reform in Peru that the advantages and disadvantages of a water market for the different user types and for integrated water management be set forth in a coherent way. It is also important to examine and discuss the legal and regulatory requirements for an efficient and sustainable market in a resource with the special characteristics of water. The aim of the present article is to review these issues and analyse in depth the advisability and practicalities of introducing market mechanisms for water management in Peru, a country that has a history of controversy in this area dating back to the 1990s.

II

The attempts to reform Peruvian water legislation in the 1990s

A look at the legislative agenda of the Peruvian Congress in the 1990s will show that almost every year there were motions to debate and pass a new water law, some of them tabled by the executive and others by members of Congress itself. None of them was successful, however, which is why the country still does not have modern legislation on this very important subject. In this section, the most important initiatives

will be described and the factors that have hitherto made legislative change impossible will be examined.

Our analysis of these factors centres upon water privatization and the operation of a market in this resource. Both issues, which have frequently been confused and poorly explained, have clearly contributed to the difficulty of bringing about the needed legislative change with the consent of users.

1. Background

Water legislation in Peru has undergone partial reforms in the last 30 years as administrative requirements and particular needs or emergencies have dictated. Water management between 1970 and 1980 tended to continually weaken the system of authority and planning established by the 1969 water act (*Ley General de Aguas*). In the late 1980s the Government decided to transfer critical water administration and distribution functions to user organizations (mainly irrigators), including the collection of tariffs. Then the severe hyperinflation of the late 1980s greatly weakened the State and its ability to finance public activities, including water management.

In 1990 a major political and economic shift began, marked by economic liberalization and a subsequent weakening of the democratic system.¹ In particular, in 1991 the Government began to adopt a series of drastic measures involving economic liberalization and privatization of State assets, with the basic objective of promoting private-sector investment. There were specific investment promotion measures for the different sectors. For one of these, agriculture, a legal instrument was passed—the *Ley de Promoción de las Inversiones en el Sector Público Agrario* (D.L. 653)—that created certain incentives for private investment in the extraction of underground water, in contravention of the general law of 1969. At this stage the Government began to consider the need to enact a new water law compatible with the economic liberalization then in progress.

2. The first attempt: copying the Chilean model

Thus, in late 1991 the Ministry of Agriculture decided to engage a Chilean consultant to draft a water bill very similar to that of Chile, which in 1981 had passed a Water Code that privatized water rights and fully introduced a market mechanism.

This initial proposal, however, was supplemented by the Ministry of Agriculture with a series of provisions to preserve bureaucratic powers in this area. Thus, the draft that finally emerged was a mixture of liberalization of rights and bureaucratization of administration.

¹ The regime of President Alberto Fujimori dissolved Congress in 1992, and then convened a new Congress with constitutive powers which was to pass a new constitution in 1993. Fujimori's Government became increasingly authoritarian during the 1990s.

The original proposal also had problems of a formal character, however. For example, it was incompatible with the Constitution in force (of 1979), which declared natural resources to be the property of the nation; thus, water could not be privatized.

Furthermore, some doubts began to arise about the Chilean legislation at that time: it was claimed, for instance, that it encouraged speculation in water rights by certain economic agents with a detrimental impact on water access for vulnerable (indigenous) social groups, and that its institutional framework was ill suited to dealing with intersectoral conflicts, among other things. These criticisms were actually evaluated by the democratic Government that came to power in Chile in 1990, when it carried out a review of existing legislation.

Besides all this, the original proposal was not properly analysed or discussed with a variety of important governmental actors or among users. These latter, and farmers in particular, rejected the proposal outright. The main misgivings expressed by them concerned the operation of a water market, which they saw as having the potential to deprive them of access to this resource through the operation of economic interests. Environmentalist groups and water managers were also opposed to the law, however, as they were concerned about provisions in it which would weaken State powers to regulate water.

3. The second attempt: some changes to the model

Between 1993 and 1994 another attempt was made to pass a new water bill, efforts being made this time to overcome some of the limitations of the previous one. In 1993 a new Constitution was passed. While continuing to treat natural resources as the property of the nation, it stipulated that they could be granted on a concessionary basis. It also stipulated that Congress should pass a constitutional law on natural resources before passing laws dealing with specific resources such as water.

In these new circumstances, the Ministry of Agriculture, under pressure from the Ministry of Economic Affairs and Finance, decided to relaunch its legislative proposal, but this time with some amendments. For example, it now included a tax on water rights with a view to preventing speculation. It also incorporated some ideas about the management of water at the basin level and consideration was given to some limitations on the ownership of water from natural sources.

This new bill had a very good chance of being passed, especially in 1995-1996. At this stage, however, opponents of the Ministry of Agriculture proposal emerged within the Government itself, particularly in relation to drinking water and sanitation, as they were concerned by the possibility that the law might overturn the priorities already set for drinking water consumption. The bill was not ultimately passed and when the Ministry of Agriculture changed, a new situation arose.

4. The third attempt: a broader, multisectoral approach

Following on from these efforts, in the 1996-1998 period a third attempt was made to enact a new water bill in Peru. A multisectoral commission would be set up within government, involving the main sectors concerned: agriculture, water and sanitation, energy and mining, economy and finance, and others. At this stage a more comprehensive proposal for legislative reform was to be drawn up, ruling out the privatization of water rights and adopting a multisectoral approach to this resource whereby a multisectoral authority would be created instead of the traditional authority within the agriculture sector.

This third attempt was never to come to fruition, as the agriculture and economy and finance sectors lost interest in the subject. In 1997 the Constitutional Law for the Sustainable Use of Natural Resources was finally passed, creating the general framework within which specific laws like a water act could be created.

In 1999 and 2000 the political situation in Peru became very fraught: President Fujimori was seeking re-election for the second time and the country had become seriously polarized. In those years there were no major water legislation initiatives.

5. The most recent initiatives

In late 2000 the Fujimori Government fell and a transitional Government headed by Valentín Paniagua took office, before calling a general election and handing over power in mid-2001 to the current president, Alejandro Toledo. During the transitional Government there was an attempt by the agriculture sector to generate new legislation, with a water bill that was published well in advance and debated by the public for several months. This proposal contained some interesting advances, but it was not an improvement on the multisectoral effort of 1997-1998

as it still had a clear sectoral bias towards agriculture and its definition of water rights contained ambiguities that did not clarify the complex legal status of this resource.

Subsequently, under President Toledo's Government, Supreme Resolution 122-2002-PCM was enacted, creating the Multisectoral Commission to draft a new water bill. The Commission, which would include members of all the ministries and public bodies concerned with water as well as private users in the agriculture, mining, industry and urban sectors, was set up in January 2003. It worked for four months and produced a draft water bill which was publicized in May that year so that it could be debated by the public.

The bill drafted by the Commission accepted the principle that water was indivisible and that its exploitation by multiple users required a balanced institutional structure with a single technical and regulatory authority to enforce the law and safeguard the resource in its natural sources.² The draft also provided for an innovative way of binding the institutional arrangements for water into the ongoing regionalization process. Consejos de Cuenca (River Basin Councils) would have been created at regional and multi-regional level (depending on the actual characteristics of river basins) as the basic authorities for water management in the decentralized administrations. In relation to these aspects there were some initial disagreements between the members of the Commission, but a reasonable consensus was ultimately reached.

The part of the legislative proposal that generated adverse reactions, however, especially in the farming sector, was the proposed new system of water rights based on the idea of water "concessions", as set out in the Constitutional Law for the Sustainable Use of Natural Resources and the current Constitution itself. Water concessions would give their holders a right of usufruct over the resource under set conditions, but would not give them ownership.

² The bill proposed to create a single national water authority of high administrative rank, the Instituto Nacional del Agua (National Water Institute), responsible for enforcing regulations, monitoring water quality and quantity and granting water rights, among other important functions. The Instituto Nacional del Agua would have come under the Presidency of the Council of Ministers, owing to its multisectoral character, but would have followed the policies and guidelines laid down by a Consejo Nacional de las Aguas (National Water Council), also a multisectoral institution with both public- and private-sector representation.

Again, in accordance with what is laid down in the Constitutional Law, the proposal included provisions that allowed water concessions to be traded by their holders, always provided the original conditions under which they had been granted were met (i.e., provided that no important features of the actual concession were altered). In practice, this was tantamount to allowing a market in water rights, albeit under different conditions from those laid down by the Chilean legislation, which is more privatist. In other words, a market could be operated, but under the conditions laid down when the concessions concerned were granted and without prejudice to public ownership of the resource.

6. The initial reactions

The first reaction of users in the farming sector—the most important one socially and the largest user of water—was hostile to the draft, as this was regarded as “a new attempt to privatize water”. This reaction, which cannot be seen as justified by the form and content of the proposal, even led to a national strike in the sector and thence, in June 2003, to the establishment of a state of emergency in the country,

in the midst of other mobilizations by teachers and truck drivers.

In this situation, the Government decided to give water users in the farming sector six months to come up with an alternative proposal. The proposal drafted by agricultural users was recently submitted to Congress, and it is clearly hostile to the idea of a water market. It also insists on a sectoral approach to water, with agriculture pre-eminent above other sectors.

However, this hostility to the idea of a water market basically centres around water privatization. This is despite the fact that the two concepts are distinct, since it is possible for a water market to operate without water access rights having the attributes of private property.³

The experience described shows that there has not yet been a thorough debate in Peru as to the advantages and disadvantages of bringing in a market mechanism for water allocation or as to the right way of doing this so that management efficiency, equity and sustainability are improved. In the absence of such a debate, the hostility to reform proposals does not seem to be well founded, and action is needed urgently to remedy the situation.

III

A market for water: advantages and disadvantages

This section will analyse the advantages and disadvantages for society of bringing in market mechanisms for water allocation, both in conceptual terms and for the specific case of a country going through a management crisis, like Peru. The evaluation will be carried out in the light of economic, social and environmental objectives, and from the point of view of integrated water management.

1. Water markets and economic efficiency

Properly functioning markets are one of the most effective means of achieving economic growth, understood as a continuous, sustainable expansion in the material output of the population as a whole. For a specific good, a properly functioning market enables factors to be mobilized as required so that society as a

whole obtains from them the greatest net benefit possible.

In the case of water, which is a production input for many activities, proper functioning of the market concerns the allocation of this scarce resource to different economic activities (i.e., activities that generate economic value or benefits) or to different economic agents with differing preferences. In a situation where a (scarce) input has to be allocated to various alternative activities or to a variety of agents, the market can be said to be working well as an allocation method when the input concerned goes to

³ In other words, privatization of water rights is not a necessary condition for a market in water allocation, since trading can be in conditional rights. This is what happens in most developed countries with water markets.

the activities or agents that set the highest value on it.

In other words, the input will have an "opportunity cost" for each of the possible activities or agents, and the most efficient allocation will be that whereby no activity or agent has a different opportunity cost for the input. If this were to happen, the input could be reallocated, and society would obtain a greater net benefit.

It is important, then, to realize that the efficiency gains from the operation of a water market can be substantial, to the extent that water is allocated to the highest-value activities. Another crucial advantage of the operation of a water market is that it tends to encourage private investment both in infrastructure and in water-saving techniques, insofar as private-sector agents are able to appropriate the efficiency gains these investments bring at the prevailing opportunity cost.

Efficiency gains can be affected, however, by some fundamental factors which influence the operation of markets. These can be classified into three types: transaction costs, externalities and limited competition. These factors can reduce and even reverse potential efficiency gains from the operation of a water market. We shall now consider how this may happen.

The issue of transaction costs relates to the resources needed for the market to operate, both legally and in terms of the information required for transactions. When two agents are to trade a good, information on important attributes of that good may be limited and/or asymmetrical, and this affects the potential benefits of the exchange. Likewise, the legal requirements for carrying out transactions may be burdensome and act as another complicating factor. Thus, in a market with high transaction costs, potential efficiency gains are reduced and in some cases even disappear, if the water market cannot operate.

This market is a typical example of high transaction costs for a variety of reasons (Young, 1986; Colby, 1990). Firstly, water is a mobile good that is difficult and costly to measure, so that resources are needed to gauge its quantity and quality accurately. Secondly, the legal status of water is usually complex and an efficient technical and administrative apparatus is needed to establish clear ownership rights and maintain and update them over time. Lastly, the reallocation of water in a fixed distribution system may require costly infrastructure and operational alterations, items that feature as transaction costs in any market operation.

But while transaction costs tend to limit the efficiency gains of a market (or even prevent it

operating),⁴ the presence of externalities can actually result in net losses of efficiency in some situations. There is an externality when the individual costs of an economic action are smaller than (or different to) its social costs.⁵

In the case of a water market, one of the possible consequences of externalities is that users may become more uncertain about their rights over this resource when a market starts to operate. If there is not a suitable institutional and regulatory⁶ framework to prevent the market mechanism from affecting the rights of third parties, efficiency losses may arise as users' access becomes less secure. This is a real possibility in traditional irrigation systems in developing countries, as these lack the technical and institutional capabilities needed to ensure that the complex externalities of potential transactions are fully internalized by the parties to the transaction.

Lastly, one characteristic of an efficient market is that it offers no opportunity for certain agents to manipulate it for their own benefit. In other words, there need to be conditions of open competition or market entry. Only in conditions of open competition are market actors not in a position to manipulate prices and thus enhance their profits to the detriment of society at large. This is a major problem when the technological conditions exist for economies of scale in the provision of a good or service, since under these circumstances natural monopolies arise. The main issue in this case is the regulation of monopolies to attain the greatest social benefit possible under existing technological conditions.

To sum up, the water market may generate efficiency gains, but these will only materialize if the market operates with low transaction costs within an institutional framework that deals appropriately with externalities, and is open to new entrants and competition.

⁴ Transaction costs can certainly reduce efficiency gains, but in situations where water is increasingly scarce these costs tend to be lower as a proportion of the benefits expected, and thus to be less of a constraint on the operation of the market.

⁵ In the operation of a market, externalities may arise when there are non-participating agents who may be positively or negatively affected by a transaction. In other words, the opportunity cost perceived by the agents involved in the transaction does not fully incorporate the costs perceived by all those concerned by it, so that the outcome of the transaction may reduce the benefit to society instead of adding to it.

⁶ See section IV below.

2. Water markets and equity

When we speak of achieving equity we have in mind the goal of attaining equality opportunities so that citizens can fully develop their physical and intellectual potential in a context of democratic institutions and individual freedoms. A properly functioning market can promote equity in many circumstances. For example, if there is a technological innovation that favours greater use of unskilled labour (one of the most important assets of the poor),⁷ a properly functioning labour market will substantially raise the returns on unskilled labour and thus make a significant contribution to a more equitable society.

In the case of water, criticisms of the market mechanism frequently allude to the possibility that the exploitation of this resource will become less equitable. Some economists respond by saying that it is almost impossible for a water market to undermine equity, since no agent would willingly participate in a water transaction that ultimately detracted from his or her well-being (Donoso, 1994; Lee and Juraslev, 1998). However, adverse consequences for equity may derive from possible side-effects of market operations that do not necessarily affect those involved in the transaction.

The existence of high transaction costs may mean that only some agents, generally those with most economic power, participate in the market. In certain contexts this can affect equity. The most important problem of equity entailed by the operation of a water market, however, comes from the presence of externalities affecting vulnerable groups with few means of responding to changes in the ground rules and in water allocations. Thus, a water transaction may improve the well-being of the parties to the transaction, but have an adverse effect on the well-being of other agents who are not participants, without this latter effect being fully incorporated into the operation. This can happen precisely because in a market context resources are also needed to oppose transactions that affect third parties. It is possible that those affected may be the poorest actors, who are the least well endowed with the resources needed to oppose transactions.⁸

⁷ We cannot regard as equitable a situation where large sections of the population lack the minimum material conditions for existence (poverty and extreme poverty), since these people cannot fully develop their potential even if they are living in a democracy and enjoy individual freedoms.

⁸ One problem of equity often associated with the introduction of water markets derives from the original allocation of water rights. In many particular situations, rights initially go to the agents who

3. Water markets and environmental objectives

By environmental objectives we mean those concerned with the attainment of conditions for the sustainable exploitation of natural resources and for the proper conservation of environmental assets valued by present and future generations.

The relationship between environmental objectives and the functioning of the water market can be very complex. In an institutional context where environmental objectives are given no real expression either within institutions or among decision makers, the water market will tend to reflect this situation and is very unlikely to have positive environmental effects (Brisbane Institute, 2002). For example, if the overall effect of economic policies is to favour rapid economic growth with intensive use of contaminating processes, the existence of a water market will only amplify this, since water will be allocated to the activities favoured by these policies.

This general consideration notwithstanding, market mechanisms can be useful for attaining environmental objectives under various circumstances. For example, activating a water market is a very good way of dealing with growing demand for this resource. The traditional government response to growing demand has been to construct water control and distribution infrastructure. These projects have usually had a negative environmental impact, so the market solution is one option for avoiding or reducing effects of this kind.

A water market can also play an environmentally useful role, provided the necessary environmental institutions exist, in protecting certain habitats that are very important to different social groups. In developed countries it has happened that under certain circumstances these groups or the State have acquired water rights to ensure the conservation of particular ecosystems, without having to go through complex and very expensive administrative reallocation schemes. To do this, however, it is necessary for these groups actually to have purchasing power or for the State to have the fiscal resources for this type of operation. In developing countries there is very little scope for this.

are best placed, economically and politically, to claim them. There is no reason why this process should be equitable, and it may result in major social groups losing water access rights because they lack political or economic power. This possibility is not directly linked to the operation of the water market, but to the allocation of water rights. A reallocation of rights that did not entail market operations would come up against the same problem.

4. Multisectoral water management and the market mechanism

As was pointed out earlier, water is a mobile, multi-purpose resource that is used for virtually every important economic activity: energy, agriculture, industry, mining, fish farming, urban consumption and sanitation, recreation and so on. The greatest economic benefit that the existence of a market opens up is the opportunity to allocate this increasingly scarce resource to the activities society most values. Likewise, the potential gains from the functioning of a water market can also arise within specific sectors, where there might be great inefficiency in the allocation of water and large differences in the value society sets upon activities.⁹

Because of its special characteristics, water inevitably requires a management system that allows it to be used in an orderly and peaceful fashion in the face of multiple demands. In any water control and distribution system, technical decisions have to be taken at certain levels of the system in relation to the amount and quality of the resource; operation and maintenance; distribution of the water in accordance with established criteria; conflict resolution; penalization of actions by users that affect the normal allocation process, and other matters.

This range of functions cannot be dealt with spontaneously by individual users of a system. In some form or other there needs to be an "authority" to perform these functions and take the necessary decisions. Taken together, these short- and long-term decisions constitute what we know as water management, and this requires specific resources and technical, organizational and coordination capacities. The ways in which these functions are discharged in different settings may vary for legal and historical reasons, but the general effect will be to make orderly water use viable. It is now time to consider the advantages and disadvantages that might arise from the

introduction of market mechanisms for water management in particular contexts.

One of the clear advantages of operating a water market is that a price is generated for the resource (opportunity cost), something that cannot happen when allocation is administrative in nature. This information is very valuable for efficient water management, and the authority concerned will not have to generate any other information to be able to make decisions whose objective is efficient water allocation. If this is one of the objectives of the authority, having a water market in operation obviously creates a favourable setting within which to achieve it.

Another advantage of having a market operating is the way conflicts over water use between users of a given system can be managed, especially in conditions of extreme scarcity. In systems where allocation is administrative, many users will become extremely dissatisfied with their normal allocations at times of scarcity and will begin to put pressure on the distribution authority. When a market is operating, the different needs and preferences of users in a situation of scarcity can be processed through this market and the authority will not come under pressure that may ultimately weaken it and undermine its legitimacy. Also, if the market works well, the way it allocates water in a situation of extreme scarcity will probably be more efficient and equitable than would be the case with other methods.

The operation of a water market can create a favourable setting for the attainment of efficiency and equity. To achieve these objectives, however, it is also necessary to have some quite specific and complex management capabilities in place.

For the market to operate in an irrigation system, for example, users need to have their individual water rights clearly established and demarcated, and all transactions must be processed and implemented by the water distribution authority. In many cases the authorities are not capable of establishing individual water rights accurately, nor is it easy for them to reallocate individual holdings, owing to the physical constraints of irrigation systems. In these cases a market may not be viable, because the authorities lack the requisite management capabilities.

Likewise, there are conceivable circumstances in which the operation of a water market may give rise to conflicts and increase legal insecurity. If water rights are not clearly established and there are numerous externalities that are difficult to measure and compensate, there is the possibility of serious conflicts

⁹ In each of these activities, market mechanisms for water will be introduced under specific conditions. For example, in sectors where a natural monopoly is the rule (such as energy and drinking water), it is vital for the service provider to be properly regulated to ensure it does not abuse its dominant position. In this case the idea of a market in water rights within an area covered by a single provider does not make much sense; it might only do so were this provider to buy water from other providers or sectors, or sell it to other providers or sectors. The case of agriculture, though, offers a wider range of possibilities for the operation of water markets within the sector: conditions might be suitable for water rights to be traded within irrigated areas and, of course, between agriculture and other activities or other irrigated areas (Zegarra, 2003).

that could hugely complicate the management of a system instead of facilitating it.

These considerations indicate that the introduction of market mechanisms for water allocation must necessarily be accompanied by new capabilities and, in many cases, by greater regulatory and management powers for the authorities responsible for this resource. It should come as no surprise that water markets in developed countries are usually supervised closely by the authorities concerned. These authorities have the

power to block transactions that do not comply with certain technical or legal requirements, and to restrict the activity of the market when the public interest is in jeopardy. Even the distribution authorities chosen by users themselves have restrictive powers vis-à-vis the market, as a way of keeping to a minimum the number of transactions that have adverse effects on third parties. The following section will review some of the legal and regulatory requirements for a properly functioning water market.

IV

Regulatory requirements for the proper functioning of a water market in Peru

The first requirement for a water market to operate is obviously a legal one: a new law is needed establishing that water users may trade their water rights (and appropriate the benefits) under certain conditions, in permanent or temporary transactions, within a sector or between sectors. In a legal framework of this type, it is essential to establish an institutional system capable of generating certain elements that are important for the proper working of this market, particularly when it comes to managing and reducing externalities, lowering transaction costs and preventing the emergence of dominant positions in the market.

Firstly, it is necessary to identify the water rights concerned at the aggregate and individual levels, employing some objective parameter such as prior use. This is an extremely complex process in the case of agriculture, where access to water has been heavily distorted by interest groups and there are no proper records of individual or collective use. A complex and tricky task will have to be performed here, that of establishing a basic system of water rights for allocation, taking technical, social and even political factors into account. To this end it is clearly necessary to design a participatory model so that current users can show they have been making peaceful, continuous use of the resource. The establishment of a basic system of water rights is prior to and different from the process of actually awarding these rights.

For water rights to be awarded it is necessary to create and maintain an efficient public cadastre and register of them that gives users full legal security in

respect of their rights and enables these to be traded under suitable conditions. Furthermore, the authority responsible for granting water rights has to be able to formalize them reasonably quickly, thus avoiding situations in which rights are unstable once acquired, and to do so at a cost acceptable to users. These tasks, which are very onerous and involve large costs, will have to be performed in their totality by the political and technical authorities, since if this process of recognizing and registering water rights is not carried out then there is no prospect of an efficient water market operating.

In Peruvian agriculture, the great numbers and dispersion of water users suggests that it will not be possible to grant individual titles to farmers in the short term, or even perhaps in the medium term. The most advisable course, then, is to generate formal bulk water rights (*en bloque*), for example, at the level of irrigation committees (*comisiones de regantes*), which are smaller units within irrigation councils (*juntas de regantes*). Individual users may have individualized rights within these bulk rights, but these will be awarded by a process organized and financed by the irrigation organizations themselves.

Also fundamental to the operation of a water market is the regulatory system. As we have noted, externalities are one of the greatest problems with such a market (i.e., the positive or negative external effects that transactions may have on non-participating agents). It is necessary, therefore, to define clearly the powers the water authority has for making transactions

conditional on a commitment not to generate externalities, or to provide compensation for them, and for giving those potentially affected every opportunity and means to participate in the authorization of transactions. Furthermore, the authorities will have to be highly skilled at measuring the impact of externalities, something that entails better measuring mechanisms and more resources for carrying out studies and engaging specialist staff.

The subject of externalities is especially critical in the case of intersectoral transactions, and in situations where water is reused within the same sphere of use. In both cases it is necessary to have the technical capacity to establish and measure the impact of externalities, so that these can be taken into account when water right transactions are being authorized and negotiated.

Another basic element of regulation are rules to avoid situations of dominance in the water market. An important legal instrument for this purpose is the establishment of a **requirement of actual and beneficial use** of the water to prevent monopolization of and speculation with water rights and to create incentives for the market to operate more actively. In Peru there is a body responsible for combating monopolistic practices, the National Institute for the Defence of Competition and the Protection of Ownership (INDECOPI); this institution should establish additional parameters to avoid situations of this kind in particular cases.

The regulatory system also needs to give consideration to environmental issues. In Peru there has been a debate on environmental legislation and the instruments the State has at its disposal to attain environmental objectives. Under current legislation, ministries are also the environmental authority, a situation which is unfavourable to the attainment of these objectives. In the case of water, the most important issues are minimum quality standards and the actual ability of the authorities to enforce them. There seems to be a need to strengthen regulatory capabilities in this area by creating a single water authority to safeguard these standards. Another issue is the need to establish the minimum flows required for environmental purposes in rivers, and this could have some effect on the establishment of rights and the operation of the market.

Lastly, the operation of water markets will also have a significant impact on the way water is managed. In the case of agriculture, for example, the idea that access to water depends on a growing and irrigation plan or on what the farmer wishes to sow should be done away with. Moving from this concept to the idea that each user has a water allotment per hectare per year (proportional to the supply available that year, for instance) involves a very large shift in the way water is managed in the main irrigation systems of the Peruvian coast. This will necessitate training for the staff involved in water administration.¹⁰

V

Experience with water markets in other countries

There is not a large volume of research into the role and implications of water markets, largely because markets of this kind are not easily developed owing to institutional, economic and political factors (Young, 1986). Since the 1980s, however, interest in the subject has increased in both developed and developing countries. In developing countries it has been growing since Chile's water market was opened up in the 1980s, and the subject is now turned to more frequently both by international agencies and researchers and by political authorities and environmental activists, a trend which will probably continue or increase in future

given the need to find alternative institutional mechanisms for the efficient allocation and use of this vital resource (Lee and Juraslev, 1998).

At present, most of the theoretical and empirical literature on water markets comes from developed countries, particularly arid zones that are well developed economically such as the west and south-west United States, some regions in Spain, and Australia. Markets play an important role in the

¹⁰ Agriculture consumes 85% of water in Peru.

intersectoral distribution of water in these areas, whereby urban and industrial users acquire water from agriculture. There are also water markets within the agricultural sector in these areas, either for the trading of rights or for temporary leasing of water access. As regards Latin America, some important studies have been carried out in Chile and Mexico, countries where the water market is already a fact of life both in agriculture and in other sectors.

A review of the literature on the subject reveals that many of the authors concerned have begun to analyse in greater detail the advantages and disadvantages of introducing a market mechanism for water allocation at a time when shortages are increasing and the traditional administrative methods of allocation are breaking down. One of the arguments in favour of a market is that users (especially farmers) really are beginning to value water as an economic good whose efficient management can bring practical benefits. The market is also regarded as more effective at responding to the continuous changes that characterize the supply and demand of this resource (which is at once mobile and costly to measure and administer), as compared to the rigidity of traditional administrative allocation methods (Lee and Juraslev, 1998).

Some studies that merit particular attention when analysing water markets in developed countries are the recent one by Hanak (2002) for California, and the joint study by the Australian Academy of Technological Sciences and Engineering (ATSE, 1999) for Australia. Likewise, the studies of Colby, Randall and Bush (1993) present wide-ranging empirical information on the operation of water markets in the arid states of the United States and find shortcomings at different levels that limit the efficiency of these markets, although this does not mean they are less efficient than schemes of an administrative nature. These studies deal with fairly mature water markets whose complexities go far beyond anything yet seen in developing countries.

An interesting study of the working of a water market in United States agriculture is that of Miller

(1987), who carries out an empirical analysis of the conditions under which a water market controlled by the owners of the resource is more efficient than a largely unregulated market, owing to the problem of externalities among interdependent irrigation users in a given water distribution system.

Studies of the workings of water markets in Chile can be grouped into two clearly defined tendencies. One group of researchers believes that the water market in Chile has had quite positive effects in terms of efficiency (Hearne and Easter, 1995; Thobani, 1997), and that this contributed to the remarkable growth of the Chilean agricultural sector in the 1980s and 1990s.

Another group of researchers has been more cautious and suggested that the Chilean water legislation, with its clear preference for private rights, ended up by creating serious problems of hoarding and rigidity in the allocation of these rights that have not been and cannot be resolved by the market itself (Bauer, 1995; Solanes and Dourojeanni, 1995). The criticisms of this group are directed against shortcomings in the original allocation of rights and problems generated by private control of the resource, but not necessarily against the operation of the water market itself, which may be having positive effects despite its shortcomings and limitations.¹¹

¹¹ In my own research into the workings of a water market in agriculture, in the Chilean valley of Limarí (Zegarra, 2002), I found that this market had been beneficial for agricultural development in the region, but also that its functioning could be affected by the production structure of the valley and variability in the water supply, even within a highly regulated system. Indeed, the widespread cultivation of high-value permanent crops in the valley and the occurrence of a severe drought three years in a row gave rise to certain problems for the operation of the water leasing market, including highly volatile pricing and adverse effects on short- and long-term investment.

VI

Conclusions

The debate about a new water act that has been under way in Peru over the last decade indicates that the idea of introducing a market mechanism to allocate water rights is still highly controversial and very much associated with the idea of “privatization” of these rights, even though the two concepts are distinct. Protests have mainly come from agricultural users, who believe that a mechanism like that of the market would ultimately harm their interests, although they have not made it clear why this should be so.

This being the case, Peru needs to press on with a thorough debate about the advantages and disadvantages of introducing a market mechanism in the water management reform that is needed. Even if the idea is rejected, this rejection should not be formulated until the issue has been discussed in an informed way.

First of all, the current debate is still being influenced by that of the 1990s, when the proposal to create a water market was directly related to the model established by the legislation of Chile, where the introduction of a market mechanism was accompanied by water privatization. Furthermore, the original attempts to change the Peruvian water legislation were made in an increasingly authoritarian context, with little debate, so that users in the agriculture sector were left in great uncertainty about a potentially radical change in water access rules.

Thus, despite the renewal of democracy in Peru, where issues of this kind are the subject of national debate, the background referred to is still distorting the discussion of water legislation reform. Consequently, the first, indispensable task is one of conceptual clarification to draw a sharp distinction between the current proposals and those that prevailed in the 1990s (especially up to 1996) and to highlight the differences with the Chilean Water Code.

Secondly, the debate is still very polarized. For example, the subject of the water market is discussed as though there were just one single option, whereas there could be numerous formulas that included social regulation and oversight of this market in accordance with specific criteria.

The fact is that there are many possible types and degrees of markets for water, depending on the system

of water rights used and the institutional arrangements for managing and regulating these. The furthest-reaching option is a system of rights that can be bought and sold between and within sectors, and all of whose attributes are also tradable (leasing, mortgaging, option for future use), without the involvement of the administrative authority.

Intermediate or conditional formulas for the operation of water markets are more common in the developed countries. In particular, legislation may give the administrative authority a large share of decision-making power over intersectoral transactions, as very complex interests can be involved. The legislation may also give organized users themselves the power to limit transactions with other sectors or within each sector. Lastly, it may be stipulated that only a given attribute of the water right (such as temporary use, or leasing) can be traded, under set conditions defined by the user organization itself.

Looking ahead, another key challenge is to have the most thorough debate possible on the advantages and disadvantages of the water market in the case of agriculture, a sector which at present is radically opposed to this mechanism. What needs to be argued first and foremost is that this market should be subject to different degrees of administrative regulation and that it is possible to improve its functioning so that it is suited to the needs of agricultural producers in each particular case. Indeed, the very decision to introduce the market mechanism may be left for irrigation partnerships to take of their own accord, as happens in Spain.

What has to be explained, though, is that the opportunity for farmers to trade water among themselves does have some major advantages for them. The ability to quantify savings (efficiency gains) in water use creates a clear incentive to invest in techniques and practices that economize on this resource: without this incentive, farmers see no benefit from saving water and lack efficiency signals. In the face of serious soil degradation problems, this possibility is very attractive as a policy instrument. Likewise, a water market increases the overall efficiency of agricultural production in the face of large fluctuations in the water supply and gives farmers whose crops are more profitable but who are more exposed to risk when

water fails an additional instrument to protect themselves from this eventuality.

Furthermore, with a market that operates on the basis of clearly defined water rights, farmers in conflict have incentives to resolve their disputes through commercial negotiation, which reduces the pressure on the administrative system and means that it can be oriented more towards management issues.

Again, the effect that the workings of the water market have on the equity of an irrigation system depends primarily on how well or badly other markets function, like that for finance, and on how ownership rights are allocated in the first place.

Because water is used in almost all economic and productive activities, there needs to be a multisectoral system of regulation. Agriculture is just one of the customers for water, and although important, it has to coexist in harmony with other sectors that use it. There is no one "production chain" here, but a web of interaction between sectors and user types.

This makes a far more sophisticated institutional system vital, both to establish and manage water ownership rights and to allocate water within the system of rights and laws established. In this case, the best thing is to create multisectoral authorities at the river basin level, so that this additional complexity can be dealt with at the right socio-ecological and administrative level.

The argument of this paper, then, is that in Peru it would be advisable to work towards the introduction of market mechanisms for the allocation and management of water in the different sectors, including agriculture, where the country suffers particularly from serious problems of efficiency, equity and sustainability. A reform of this kind needs to be carried out carefully and without haste, and particular consideration should be given to the shortcomings of the State itself and of irrigation organizations, which need to play an active, voluntary role in the introduction of water trading methods.

Bibliography

- ATSE (Australian Academy of Technological Sciences and Engineering) (1999): *Water and the Australian Economy*, Parkville Vic, Australia, April.
- Bauer, C. (1995): *Property Rights, Environment and Market Institutions: Water Use, Law and Policy in Chile, 1979-1993*, Berkeley, University of California.
- Brisbane Institute (2002): *To Market, To Market. Why Dogma Hasn't Worked with Water*, Brisbane Institute, Brisbane, Australia, September.
- Colby, B. (1990): Transaction costs and efficiency in western water allocation, *American Journal of Agricultural Economics*, vol. 72, No. 5, Massachusetts, Blackwell Publishing, December.
- Colby, B., K. Randall and D. Bush (1993): Water right transactions: market value and price dispersion, *Water Resources Research*, vol. 29, No. 6, Florida, Water Resources Research Center.
- Donoso, G. (1994): Proyecto de reforma al código de aguas: ¿mejora la asignación del recurso?, *Panorama económico de la agricultura*, No. 92, Santiago, Chile, Universidad Católica de Chile, January/February.
- Hanak, E. (2002): *California's Water Market, By the Numbers*, Public Policy Institute of California, San Francisco, October.
- Hearne, R. and W. Easter (1995): *Water Allocation and Water Markets. An Analysis of Gains from Trade in Chile*, Technical Paper, No. 315, Washington, D.C., World Bank.
- Lee, T. and A. Juraslev (1998): *Los precios, la propiedad y los mercados en la asignación del agua*, Medio ambiente y desarrollo series, No. 6, LC/L.1097-P, Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), October.
- Miller, K. (1987): The rights to use versus the rights to sell: spillover effects and constraints on the water rights of irrigation organization members, *Water Resources Research*, vol. 23, No. 23, Florida, Water Resources Research Center.
- Solanes, M. and A. Dourojeanni (1995): Mercados de derechos de agua, *Debate agrario*, No. 21, Lima, Centro Peruano de Estudios Sociales (CEPES), May.
- Thobani, M. (1997): Formal water markets: why, when and how to introduce tradable rights in developing countries, *The World Bank Research Observer*, vol. 12, No. 2, Washington, D.C., World Bank, August.
- Young, R. (1986): Why are there so few transactions among water users?, *American Journal of Agricultural Economics*, vol. 68, No. 5, Menasha, Wisconsin.
- Zegarra, E. (1998): *Agua, Estado y mercado: elementos institucionales y económicos*, Lima, Ediciones ProA Sur.
- _____. (2002): *Water Market and Coordination Failures: The Case of the Limari Valley in Chile*, PhD dissertation, Wisconsin, University of Wisconsin-Madison.
- _____. (2003): Mercado de aguas y desarrollo agrario: explorando límites y posibilidades, *Debate agrario*, No. 36, Lima, Centro Peruano de Estudios Sociales (CEPES).



The export performance of Chilean firms: some stylized facts

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Although Chilean exports have performed well in recent decades, they are still largely confined to a few products, a few markets and a small number of firms. The present paper explores this last point, discussing the export behaviour of companies. The main stylized facts are as follows: only a small group of firms are capable of exporting on a permanent basis, and these companies are much larger and have much higher levels of productivity and human capital than the rest.

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I

Introduction

In the last decades of the twentieth century, the external sector of the Chilean economy was characterized by the strong expansion and diversification of exports. The increase in diversification can be appreciated not only in the lessening of the country's heavy dependence on copper exports, which dropped in relative terms from 80% of total exports in the early 1980s to less than 40% in the 1990s, but also in the increasing introduction of new products, the penetration of new markets and the rising number of companies entering international markets.

Between 1970 and 1989 the number of products exported rose from 1,200 to 1,490, and in the 1990-2002 period it rose from 2,300 to 3,750.¹ As for the penetration of new markets, the number of destination countries for Chilean exports rose from 31 in 1970 to over 150 in 2002.

Nonetheless, despite the positive trend of Chile's export performance, which is analysed in greater detail in section II, the data show that the country's exports remain largely confined to a few products, a few markets and a small number of firms. Indeed, 50% of Chilean exports are accounted for by 10 products, 5 markets and 25 companies (ProChile, 2002).

Closely related to this high concentration of exports among a few companies, markets and products is a phenomenon that has not been studied in Chile and that is the main focus of this paper: the existence of a large group of companies that have not succeeded in establishing themselves in international markets. Indeed, almost a third of businesses do not manage to carry on exporting for more than a year.²

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¹ The number of products exported in the years since 1990 cannot be compared with that of previous years because export records were switched in 1989 from the Brussels Tariff Nomenclature to the Harmonized Tariff System, which is more disaggregated.

Although there have been different studies into the impact that trade liberalization in Chile has had on growth and productivity,³ there is not much evidence about the causes of export dynamism. Some recent contributions are those of Agosin (1999), who studies the determinants of growth in manufacturing exports, and Gutiérrez de Pinheres and Ferrantino (1997), who analyse the macroeconomic factors that have influenced the diversification of Chilean exports.

Nonetheless, there is little empirical information about export performance at the company level. Two studies are exceptions here: that of Álvarez and Crespi (2000a and 2000b), which investigated the impact of the instruments administered by ProChile on the performance of companies and concluded that they had a positive effect on the businesses using them, increasing the number of markets and the value of exports; and that of Macario (2000), which uses a sample of exporters to investigate the factors underlying the decision to export, the potential benefits that could be internalized by exporters and the role that promotional instruments have had on export dynamism.

A line of research dealing with the microeconomic underpinnings of export performance has been developed over recent years, initiated by a World Bank project whose objective was to analyse the factors leading companies to make the decision to export, and the consequences of this decision (World Bank, 1996). One of the main conclusions of these studies is that entering international markets involves sunk costs so that companies, once they have become exporters, will tend to continue exporting even if conditions take a turn for the worse (Roberts and Tybout, 1997; Bernard and Jensen, 2001). As was shown in an earlier paragraph, though, the Chilean case contradicts this assertion. A large group of companies begin exporting but do not persist with it.

This being so, the objective of this paper is to determine the main stylized facts of Chilean

² This annual exit rate has tended to hold steady at around 30% in recent years, except 2000 when it was almost 40% (see table 8 below for details).

³ Such as Rojas, López and Jiménez (1997), García, Meller and Repetto (1996), Fuentes (1995), Figueroa and Letelier (1994), Marshall (1992) and Tybout, De Melo and Corbo (1991).

companies' export behaviour and draw some conclusions about the main factors that bring success in international markets.

Section II below analyses the background to Chile's current export performance. Section III looks

at the characteristics of firms that export and those that do not. Section IV presents the sources of the data and sums up the main stylized facts of company export performance in the 1990s, while section V sets forth the main conclusions.

II

The background to Chile's export performance

1. Export growth and diversification

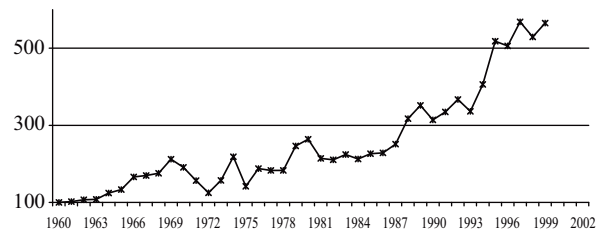
One of the main benefits of the trade liberalization that began in the 1970s was the lessening of the anti-export bias implicit in the import substitution model. Rationalization of the complex structure of trade barriers and the application of certain incentive policies opened the way for greater growth and diversification of Chilean exports. These policies included, in particular, the introduction of simplified refunds, the use of debt conversion programmes that facilitated foreign investment in the exportable sector, active State participation in the provision of information, subsidies in the forestry sector, and exchange-rate policy from 1982 onward (Agosin, 1999).

As figure 1 shows, exports grew very slowly prior to trade liberalization. From the mid-1980s onward, however, export sector growth was much higher than in previous decades. Between 1960 and 1973 average annual export growth was 3.5%, and in 1973-1983 the rate was similar, at 3.6% a year. Between 1983 and 2002, though, the most rapid growth in the export sector was seen, with an average annual rate of 5.5%.⁴

This export growth was accompanied by significant diversification.⁵ As table 1 shows, in 1960-1973 the mining sector generated over 80% of total Chilean exports. In the 1970s and 1980s, however, this share fell to 66.8% and 55.4%, respectively, and in the 1990s it fell below 50%. At the same time, sectors involved with the exploitation of natural resources

FIGURE 1

Chile: Exports, 1960-2002^a
(Index: 1960=100)



Source: Prepared by the author from Central Bank of Chile figures.

^a Nominal exports were deflated using the Central Bank of Chile external price index.

increased their exports sharply. Between the pre-liberalization period and the late 1990s the agricultural sector increased its share in Chilean exports from 3.2% to 10.1%, the fisheries sector from 1.8% to 3.9%, and the forestry sector from 1.9% to 7.9%. However, the greatest increase was experienced by manufacturing industry, whose share of total exports rose steadily from 10.1% to 41.9%.

2. Recent export performance

If we take only the 1990s, we can identify some additional characteristics of the Chilean export diversification process. On the whole, the economy was quite successful in exporting new products, opening up new markets and bringing new companies into the export process. Between 1990 and 2002, the number of products exported rose from 2,300 to 3,750, the number of destination markets from 129 to 158, and the number of export companies from 4,100 to 6,188 (table 2). These

⁴ See Ffrench-Davis (2002) for an analysis of the relationship between exports and growth in Chile.

⁵ Álvarez and Lemus (2001) found that exports had begun to diversify more slowly in the second half of the 1990s, which is consistent with the exchange-rate appreciation of the period.

TABLE 1

Chile: Exports by sector, selected periods
(Percentages)

Period	Mining	Agriculture	Fishing	Forestry	Manufacturing
1960-1973	86.5	3.2	1.8	1.9	10.1
1974-1980	66.8	5.5	4.0	7.3	27.0
1981-1990	55.4	10.2	7.4	7.9	32.3
1991-1999	45.9	10.1	3.9	7.9	41.9

Source: Álvarez and Lemus (2001).

TABLE 2

Chile: Export performance indicators, 1990-2002

Indicator	1990	1994	1998	2002
Companies	4 100	5 844	5 847	6 118
Products	2 300	3 622	3 828	3 750
Markets	129	141	172	158

Source: DIRECON (1999) and ProChile (2002).

export performance indicators are a substantial improvement on those of previous decades.⁶

Despite the progress with exports in Chile, these are still largely confined to a few products, a few markets and, above all, a small number of companies. As table 3 shows, just 25 companies generate almost half of all Chilean exports. If we add firms exporting between US\$ 10 million and US\$ 100 million worth of goods, less than 4% of companies account for more than 80% of total exports.

The degree to which exports are concentrated among a small number of products can be appreciated in table 4. Although the country exported over 3,800 products in 2002, 51.1% of exports were accounted for by the 10 main export products alone.

The situation has improved in relation to earlier decades, however. As table 5 shows, in 1970 the top 10 export products represented almost 90% of Chilean exports. This share had fallen to 70% by 1980 and 59.8% by 1994.

Table 6 shows that, although new markets have been opening up and exports now go to over 150 countries, some 50% of Chilean exports go to just five of these.

The historical comparison reveals that the concentration of exports in a small number of markets

has not changed significantly over time. As table 7 shows, during the “closed economy” period (1960-1973) the top five destination countries took 51.6% of Chilean exports. In 1991-1999, the share of these five markets averaged 48.9%.

3. Entry and exit of exporting firms

Despite the significant growth in the number of exporters, there is a disturbing phenomenon which is the main theme of this study. This is exporters’ lack of staying power in international markets. There is evidence that almost a third of companies that begin exporting do not continue to do so for more than a year. A similar proportion consists of firms that enter international markets without having exported the previous year. As table 8 shows, during 1995-1999 only 65% or so of approximately 6,000 exporters were companies that had been steady exporters for over a year.

The information given in this section reveals the existence of a phenomenon worthy of study. Although diversification indicators for Chilean exports have progressed positively and it is more or less generally agreed that the export sector is significantly more diversified now than in earlier decades, there are still some major problems, such as the high entry and exit level among export firms. Although studies have dealt with this subject in relation to other economies around the world, in Chile empirical evidence is lacking.

If export companies were better established, this could help reduce the concentration of Chilean exports by introducing new products and opening up new markets. As the following section shows, companies that export on a permanent basis sell more products in international markets and reach a larger number of markets. Thus, the connection between export diversification and the consolidation of companies as exporters consists in the fact that companies which are always exporting are better placed to bring new products and markets to the Chilean export basket.

⁶ See Ffrench-Davis and Sáez (1995).

TABLE 3

Chile: Number of companies and export share, 2002

Amount exported (dollars)	No. of companies	% of companies	Exports (millions of dollars)	% of exports
Less than 100 000	3 656	59.8	78.2	0.4
100 000 to 1 million	1 483	24.2	540.9	3.1
1 to 10 million	757	12.4	2 474.8	14.2
10 to 100 million	197	3.2	5 773.7	33.1
Over 100 million	25	0.4	8 562.6	49.1

Source: ProChile (2002).

TABLE 4

Chile: Main products exported, 2002
(Millions of dollars and percentages)

Product	Millions of dollars	%
Copper cathodes	4 095.3	23.5
Copper ores and concentrates	1 734.3	9.9
Fresh grapes	543.6	3.1
Coniferous cellulose, semi-bleached or bleached	497.9	2.9
Wines with denomination of origin	471.8	2.7
Boards sawn from pine	38.8	2.2
Fishmeal	318.3	1.8
Salmon fillets and meats, fresh or chilled	300.8	1.7
Methanol	300.4	1.7
Copper for refining	253.7	1.5
<i>Total</i>	<i>8 898.9</i>	<i>51.1</i>

Source: ProChile (2002).

TABLE 5

**Chile: Share of the 10 leading export
products, selected years**
(Percentages)

Year	%
1970	89.8
1980	70.0
1985	70.6
1990	67.5
1992	64.2
1993	59.5
1994	59.8

Source: Ffrench-Davis and Sáez (1995).

TABLE 6

Chile: Top destination markets, 2002

Country	Export share (%)
United States	19.8
Japan	10.8
China	7.0
Mexico	5.2
United Kingdom	4.9
<i>Total</i>	<i>47.7</i>

Source: ProChile (2002).

TABLE 7

**Chile: Export share of top destination
markets, selected periods**
(Percentages)

Period	5 countries	10 countries	15 countries	20 countries	25 countries
1960-1973	51.6	78.2	90.8	93.3	97.7
1974-1980	47.0	70.1	81.3	89.5	92.1
1981-1990	47.7	68.0	81.6	87.8	89.9
1991-1999	48.9	66.3	81.3	87.3	89.9

Source: Álvarez and Lemus (2001).

TABLE 8

Chile: Companies entering and exiting the export trade, 1995-2002
(Number of companies and percentages)

Year	Entering		Exiting		Constant		Total
	Number	Percentage	Number	Percentage	Number	Percentage	
1995	2 066	35.5	2 093	36.0	3 748	64.50	5 813
1996	2 094	36.1	2 102	36.2	3 711	63.90	5 805
1997	1 988	34.5	2 026	35.1	3 779	65.50	5 767
1998	2 007	34.3	1 927	33.0	3 840	65.70	5 847
1999	2 121	35.2	1 946	32.3	3 901	64.80	6 022
2000	1 826	32.2	2 182	38.5	3 840	0.68	5 666
2001	2 174	36.2	1 831	30.5	3 835	0.64	6 009
2002	2 164	35.4	2 055	33.6	3 954	0.65	6 118

Source: ProChile (2000 and 2002).

III

The characteristics of export firms

1. Data sources

To study the characteristics of companies and their export status, two complementary information sources are available. First, there are the export statistics of the Central Bank of Chile, using National Customs Department data. This database contains information on all exporters for the period 1991-1999, covering export performance variables such as the value of exports (measured in dollars), the number of destination markets (or countries exported to) and the number of products exported. The second source is the database of the Yearly National Industrial Survey (*Encuesta Nacional de Industria Anual*, ENIA) for the 1990-1996 period, which contains information on various company characteristics such as employment, value-added, sales and investment, which can be important in explaining their export performance.

One of the shortcomings of the first of these information sources is that importers returning goods are recorded as exporters in the data generated by the National Customs Department. This suggests that the number of export firms is being overestimated, particularly in the case of occasional exporters. Furthermore, it lacks information on variables other than the export behaviour of companies.

One failing of the ENIA is that it only has information on the value of exports and not on destination markets or the products exported. In addition, this survey is only applied to manufacturers.

For these reasons, the following analysis will use both sources of information in a complementary fashion.

2. Some stylized facts

The Central Bank information can be used to analyse the main characteristics of the entry and exit dynamic of export firms in the 1991-1999 period, identifying the main stylized facts of this.

To this end, companies that export have been divided into two groups: permanent exporters, defined as companies that have pursued their export activity in every year studied, and occasional exporters, i.e., those that enter international markets but then withdraw from them in a subsequent year.

a) A majority of firms are not permanent exporters

One of the main stylized facts is that the company entry and exit rate is quite high. During the 1991-1999 period, in fact, just 6% of companies can be classified as permanent exporters, while the other 94% are occasional exporters (table 9).

As the period of analysis is reduced, however, and the criterion for defining permanent exporters is accordingly relaxed to some degree, the proportion of such firms in the total rises. In fact, the shorter the time interval analysed, the higher the percentage of companies that can be defined as permanent exporters. If the 1996-1999 period is taken, 23% of companies exported in every year of the period and 77% did so

TABLE 9

Chile: Exporters by category and period
(Number of companies and percentages)

Period	Occasional		Permanent		Total No.
	No.	%	No.	%	
1991-1999	16 255	94.1	1 015	5.9	17 270
1992-1999	14 597	92.4	1 198	7.6	15 795
1993-1999	13 016	90.2	1 420	9.8	14 436
1994-1999	11 487	87.3	1 667	12.7	13 154
1995-1999	9 739	83.3	1 949	16.7	11 688
1996-1999	7 897	77.3	2 326	22.7	10 223

Source: Prepared by the author from Central Bank of Chile statistics.

occasionally. Although the percentage of occasional exporters is lower in this case, it remains large.

b) *The evidence is similar at the sectoral level*

A second stylized fact is that at the sectoral level, likewise, it transpires that most firms that export do so only occasionally.

Nonetheless, some differences should be pointed out. As table 10 shows, in the 1991-1999 period about 18% of export firms in the copper and iron sector could be classified as permanent exporters. Other sectors in which permanent exporters represented a large share were non-ferrous metals (14.2%), petroleum and its derivatives (12.9%), plastics (11.5%), paper and cellulose (11.1%) and other ores and stones (11%). In sectors such as services, wooden furniture, transport equipment and coal, by contrast, the overwhelming majority of exporters were occasional.

c) *There are differences between companies at the outset of the export process*

A third important characteristic is that companies defined as permanent exporters have better export performance indicators at the outset than companies that are occasional exporters.

Table 11 shows the results of comparing the two groups of companies over the whole of the 1991-1999 period and a more recent period, 1996-1999. For both periods, exporters were classified as occasional and permanent, as the case might be, and then a mean difference test was carried out for three initial export performance indicators: value of exports, destination markets, and number of products exported.

For all the indicators analysed, the initial performance of permanent exporters was better than that of occasional exporters. In all cases, furthermore, the mean difference was statistically significant.

TABLE 10

Chile: Exporters by category and sector, 1991-1999
(Percentages)

Sector ^a	Description	Occasional (%)	Permanent (%)
111-130	Agriculture and fishing	92.3	7.7
220	Copper and iron	82.1	18.0
212	Coal	100.0	0.0
230-240	Other ores and stones	89.0	11.0
311-313	Food, drink and tobacco	90.1	9.9
321	Textiles	94.3	5.7
322	Wearing apparel, except footwear	97.0	3.0
323-324	Leather products and footwear	93.7	6.3
331	Wood products, except furniture	94.0	6.0
332	Furniture, except metal	98.7	1.3
341	Paper and cellulose	88.9	11.1
342	Printing and publishing	94.8	5.2
351-352	Chemicals	91.1	8.9
353-354	Petroleum and derivatives	87.1	12.9
361	Pottery	95.7	4.3
362	Glass	88.5	11.5
369	Other	92.1	7.9
371	Basic iron and steel industries	93.0	7.0
372	Non-ferrous metals	85.9	14.2
381	Metal products	93.8	6.2
382	Machinery, except electrical	96.8	3.3
383	Electrical machinery and equip.	96.7	3.3
384	Transport equipment	99.4	0.6
385	Professional and scientific equip.	96.4	3.6
390	Other industries	95.5	4.5
900	Services	97.6	2.4

Source: Prepared by the author from Central Bank of Chile statistics.

^a According to the International Standard Industrial Classification of All Economic Activities (ISIC).

In the 1991-1999 period, permanent exporters exported an average of US\$ 3.4 million more in the first year (1991) than those that failed to establish themselves in international markets. Furthermore, they had almost three destination markets more and exported three additional products. The results are similar if the period of comparison is 1996-1999, except for the products exported, the difference between permanent and occasional exporters here being not three but over four products.

d) *The market effect does not seem to be important*

Whether a company is a permanent or occasional exporter could have something to do with the export market being served. This market effect would arise if some countries made greater use of protectionist trade policies that were detrimental to the participation of Chilean companies in international markets.

TABLE 11

Chile: Performance indicators by company category, selected periods

Variable	Permanent	Occasional 1991-1999	Difference ^a	Permanent	Occasional 1996-1999	Difference ^a
Exports ^b	4.6	1.1	3.4 (2.38)	4.9	1.4	3.5 (2.39)
Markets	4.7	1.8	2.9 (27.86)	4.6	1.6	3.0 (27.11)
Products	7.0	3.9	3.1 (10.02)	7.9	3.6	4.3 (12.02)

^a The figures in brackets are equal mean t statistics.

^b Measured in millions of current dollars.

TABLE 12

World: Distribution of occasional and permanent exporters among Chile's trading partners, 1991-1999

Trading partner	Occasional		Permanent		Total No.
	No.	%	No.	%	
European Union	2 357	93.3	170	6.7	2 527
North American Free Trade Agreement	3 009	92.6	241	7.4	3 250
Mercosur	4 668	95.9	202	4.1	4 870
Rest of Latin America	4 905	95.3	240	4.7	5 145
Japan	379	82.8	79	17.2	458
Other Asia ^a	270	93.4	19	6.6	289
Rest of world	667	91.2	64	8.8	731
<i>Total</i>	<i>16 255</i>	<i>94.1</i>	<i>1 015</i>	<i>5.9</i>	<i>17 270</i>

Source: Prepared by the author from Central Bank of Chile statistics.

^a Includes China, Indonesia, Malaysia, Philippines, Republic of Korea, Singapore, Taiwan Province of China and Thailand.

To analyse this, companies were classified by the main destination markets for Chilean exports. Although a company may export to several countries, in this case the classification was based on the main destination country of each firm's exports.⁷ According to table 12, the phenomenon described does not seem to arise. The exception is Japan, where the proportion of permanent exporters is higher (17.2%), but in the case of Chile's other trading partners the distribution is similar between the two groups of companies.

It could be surmised that a large percentage of occasional exporters were carrying out "border trade", a transitory form of small-scale trading that depends on fortuitous circumstances and is not necessarily

driven by business strategies and/or comparative advantage.⁸ If this were so, the likelihood of being an occasional exporter would be greater if the company concerned exported mainly to neighbouring or nearby countries. And in fact, the percentage of Chilean exporters that fail to establish themselves is higher among those which sell to Mercosur and other Latin American countries, and the differences are statistically significant, albeit not large.⁹

⁸ I am indebted to Dominique Hachette for this point.

⁹ To explore this phenomenon, a probit model was estimated with a dichotomous dependent variable of 1 for permanent exporters and 0 for the rest (occasional exporters). A categorical market variable was included as an explanatory variable. The parameters for Mercosur and the other Latin American countries were negative and significant, but yielded a small difference of only 2 to 3 percentage points.

⁷ For example, a company exporting mainly to Argentina is classified as an exporter to Mercosur.

TABLE 13

Chile: Classification of companies by export status, by sector
(Percentages)

Sector	Non-exporters	Occasional exporters	Permanent exporters	Occasional exporters as proportion of the total
Foods	77.1	17.4	5.5	76.0
Fodder	59.6	30.3	10.1	75.0
Beverages	54.5	30.4	15.2	66.7
Tobacco	20.0	80.0	0.0	100.0
Textiles	71.6	22.7	5.7	79.9
Wearing apparel	79.7	18.6	1.7	91.7
Leather products	63.5	32.4	4.1	88.9
Footwear	70.3	25.2	4.5	84.8
Wood, exc. furniture	70.6	23.9	5.5	81.2
Furniture, exc. metal	85.0	12.4	2.6	82.9
Paper and cellulose	48.5	39.8	11.7	77.4
Printing and publishing	81.3	17.3	1.4	92.3
Industrial chemicals	48.1	36.8	15.1	70.9
Other chemicals	49.8	37.0	13.2	73.6
Petroleum refineries	0.0	0.0	100.0	0.0
Petroleum derivatives	42.9	42.9	14.3	75.0
Rubber products	71.1	18.4	10.5	63.6
Plastic products	67.3	28.3	4.5	86.4
Pottery	70.0	16.7	13.3	55.6
Glass	47.6	23.8	28.6	45.5
Other non-metal ores	89.0	8.6	2.4	78.3
Basic iron and steel inds.	64.6	20.8	14.6	58.8
Non-ferrous metals	37.5	41.1	21.4	65.7
Metal products	80.4	16.8	2.8	85.7
Machinery, exc. electr.	77.9	18.5	3.7	83.3
Machinery, electrical	52.9	38.8	8.2	82.5
Transport equipment	74.6	23.1	2.4	90.7
Prof. and scientific equip.	54.5	36.4	9.1	80.0
<i>Total</i>	<i>73.0</i>	<i>21.5</i>	<i>5.6</i>	<i>79.4</i>

Source: Prepared by the author from ENIA information.

e) *The evidence is similar in manufacturing industry*

Using ENIA information prepared by the National Institute of Statistics for all the years from 1990 to 1996, a third group of companies can be added, those that do not export.

Table 13 shows the threefold distribution of manufacturing firms by export status. Most companies in the industrial sector (73%) are not exporters, 21.5% export occasionally and just 5.6% can be categorized as permanent exporters. If only companies that do export are taken, almost 80% are not permanent exporters.

This result for manufacturing industry is consistent with that for exporters generally (see table 9 above). Using ENIA data, which do not include the importers categorized as exporters in the Central Bank information, it is still valid to say that a majority of exporters are firms which are unable to maintain themselves in international markets. In other words, the large presence of occasional exporters is found

irrespective of the database used to define the two groups of companies and the period considered.

When the distribution of companies by sector is analysed, it can be inferred that, with a few exceptions, most exporters are occasional.

There is a possibility that the proportion of exporters that are occasional is being exaggerated because some of them are companies which have not only ceased to export, but have left the market.¹⁰ If we only consider companies that remained in the market for the seven years studied, the proportion of exporters failing to establish themselves does fall, but remains high.

Taking companies that remained in the market for the full period in relation to the whole sample, the percentage of non-exporters falls from 73% to 64.2%,

¹⁰ I am indebted to Bernardita Escobar for this point.

that of occasional exporters rises from 21.5% to 23.1%, and that of permanent exporters rises to 12.7%. This means that, even considering the group of firms that survived for the whole study period, most companies

that export do so only occasionally. The main reason for this predominance of occasional exporters is that companies leaving the market have mainly been non-exporters.

IV

Comparative performance across groups of companies

Different empirical studies have confirmed that exporters evince better characteristics than companies that sell only in the domestic market. On the whole, exporting firms are larger, more productive and more capital- and technology-intensive, and pay higher wages.¹¹

To assess whether this held true for Chile, the characteristics of manufacturing firms were studied in the three groups defined earlier. Figure 2 shows some indicators of size, productivity and physical capital density for non-exporters, occasional exporters and permanent exporters.

The indicators of size, such as sales and employment, show that permanent exporters are “larger” than companies that do not export or do so only occasionally. Non-exporters and occasional exporters are only about 20% and 40% as large, respectively, as permanent exporters.

As regards labour productivity, measured by value-added per worker and the average wage, the differences between groups of companies are also quite large. Permanent exporters are “more productive” than companies which export occasionally and, to an even greater degree, than non-exporters. These productivity differences could be due to disparities in capital-intensiveness. Figure 2 shows that permanent exporters are more capital-intensive than occasional exporters and non-exporters.

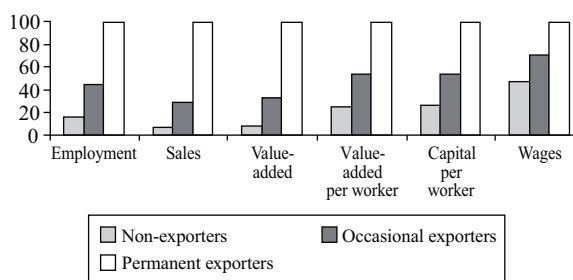
Following Bernard and Jensen (1999),¹² the following calculation was made to check whether

¹¹ A variety of studies document this: for example, Bernard and Jensen (1999) for the United States, Bernard and Wagner (2001) for Germany, Isgut (2001) for Colombia and Baldwin and Gu (2003) for Canada.

¹² By contrast with the present work, the authors cited apply the methodology to just two groups of companies, exporters and non-exporters.

FIGURE 2

Chile: Comparative performance by company type, 1990-1996 average
(Index: Permanent exporter = 100)



Source: Prepared by the author from ENIA information.

permanent exporters performed significantly better than the rest when a broader range of indicators was used:

$$Y_{it} = \alpha_0 + \alpha_1 D_i^{ES} + \alpha_2 D_i^P + \alpha_3 Z_{it} + \varepsilon_{it}$$

where Y is some variable that is characteristic of the company (measured as a logarithm), D^{ES} is a categorical variable if the company is an occasional exporter, D^P is a categorical variable if the company is a permanent exporter, Z is a vector of control variables, such as year and production sector, i denotes the company and t the year. Companies are compared by including a categorical variable by sector, considering the differences associated with the sector they belong to. In other words, what is analysed is whether exporters display better characteristics than non-exporters within a given sector. The sectors are taken from the three-digit International Standard Industrial Classification of All Economic Activities (ISIC).

If α_j is positive, we can infer that occasional exporters perform better than non-exporters.

Analogously, if α_2 is positive and greater than α_1 , then permanent exporters have superior characteristics to occasional exporters and non-exporters.

The results of the estimates are given in table 14. The second column of the table shows the parameter associated with the variable which identifies occasional exporters (α_1), while the third column shows the parameter of the variable identifying permanent exporters (α_2). The last column shows the difference between the two parameters ($\alpha_2 - \alpha_1$). This difference can be interpreted as a kind of "reward" for a company's establishing itself as an exporter by moving from occasional exporting to permanent exporting.

The results of the estimates show that the parameter α_1 is always positive and significant, allowing us to infer that occasional exporters perform better than non-exporters. In terms of size, the former have almost twice as many workers and generate

TABLE 14
Chile: Comparison of characteristics across groups of companies^{a b}
(1990-1996 average)

Variable	Occasional exporters	Permanent exporters	Difference
Total employment	0.92 (79.07)	1.78 (99.13)	0.86
Value-added	1.38 (77.96)	2.70 (97.97)	1.32
Sales	1.37 (78.78)	2.65 (99.17)	1.28
Gross value	1.33 (7.65)	2.57 (98.18)	1.24
Capital stock	1.59 (70.14)	3.01 (90.97)	1.42
Value-added per worker	0.47 (40.51)	0.92 (51.15)	0.47
Gross value per worker	0.41 (38.38)	0.78 (47.44)	0.37
Sales per worker	0.43 (37.66)	0.85 (47.89)	0.42
Average pay	0.32 (45.80)	0.62 (58.17)	0.30
Average white-collar pay	0.45 (50.30)	0.82 (59.46)	0.37
Average blue-collar pay	0.20 (30.53)	0.43 (42.15)	0.23
Capital per worker	0.69 (42.54)	1.24 (50.04)	0.55
Skilled staff as proportion of total	0.09 (9.12)	0.20 (13.58)	0.11
Expenditure on sales licences	0.06 (2.11)	0.11 (2.48)	0.05 ^c

^a The figures in brackets are t statistics.

^b The table does not include the parameters of the constant term or the categorical variables by production sector.

^c Not significant at 5%.

TABLE 15

Chile: Comparison of initial characteristics across groups of export companies^{a b}

Variable	Occasional exporters	Permanent exporters	Difference
Total employment	0.89 (26.8)	1.73 (35.9)	0.84
Value-added	1.41 (27.5)	2.68 (36.0)	1.27
Sales	1.37 (28.5)	2.59 (37.0)	1.22
Gross value	1.30 (27.6)	2.48 (36.0)	1.18
Capital stock	1.53 (25.3)	2.91 (33.1)	1.38
Value-added per worker	0.52 (15.5)	0.95 (19.4)	0.43
Gross value per worker	0.42 (14.1)	0.75 (17.3)	0.33
Sales per worker	0.47 (14.6)	0.84 (18.0)	0.37
Average pay	0.34 (17.2)	0.64 (22.4)	0.30
Average white-collar pay	0.50 (19.1)	0.90 (23.6)	0.40
Average blue-collar pay	0.22 (11.8)	0.43 (16.1)	0.21
Capital per worker	0.67 (14.7)	1.21 (18.4)	0.54
Skilled staff as proportion of total	0.09 (3.6)	0.19 (5.1)	0.10
Expenditure on sales licences	0.05 (2.1)	0.09 (2.8)	0.04 ^c

^a The figures in brackets are t statistics.

^b The table does not include the parameters of the constant term or the categorical variables by production sector.

^c Not significant at 5%.

approximately two to three times more value-added, gross output value and sales. Their capital stock is 2.6 times that of a non-exporting company. Their labour productivity, measured as value-added per worker, gross value per worker or sales per worker, is 40% to 50% higher than that of non-exporters and this, as might be expected, enables them to pay wages 32% higher on average (45% in the case of white-collar workers and 20% in that of blue-collar workers). The fact that the productivity of occasional exporters is higher than that of non-exporters could be due to the former having more capital per worker (69% more) and greater human capital density. The share of (skilled) white-collar staff in total employment is 9% higher. Lastly, there are also major differences in technology density. Occasional exporters spend 0.06 percentage points more on sales licences than non-exporters.

The comparison between export firms shows that permanent exporters have better characteristics than occasional exporters. The estimates indicate that the parameter α_2 is positive, significant and greater than α_1 . Companies that export permanently generate 86% more employment and between 120% and 130% more output and sales than occasional exporters; they are also between 40% and 50% more productive and pay wages that are 20% to 40% higher. Their capital per worker is almost 60% greater and their human capital density is 11% higher. In this comparison, no statistically significant disparities are observed in expenditure on licences between occasional and permanent exporters.

V

Conclusions

The export performance of Chile since the mid-1980s has been particularly successful, displaying strong growth and a trend towards greater diversification. Nonetheless, as the preceding sections have demonstrated, the external sector is still largely confined to a small number of markets, products and companies. This clearly shows that a number of challenges will have to be met if the country is to attain an export structure that is much more diversified, and thus less exposed to international fluctuations.

In this study we have analysed one aspect that yields important information for improving the trading position of the Chilean economy. We have concentrated on the export behaviour of companies with a view to identifying some of the stylized facts of this, impelled by the knowledge that there is a considerable group of companies which do not succeed in exporting permanently. According to the evidence presented, this problem of staying power is to be found in most export sectors, and is independent of the period studied and the information sources used.

Why might this be important? As has been shown here, companies that export permanently do so to more markets and sell more products internationally. The more new firms are able to establish themselves as exporters, the greater the likely diversification of Chilean exports.

As was shown earlier when the variables relating to initial export performance were compared, the differences between the groups of companies are already evident at the beginning of the period, and not just when all the years studied are averaged out. Table 15 shows that, according to most indicators, permanent exporters were already performing better than occasional exporters and non-exporters in 1990.¹³ These results suggest there is a positive correlation between companies' performance and their export status. The companies that establish themselves in international markets are those that are larger and more productive, possess more physical and human capital and can pay higher wages.

A second aspect that emerges from this study are the considerable differences between company types. In general (and this is consistent with a number of studies in other economies), exporters display better indicators than non-exporters in terms of size, productivity, workforce skills and technological innovation. In this paper we found not only that these differences existed in Chile, but that there were major differences between different types of exporters.

Although the evidence presented is far from establishing a causal relationship, these findings are consistent with the idea that export performance is strongly related to certain characteristics of companies; in other words, it is only "good" companies that succeed in exporting and sustaining a presence in international markets. Thus, when formulating policies to improve the trading position of the Chilean economy, it is necessary to bear in mind that certain characteristics of companies, such as productivity, human capital and technological innovation, are crucial to future exporting success, and that improving these variables is a necessary condition for better export performance.

¹³ The difference from the earlier estimate is that the categorical variable by year is not included, but all the variables being compared are measured for the starting year.

Bibliography

- Agosin, M. (1999): Trade and growth in Chile, *CEPAL Review*, No. 68, LC/G.2039-P, Santiago, Chile, August.
- Álvarez, R. and G. Crespi (2000a): Efecto de las políticas de fomento en el dinamismo exportador chileno, *El trimestre económico*, vol. 67(4), No. 268, Mexico City, Fondo de Cultura Económica, October/December.
- _____. (2000b): Exporter performance and promotion instruments: Chilean empirical evidence, *Estudios de economía*, vol. 27, No. 2, Santiago, Chile, University of Chile, December.
- Álvarez, R. and A. Lemus (2001): ¿Se ha detenido el proceso de diversificación de las exportaciones chilenas durante los noventa?, *Estadística y economía*, No. 21, Santiago, Chile, National Institute of Statistics (INE).
- Aw, B.Y., S. Chung and M. Roberts (1998): *Productivity and the Decision to Export: Micro Evidence from Taiwan and South Korea*, Working Paper, No. 6558, Cambridge, Massachusetts, National Bureau of Economic Research (NBER), May.
- Baldwin, J.R. and W. Gu (2003): Export-market participation and productivity performance in Canadian manufacturing, *The Canadian Journal of Economics*, vol. 36, No. 3, Oxford, Blackwell Publishing.
- Bernard, A. and J.B. Jensen (2001): *Why Some Firms Export*, Working Paper, No. 8349, Cambridge, Massachusetts, National Bureau of Economic Research (NBER), July.
- _____. (1999): Exceptional performance exporter: cause, effect or both?, *Journal of International Economics*, vol. 47, No. 1, Madison, Wisconsin, University of Wisconsin.
- Bernard, A. and J. Wagner (2001): Export entry and exit by German firms, *Weltwirtschaftliches Archiv*, vol. 37, No. 1, Kiel, Kiel Institute for World Economics.
- Clerides, S., S. Lach and J. Tybout (1998): Is learning by exporting important? Micro-dynamic evidence from Colombia, Mexico, and Morocco, *The Quarterly Journal of Economics*, vol. 113, No. 3, Cambridge, Massachusetts, The MIT Press, August.
- DIRECON (Dirección General de Relaciones Económicas Internacionales) (1999): *Informe de comercio exterior de Chile*, Santiago, Chile, Ministry of Foreign Affairs.
- Ffrench-Davis, R. (2002): The impacts of exports on growth in Chile, *CEPAL Review*, No. 76, LC/G.2175-P, Santiago, Chile, April.
- Ffrench-Davis, R. and R. Sáez (1995): Comercio y desarrollo industrial, *Colección Estudios CIEPLAN*, No. 41, Santiago, Chile, Economic Research Corporation for Latin America (CIEPLAN), December.
- Figueroa, L. and L. Letelier (1994): Exportaciones, orientación al comercio y crecimiento: un enfoque de cointegración, *Cuadernos de economía*, No. 94, Santiago, Chile, Universidad Católica de Chile, December.
- Fuentes, R. (1995): Openness and economic efficiency: evidence from the Chilean manufacturing industry, *Estudios de economía*, vol. 22, special issue, Santiago, Chile, Universidad de Chile, December.
- García, P., P. Meller and A. Repetto (1996): Las exportaciones como motor del crecimiento: la evidencia chilena, in P. Meller (ed.), *El modelo exportador chileno: crecimiento y equidad*, Santiago, Chile, Economic Research Corporation for Latin America (CIEPLAN), May.
- Gutiérrez de Pinheres, S. and M. Ferrantino (1997): Export diversification and structural dynamics in the growth process: the case of Chile, *Journal of Development Economics*, vol. 52, No. 2, Amsterdam, Elsevier Science, April.
- Isgut, A. (2001): What's different about exporters? Evidence from Colombian manufacturing, *The Journal of Development Studies*, vol. 37, No. 5, London, Frank Cass Publishers, June.
- Macario, C. (2000): Chile: In search of a new export drive, in C. Macario (ed.), *Export Growth in Latin America: Policies and Performance*, Boulder, Colorado, Lynne Rienner Publishers/Economic Commission for Latin America and the Caribbean (ECLAC).
- Marshall, I. (1992): Liberalización comercial en Chile y su impacto sobre la eficiencia técnica industrial: 1974-1986, *Colección de estudios CIEPLAN*, No. 35, Santiago, Chile, Economic Research Corporation for Latin America (CIEPLAN), September.
- ProChile (Dirección de Promoción de Exportaciones) (2000): *Análisis de las exportaciones chilenas*, Santiago, Chile, Ministry of Foreign Affairs.
- _____. (2002): *Análisis de las exportaciones chilenas*, Santiago, Chile, Ministry of Foreign Affairs.
- Roberts, M. and J. Tybout (1997): The decision to export in Colombia: an empirical model of entry with sunk costs, *The American Economic Review*, vol. 87, No. 4, Nashville, Tennessee, American Economic Association.
- Rojas, P., E. López and S. Jiménez (1997): Determinantes del crecimiento y estimación del producto potencial en Chile: el rol del comercio internacional, in F. Morandé and R. Vergara (eds.), *Análisis empírico del crecimiento en Chile*, Santiago, Chile, Centro de Estudios Públicos (CEP).
- Tybout, J., J. De Melo and V. Corbo (1991): The effects of trade reforms on scale and technical efficiency: new evidence from Chile, *Journal of International Economics*, vol. 31, Madison, Wisconsin, University of Wisconsin.
- World Bank (1996): *Micro Foundations of Successful Export Promotion*, RPO 679-20, Washington, D.C.




Measuring technological capabilities in Mexican industry

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This paper is a methodological and analytical contribution to a line of research whose objective is to construct representative indices of the technological capabilities of Mexican manufacturing establishments. It also examines the distribution of these capabilities in such establishments and their association with performance variables in a sample of 1,818 firms. Factor analysis was used to identify four factors expressing the main sources of learning in manufacturing industry: i) training policy, ii) continuous improvement innovation, iii) information and documentation systems, and iv) investment in new technologies. Grouping analysis was used to identify four groups of establishments on the basis of points scored per factor and to examine their performance indicators. There was found to be a positive association between technological capabilities and performance in three of the five indices: profit margins, labour productivity and technical change.

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I

Introduction

There is increasing agreement that the heterogeneity of businesses in developing countries has major consequences. This paper argues that analysing the technological capability levels of establishments is useful for understanding the origins of the differences they display. These differences play a central role in evolutionary process theory, which highlights the importance of learning in the generation of technical change (Nelson and Winter, 1982). According to this theory, individuals, establishments and national economies will create and gain access to wealth in accordance with their learning capacity (Lundvall, 1992). It calls into question the simplistic view that the meaning of technology comes down to machinery or manuals setting out the steps to be followed. On the contrary, what technology means above all is the transmission of knowledge between different agents; it is characterized by having tacit components of knowledge specific both to individuals and to the internal practices of the business generating it; and it is developed through seeking and learning procedures whose aim is to improve production efficiency, generate new products and introduce organizational methods. By contrast with traditional approaches, it is argued, technological development in industry should not be seen as a process that can only be driven by investment in new equipment and imported technology. For technology to be assimilated, properly operated and improved, establishments need to execute deliberate technological learning investments and actions. Consequently, it is not enough just to buy machinery or arrange for technology transfer to narrow the international technology gap. Establishments need to research the technology, understand it and document it if they are to absorb and improve it.

Similarly, Bell and Pavitt (1992) cast doubt on the distinction between innovation and dissemination. They argue that dissemination entails far more than acquiring machinery and the technological know-how that goes with it, as it also involves continuous and often incremental technical change to adapt to specific situations and attain higher performance standards. They distinguish three stages in the dynamic of technical change in developing countries: in the first,

technology is adopted through the incorporation of new equipment and then the original technology is adapted or improved as the specific situation requires; in the second, there is an effort to improve on the initial level of efficiency and the technology is modified in response to changes in input and product markets. The two stages described require a continuous accumulation of knowledge and skills. In the third stage, establishments can draw on the know-how, experience and new skills acquired to introduce more substantial technical change. The authors cited define technological capabilities as the skills needed to generate and administer technical change, including techniques, know-how and experience different from those required to operate technical systems.

Numerous studies show that the ability to learn and accumulate technological capabilities is what underlies the competitiveness of highly developed countries (Lundvall, 1992). It has also been shown that the export success of South-East Asian manufacturers, particularly those of Korea and Taiwan, has been built not only on systems of market policy or technology imports, but also on the range of strategic measures introduced alongside these to increase the learning capacity of firms (Pack and Westphal, 1986; Fransman and King, 1984; Amsden, 1992). In the case of Latin America, there are now a number of studies showing, for certain sectors of industry, how technological learning takes place in establishments and what effects it has on modernization (Katz, 1997 and 1987). Cimoli (2000) analysed different aspects of the national innovation system in Mexican industry.

The evidence provided by these studies is valuable, as they were the first to examine the conditions required for innovation in a systemic, detailed way. Thanks to them a diagnosis is now available of the establishments that have most influence on the economy and that constitute one of the pillars of the national innovation system. Nonetheless, while there are studies dealing with the construction of indicators using different sources and methodologies, there has been less progress in constructing company-level indicators derived from samples of a significant size; this might enable the accumulation of

technological capabilities to be elucidated with accuracy.¹ These indicators of technological capabilities in establishments could help to determine, more precisely than case studies can, the factors underlying the differences between establishments and the effects these have on their performance.

This paper aims to make progress in this direction, i.e., to develop indicators that can be used to measure technological capabilities in Mexican industry.² The idea is to identify the learning activities that most contribute to the capacity to administer and generate technical change in Mexican manufacturing establishments. The challenge lies in the difficulty of capturing the concept of technological capabilities in all its complexity, as it covers many different aspects. This means that some method has to be used to achieve a degree of simplification. We believe that the right statistical technique is factor analysis, which can represent relationships between sets of interrelated variables and explain complex concepts without

imposing a predetermined structure. The objective is to provide tools for the analysis of technological capabilities by means of one or more indices, drawing on the work of Bell and Pavitt (1992) and Lall (1992).³

A second objective of this study is to identify clusters or groups of establishments by technological capability level, with a view to ascertaining the extent to which the levels of each group are associated with significant differences in performance.

This paper has five sections. This introduction (section I) is followed by a brief review of recent studies on the construction of technology indices (section II). The methodology that was used to prepare the technological capability indices is described in section III. Section IV analyses these indices and the characteristics of the groupings of industrial enterprises created on the basis of the indices calculated, and presents some performance measures for groups with different technological capability levels. Lastly, section V presents the conclusions.

II

Constructing technology indicators or indices: recent contributions

This section will review some of the most influential studies in this area. They present different ways of quantifying the technological capabilities of establishments, along with estimates for composite indices. Many of these studies draw on the work of Bell and Pavitt (1992) and, in particular, the taxonomy devised by Lall (1992), who suggests ways of classifying the technological capabilities developed by establishments with a view to assimilating, adapting and improving the technology acquired. This taxonomy distinguishes between investment, production and linkage capabilities. For Lall, investment capabilities are the skills needed to identify, prepare and obtain technology for the design, construction, equipping and staffing of a new project. The capital costs of the

project depend on the scale of production, the composition of the range of goods produced, the technology chosen and the company's understanding of the technologies involved. Production capabilities range from basic skills (quality control, operation, maintenance) to the most advanced ones (adaptation, improvement) and the most demanding (research, design, innovation). These skills enable a business not only to operate and improve technologies, but also to make the internal effort needed to absorb or imitate the technology purchased from other establishments. Linkage capabilities are the skills needed to swap information, technology and skills between establishments (suppliers, subcontractors, consultants, technology institutions); they affect both the productive efficiency of the company and the dissemination of technology in the industry, and they may be developed at different levels. At the primary level the company

¹ Authors such as Tremblay (1998) and Romijn (1999) have drawn attention to the need for robust indicators.

² We are grateful for the participation of the National Institute of Statistics, Geography and Information (INEGI) in the company-level estimation work.

³ See section III for a more detailed explanation of factor analysis.

acquires basic skills, at the intermediate level it achieves secondary skills (i.e., imitation) and at the highest level it attains the highest innovation capabilities.

Some research seeking to identify establishments' sources of learning and technological activities are based on surveys conducted especially for this purpose, others on official statistics. The first group includes the following studies: Westphal, Kritayakirana and others (1990), which used a sample of 100 Thai establishments; Lall and others (1994), using the case of four industries in Ghana; Romijn (1999), centred on the Pakistani capital goods industry; Wignaraja (2001), with a sample of textile and clothing firms in the Mauritius islands, and Tremblay (1998), based on a sample of the Canadian paper industry. The complexity of the aspects analysed to construct the index differs from study to study.

Romijn (1999), for example, measures technological capabilities with reference to the degree of complexity involved in the production of the goods concerned, basing her approach on the learning mechanisms of the small-scale metal-working industry. She argues that "upward diversification" in that industry takes place through a learning process involving the imitation of designs and reproduction of goods whose manufacture is of increasing complexity, so that with a given stock of machinery and equipment it is possible to make different products, with different degrees of complexity, depending on the technical level of the operations carried out; consequently, the manufacture of the different products made using the same stock of machinery may require differing degrees of skill. The work cited develops a production capability indicator, rather than an innovation or investment indicator; gathers a sample of 50 products made by local industry; designs a system to identify the level of production capabilities incorporated into each good, and classifies the degree of technological complexity (skills and know-how) of each of the operations needed to make the product.

Wignaraja's (1998 and 2001) technology index takes Lall's taxonomy, but is estimated on the basis of two technological capabilities, those of production and linkage, owing to the lack of data on investment capabilities. He examines 40 establishments in the garment industry by means of a survey. The production capabilities category is represented in the scoring system by 10 technical activities that range from the common tasks of process engineering (rejection rates, whether or not the ISO 9000 industrial quality standard applies) to those of product engineering (copying, improvement or introduction of new products).

Productivity improvements were also included in this category. The category of linkage capabilities is represented by two technical activities: technology transfer through subcontractors and through contact with corporate customers abroad, respectively. Each of the 12 technical activities mentioned can be graded into different levels, which in turn reflect different levels of competence in this capability. Thus, the position occupied by a company will depend on how many points it scores out of a maximum of 24, this result then being normalized to between 0 and 1.

Lastly, Tremblay (1998) measures the technological capabilities⁴ of the paper industry in Canada and India, to see how these capabilities are associated with total factor productivity. He is critical of other studies for failing to distinguish between technological and production capabilities, as this produces a narrow view of their composition, particularly in Romijn's work. Tremblay also examines the importance given to the technological capabilities of human resources and the neglect of these in the structure of groups and in the organizations where individuals work. Lastly, he notes that most studies do not include generation capabilities or measurements of technological change. In Tremblay's research, human resources, skills and human capital were evaluated by formal aspects, such as the number of employees working in technical activities and their educational level (whether they had a degree or better). Two rates were used: the number of graduates as a proportion of the whole workforce and the number of graduates as a proportion of sales. Using a Likert scale, efforts to change (or the organization's involvement with change) were measured using four variables: scale, intensity, role and responsibility. The scale variable evaluated the relationship between the number of individuals involved with change and the total number of individuals employed. The intensity variable evaluated the frequency with which activities that generated technical change were carried out. The role variable was defined by the type of activities performed (problem solving, implementation, generation). Lastly, the responsibility variable evaluated the involvement with change of each member of the organization.

⁴ In Latin America, efforts to carry out measurements of this type have been made in Colombia, where a survey of technological development in industry, the *Encuesta sobre Desarrollo Tecnológico en la Industria Colombiana*, has been held. As of the date of this study, however, no results measuring technological capabilities could be found.

There are other studies that use census information or official statistics. This is the case with Yan Aw and Batra's (1998) study of Taiwanese industry. These authors use specific characteristics of establishments, such as research and development activities and in-plant training, to quantify their efforts to assimilate the technology acquired. They also consider other variables to be sources of knowledge, such as the presence of foreign direct investment, the use of foreign patents and contact with international customers through exports. They introduce these characteristics into a frontier production function in order to carry out a consistent analysis of the correlation between a company's efficiency and its investments in research and development, training and international linkage. The study we are analysing recognizes the evidence offered by Westphal, Rhee and Pursell (1984) on the importance of foreign customers in technology transfer. Yan Aw and Batra assume that this acquisition of technical know-how occurs through exporting. Thus, rather than estimating a composite index, they carry out the analysis in two steps. They distinguish two groups of establishments, those that export and those that do not, and they then estimate frontier production functions for them both with a view to evaluating the contribution made to efficiency by the different learning activities.

III

Methodology and information sources

Any measurement requires an instrument and an agreed standard. The production variable is measured in tons or units, returns as a percentage of the capital invested, and cost in monetary units. The variables we are using in this study cannot be measured in this way, since their conceptual complexity means that they cannot be observed directly and in isolation. The challenge is a considerable one, but it is possible to approach technological capabilities by constructing variables that can be observed directly.

The methodology applied in this study is a multivariate analysis. The multivariate techniques considered initially were principal components or factor analysis. While principal component techniques are better for deriving a small set of linear combinations from the original variables that represents

Lastly, Dutrenit and Capdevielle (1993) examine developments in manufacturing, using Pavitt's (1984) classification of technology paths, which includes an evaluation of the technological capabilities of establishments. For this they use three variables: average pay (as a proxy for the technology of skills), investment in machinery and equipment (as a proxy for hard technology) and research and development (as a proxy for soft technology).

In constructing their capability indices, the studies we have discussed here were confronted with enormous information difficulties, as they themselves readily acknowledge, and worked largely with proxies. Our study attempts, insofar as information is available, to adhere closely to the taxonomy proposed by Lall (1992).

Our task will be to simplify the vast array of indicators in the National Survey of Employment, Wages, Technology and Training (*Encuesta Nacional de Empleo, Salarios, Tecnología y Capacitación*, ENESTYC)⁵ to arrive at a few representative indicators. The survey provides a number of variables whose importance for technological capability-building is uncertain. It seems to us wrong to estimate a composite index that gives the same weighting to them all. At the same time, weighting them subjectively in the absence of other evidence does not seem acceptable either. As was noted at the beginning, we believe that factor analysis is the right statistical technique in this case.

the whole of the variance, factor analysis techniques can be better for making qualitative distinctions (Schilderinck, 1970; Tabachnick and Fidell, 2001). For this reason it was decided that factor analysis would be used.

A factor is a qualitative dimension in an axis of coordinates: it defines how entities differ, just as the size or taste of an object defines a qualitative dimension. Factor analysis gives the data a dimensional structure, in that it indicates the common characteristics they possess.

⁵ Conducted by the Mexican National Institute of Statistics, Geography and Information (INEGI).

With this analysis, a formal model is specified that describes each variable by means of a few common non-observable factors and a single latent factor.

This last is based on the assumption that there are a number of causal factors which give rise to different relationships between the variables. Other names for these factors are component, conditioning or dimension factors. Their number is considerably smaller than the number of relations. In other words, factor analysis reveals common dimensions, or factors that link them through variables that are apparently unrelated; consequently, it provides insights into the underlying structure of the data.

The large number of variables involved in the construction of technological capability indices complicates the analysis and makes it harder to draw the conclusions needed to produce these indices. Through factor analysis we hope to find a small number of variables that express the main elements conditioning learning in Mexican manufacturing industry.

Formally speaking, factor analysis involves the selection of a small number of common factors that reconstruct a large number of variables:

$$Z_{ij} = \sum_{p=1}^h F_{ip} a_{pj} + e_{ij}$$

where

Z = the variables observed

F = the common factors of Z that are not directly observable

e = the single factor analogous to the residual in regression analysis

a = the constants used to combine the k factors or load coefficients. These coefficients indicate the weight assigned to each factor.

The factors can be inferred from the variables observed and can be estimated as a linear combination of these in the following way:

$$F_{pi} = \sum_{j=1}^k q_{pj} z_{ji}$$

where

F = the value of the factor

q = the load coefficient

Z = the variables observed.

The above expression shows the presence of common patterns of movement between two or more of the variables being examined. These patterns are

expressed in coefficients called factor loads that indicate the extent to which the variances of the variables concerned are represented in this coefficient by a factor. In turn, this factor is common to the variables forming part of a specific pattern of movement (Schilderlinck, 1970).

1. The information sources

Two sources were used for this study: the ENESTYC and the Annual Industrial Survey (*Encuesta Industrial Anual*, EIA).⁶ The ENESTYC contains nationally representative information on the characteristics of manufacturers' technology and productive organization, amount and type of employment generated, occupational structure, pay and training. Its database covers 8,181 establishments. It includes all large and medium-sized firms and a random sample of small firms and microenterprises. The EIA, meanwhile, covers 6,675 businesses in 200 classes of industry. It provides statistical information on the behaviour of the main economic variables in the manufacturing sector, including staff numbers, pay, current operating costs and expenditure, electricity use, output and net sales, and assets.

The variables used to measure technological capabilities were obtained from the 1999 ENESTYC. This survey contains 115 questions with about 570 reply options. Of these an initial selection was made of 50 questions with their reply options, approximating to the capabilities identified by Lall (1992). These were used as a basis for constructing 26 variables relating to investment, production and linkage between establishments and institutions.

The company learning and investment variables are five in number: purchases of technology packages or technology transfer from the parent company, investments in management technology, investments in basic engineering, investments in patents, and recruitment policy.

For efforts towards change in the production sphere, the following variables were considered: i) research and development, ii) organizational improvements, iii) progress with quality certification, iv) the use of preventive and predictive maintenance, v) the existence of documented practices and norms,

⁶ Like the ENESTYC, the EIA is conducted by the National Institute of Statistics, Geography and Informatics (Instituto Nacional de Estadística, Geografía e Informática-INEGI).

vi) the introduction of new technologies, vii) technical consultancy, and viii) the intensity of training at the four levels of employment: managerial staff, clerical staff, skilled workers, and general workers.

Inter-company linkage activities were captured in five variables: i) sales or purchases, ii) research and development, iii) training, iv) use and acquisition of machinery and equipment, and v) measures to create linkages with universities or other institutions.

Lastly, following Yan Aw and Batra's (1998) analysis of technological capabilities in Taiwanese industry, company exports were taken as a proxy variable for the technological information obtained from customers abroad. This can be applied to certain types of firm, such as part and component makers, those that work under franchises, and *maquila* establishments,⁷ but it does not hold good for all establishments that export. We believe it is important to include this variable to complete the linkage capability indicators.

The variables relating to the characteristics of the industrial structure or dynamic were constructed using EIA information for the years from 1993 to 1998. These variables are reflected in the following indicators: factor and labour productivity, average company size, and foreign direct investment as a share of the company's capital and gross output.

A sample was constructed with information combined from the two surveys, identifying a total of 1,818 establishments. Of these, 73% are medium-sized

enterprises (between 100 and 500 employees), of which 265 have foreign capital. In the sample, this group accounts for 34% of gross output, 15% of exports and 45% of staff. There are 371 large establishments (over 500 employees), of which 115 have foreign capital. This group accounts for 65% of gross output, 84% of exports and 53% of staff. As can be seen, medium-sized and large enterprises are well represented in the sample, but smaller establishments are not.

Many of the variables are binary in nature, because that is how the survey recorded them. Some of them cover more than one aspect. For example, the organization variable corresponded to the question about the possible adoption of changes in the company, such as a just-in-time system, job rotation, changes in plant lay-out and so on. A positive response to any of these was worth a point. The more changes the company notified, the more points it obtained for this variable. The variables captured in quantitative form were estimated as percentages and given ranges.⁸

To arrive at the results, a number of factor analysis exercises were carried out to eliminate variables that had very low factor loads on their respective factors. The variables eliminated were investment in management technology, basic engineering and technical assistance; investment in the use of patents, and the different linkage activities (except for contact with foreign customers through exports, relationships with universities and research centres, subcontracting and joint ventures).

IV Results

1. Estimation of technological capability indices

The outcome of the factor analysis carried out with the variables described is given in table 1. This identifies four factors (columns A, B, C and D) with a characteristic value of more than one. Use was made of the Varimax rotation method, which seeks to

minimize the number of variables that have large loads on one factor. Higher factor loads have a greater association with the corresponding variable. This factorial matrix can be used to interpret a company's capabilities in four dimensions of learning that bring together our variables. Column E of the table shows the communality coefficients.⁹

⁷ Among industries whose exports involve a direct relationship with the customer, most of which are in the *maquila* sector, mention should be made of those which make parts and components for motor vehicles, household electrical equipment and computers. In other industries, however, strategic alliances are often entered into with foreign establishments for marketing purposes, and these perform the knowledge transfer function.

⁸ See appendix A for further details on the construction of variables.
⁹ This information is essential in factor analysis; the same is not true of the principal components method, which yields the percentage of the variance explained. As Dillon and Goldstein (1984) argue, principal components analysis is a variance analysis, while factor analysis focuses on the amount of variance that each variable shares with the others. Consequently, factor analysis is a covariance analysis.

TABLE 1

Mexico: Results of factor analysis, 1999^{a b}

	Factor				Communality coefficient ^c
	Training policy (A)	Continuous improvement innovation (B)	Information and documentation systems (C)	Investment in new technologies (D)	
Organizational changes	0.01	0.40	0.16	0.11	0.20
Changes in quality certification and systems	0.05	0.46	0.12	0.07	0.23
Technology purchases	-0.04	0.47	0.07	0.03	0.23
Recruitment policy	0.13	0.28	0.12	0.15	0.13
Documentation of training programmes	0.16	0.17	0.59	0.11	0.41
Documentation of security programmes and norms	0.04	0.16	0.59	-0.02	0.38
% trained managerial staff	0.49	0.19	0.09	0.02	0.29
% trained clerical staff	0.83	0.06	0.04	0.02	0.70
% skilled workers	0.67	0.07	0.06	0.05	0.46
% trained general workers	0.66	-0.08	0.05	-0.04	0.45
Contact with customers abroad through exporting	0.04	0.33	0.01	0.09	0.12
Introduction of CNC technology and robots	-0.01	0.15	0.04	0.65	0.45
Renewal of equipment and new technologies	0.01	0.172	0.02	0.272	0.10
Research and development	0.08	0.31	0.06	0.15	0.13

Source: Authors' estimates using information from the National Survey of Employment, Wages, Technology and Training (ENESTYC), 1999.

^a Extraction method: principal axis factoring. Varimax rotation with Kaiser normalization. The rotation converged after five repetitions.

^b Bold type is used to highlight high factor loads.

^c The communality coefficients measure the relationship between the variance of each variable and the variance of the remaining variables.

Column A of table 1 reveals high factor loads in the percentages of trained staff at the four employment levels: managerial staff, clerical staff, skilled workers and general workers. There is evidence that worker training is on the rise, in terms of both hours of instruction and quality, although doubtless this is not true across the board. In our opinion, this pattern of corporate behaviour is indicative of a comprehensive company training policy, whence the column heading.

Column B reveals an interesting pattern of relationships between variables: progress with quality systems and quality certification, changes in the organization of the production process, acquisition of technology packages and technology transfer, and policies for recruitment, research and development, and learning through contact with international customers as a result of exporting. The highest factor loads are for technology purchasing (0.47), changes in quality systems and quality certification (0.46), changes in work organization, learning through contact with foreign customers as a result of exporting (0.33) and in-house research and development (0.31).

Like other late industrializing countries, Mexico depends on the acquisition of technology from abroad. This variable appears to be interrelated with other learning variables that are part of what may be called

continuous improvement innovation. Innovations in production processes have meant intense problem-solving efforts by establishments. The resultant activities have led to changes in the organization of production operations that may involve a new plant lay-out, the adoption of just-in-time production systems, the formation of quality circles and increased worker participation (Coriat, 1992). Again, establishments are slowly progressing towards what has been called a new culture of quality. This involves a systemic measuring approach to provide better customer service, but it also means that fewer jobs have to be repeated and costs are lower, something seen very clearly in the automotive industry (Carrillo, 1993). The production and quality departments are no longer separated but are in constant communication. The presence of the research and development variable in a company denotes its connection with efforts to assimilate, adapt and improve imported technology, as happens in similar countries, and not a stage in innovation capabilities. Lastly, learning by contact with foreign customers as a result of exporting may suggest that the flow of information is related with this continuous improvement innovation process, which in turn means that exports can grow. The variable relating to company recruitment policy mainly denotes the

availability of the skills the business needs to bring in these changes.

In column C, the factor loads of the variables relating to the documentation of training plans and security programmes highlight the need to develop information and documentation systems in establishments. When precise indicators are chosen, an accurate analysis can be carried out to identify critical problems, as a result of which establishments can act to find long-term solutions to these problems and follow up the results. These variables, however, are only proxies for what we term information and documentation systems. The documentation of training programmes involves a set of issues ranging from content to methods of evaluation and follow-up. Much the same is true of the documentation of security programmes. Generally speaking, establishments that undertake tasks of this kind already have more basic levels of documentation, such as formal rules and procedures.

Column D illustrates the technological effort from the point of view of hard technology use: the introduction of new technologies and the renewal of equipment. Part of the knowledge, undoubtedly, is incorporated in the machines. As these are renewed, the company acquires new knowledge and is encouraged to make complementary changes. Different studies have analysed the strong mutual relationship that exists between the application of new technologies and organizational changes (Edquist, 1992; Hoffman, 1989). A change in the organization may bring a technological change with it, or vice-versa, or the two may come in tandem and condition each other.

Column E presents the communality coefficients,¹⁰ which are fairly satisfactory. It can be seen that these are highest for training and documentation activities. The lowest coefficients (below 0.20) are for the equipment renewal, research and development and recruitment policy variables. Even so, it was decided that these variables should not be removed from the analysis because they were complementary to the factors identified.

To sum up, factor analysis can be used to distinguish the four dimensions most representative of technological learning in Mexican industrial enterprises. The variables identified for preference were those relating to the production capabilities

identified in Lall's taxonomy. Of the investment variables, the only ones to appear are technology purchases or acquisition of technology packages, and the policy of recruiting highly qualified staff.

It is striking that, in the linkage variable, the relationship with universities and research centres, subcontracting and joint ventures were relegated to the lowest places in the factor analysis, with a communality coefficient of less than 0.1. A notable exception, which was considered separately from this variable, was contact with foreign customers through sales abroad. Progress has undoubtedly been made with linkage activities, and this is seen with some of the most prominent firms, but in a large sample it is not significant. In other words, the results bear out the conclusion of other authors that Mexican firms still do not have enough contact with one another or with universities (Casas, de Gortari and Luna, 2000).

2. Cluster analysis

The information obtained from the factor analysis was used to calculate the score for each factor in each of the observations. The factorial scores represent the relationship of the different observations with each factor, and they are high when the communality coefficients and the ratio between variables and factors are high.

The cluster analysis of establishments was conducted using the factorial scores with the "k means" method. This method consists in identifying relatively homogeneous groups of cases and is based on an algorithm that minimizes the Euclidean distance between case *i* and the average for the group containing this case. The procedure is to move the *n* cases from one group to another until the point is reached where none of these moves reduces the error in the division, this error being the sum of the square of the Euclidean distances.

The results from our cluster analysis shown in table 2 identify a number of different patterns of capability accumulation among the establishments in the sample, on the basis of the four factors referred to earlier. The profile of the four clusters or groups identified can be summarized as follows. Group I consists of 741 establishments with 62% of the sample's gross output and 75% of its total exports. In relation to capabilities, it scores best for innovation through continuous improvement and investment in new technologies, and second best for information and documentation systems. It is composed primarily of

¹⁰ As noted in table 1, these coefficients measure the relationship between the variance of each variable and the variance of the other variables.

large enterprises, which generate 73% of the group's gross output, and includes 204 companies with foreign capital, accounting for 52% of the sample's gross output and 78% of its exports. The businesses in this group are larger on average, as measured by gross output and exports, than those in the other three groups (tables 2 and 3).

Group II contains 169 establishments that generate 10% of the sample's gross output and exports by value. It scores best for training policy, while it has an

intermediate score for information and documentation systems. As in the first group, large firms predominate, generating 70% of the sample's gross output and 90% of its exports. It includes just 29 establishments with foreign capital. The average size of businesses, as measured by gross output and exports, is 30% and 40% respectively of that of establishments in the first group (tables 3 and 4).

Group III scores best for information and documentation systems and displays no difference in

TABLE 2

Mexico: Characteristics of groups of establishments, 1999

Group	No.	Average company size (thousands of 1993 pesos)		Businesses with FDI (number)	Gross output share of businesses with FDI (%)
		Gross output	Exports		
I	741	272 154	63 873	204	52
II	169	193 620	38 060	29	32
III	627	124 717	13 577	141	37
IV	247	61 769	3 948	24	9

Source: Authors' estimates using information from the Annual Industrial Survey (EIA).

TABLE 3

Mexico: Distribution of technological capabilities in groups of establishments, 1999

Group	Number	Training policy	Continuous improvement innovation	Information and documentation systems	Investment in new technologies
I	741	-0.187	0.2753	0.2515	0.639
II	169	2.045	0.0087	0.1674	-0.0453
III	627	-0.1799	-0.0801	0.335	-0.6732
IV	247	-0.5312	-0.4853	-1.4933	-0.1523

Source: Authors' estimates using information from the National Survey of Employment, Wages, Technology and Training (ENESTYC).

TABLE 4

Mexico: Performance indicators, 1993-1998

Group	Profit margin	Labour productivity	Total factor productivity	Technical change	Efficiency
I	1.150	1.326	1.008	1.010	1.017
II	1.025	1.036	0.999	1.031	1.006
III	0.958	0.943	1.006	1.002	0.992
IV	0.867	0.696	0.987	0.957	0.985
Average	1.000	1.000	1.000	1.000	1.000
Variance analysis					
F	9.24	15.63	1.20	4.77	0.61
Probability	0.00	0.00	0.31	0.00	0.61

Source: Authors' estimates using information from the Annual Industrial Survey (EIA), various years.

other aspects. It is made up of 627 establishments generating 24% of the sample's gross output by value and 13% of its exports. There are 141 businesses with foreign capital, and these account for 37% of the sample's gross output and 51% of its exports (tables 3 and 4).

Group IV includes 281 establishments accounting for 5% of the sample's gross output and just 2% of its exports. It scores lowest for all the factors. The average company is less than a quarter as large here as in group I and considerably smaller than in groups II and III. It should be recalled here that the sample analysed consists of 1,818 establishments of the 8,181 covered by the ENESTYC, as information was not available on the performance of all of them over time. This sample is certainly skewed towards the best companies. By conducting a similar exercise for all the businesses included in the ENESTYC, it was found that group I had 1,981 establishments, group II had 869, group III had 2,014 and group IV had 3,317. Thus, if the ENESTYC is considered in its entirety, the group with the fewest capabilities accounts for 41% of all businesses and the one above it for 24%.

One might have expected that in some group, particularly group I, all the factors would turn out to be positive. The fact that this was not the case in the grouping analysis does not mean that there are no companies with these characteristics. We found all four factors to be positive in 76 of the 1,818 establishments, and the same was true of 696 of the 8,181 businesses included in the ENESTYC (most of these 696 were in groups I and II). Again, the fact that group I did not stand out in the comprehensive training policy category does not mean that these businesses regard training as unimportant.

3. Are the clusters associated with performance levels?

To answer this question, the performance of the groups was compared in terms of gross profit margins, labour

productivity, and factor productivity estimated by means of the Malmquist index, to break it down into technical change and efficiency.¹¹ As Cantner and Hanusch (2001) argue, the use of factor productivity may seem somewhat outdated, given the criticisms of it that have arisen primarily in the context of growth accounting exercises, where the determination of factor productivity is based on assumptions of equilibrium and conditions of the traditional theory, combined with the supposition that the same production function is applicable to all the observations. The Malmquist index does not have these assumptions, and it can be used to identify both local technical change at the production frontier and such observations as fall below best practice.¹² Group I, which stands out for its high indices of technological capabilities, presents the best indices of performance, except in the case of technical change, where group II does slightly better (1.031 against 1.010).¹³ In other words, establishments whose practices included documentation and planning, equipment and machinery renewal and complex programmes of continuous improvement perform better. Something similar happens with group II, which performs better than those below it, with one exception. This suggests there is a positive association between technological capabilities and performance.

To determine whether the differences were significant, a one-way analysis of variance was carried out, and the results of this are shown in the last two rows of table 5. The differences observed are significant in three of the five indices: profit margin, labour productivity and technical change, which supports the hypothesis that technological capabilities are a decisive element in innovation and company performance. An analysis of the variance between any one group and the others (Scheffe test) confirms that the largest gaps are between group I and group IV, which is in last place.¹⁴

¹¹ See appendix B for more details on the use of Malmquist's methodology to estimate total productivity indices for factors, technical change and efficiency.

¹² See Cantner and Hanusch (2001) for a full analysis of the use of the Malmquist index in a context of heterogeneity and evolutionary change.

¹³ The indices were normalized in relation to the averages for the sample.

¹⁴ See appendix C for the outcome of the Scheffe test.

V

Conclusions

This paper is meant as a methodological and analytical contribution to a line of research whose objective is to construct representative indices of the technological capabilities of Mexican manufacturing firms, and its concern has been to study the distribution of these capabilities in a sample of establishments.

For the construction of representative technological capability indices, the use of factor analysis enabled us to simplify complex relationships into a small number of common factors (or dimensions) that are intertwined in them through apparently unrelated variables. The advantage of this approach compared to the calculation of a single index using a straightforward scoring system, which is what other authors have done, is that there is no need to assign subjective weightings and the task of determining the percentage of the variance that is explained by each factor can be left up to the factor analysis. This is one contribution of the present work.

In the case before us, following an exhaustive exploratory factor analysis it was possible to identify four factors expressing the main sources of learning in manufacturing: i) training policy, ii) continuous improvement innovation, iii) information and documentation systems, and iv) investment in new technologies.

The first factor, as its name suggests, expresses the institution of a training policy at every level in the company: managerial staff, clerical staff, skilled workers and general workers. A high degree of correlation is observed between these variables, suggesting that when a company has a training policy, it implements it at all levels.

The second factor relates to learning through continuous improvement. The presence of research and development activities in this group of variables suggests that, in Mexican industry, the aim of these activities is to assimilate, adapt and improve imported technology (as is the case in similar countries), and that innovation capabilities do not come in here. Learning activities are associated with exporting, our proxy variable for technological information obtained from customers abroad, as Yan Aw and Batra (1998) propose in the case of Taiwanese industry. In Mexico, the modernization process has involved firms in a

concentrated problem-solving effort rather than in radical innovations, and this has resulted in changes to the organization of production operations. Again, firms are gradually moving towards what has been called a new culture of quality, involving international quality certification. Lastly, learning through contact with foreign customers as a result of exporting may suggest that the information flow achieved is linked to the continuous improvement innovation process, which in turn enables exports to grow.

The third factor identifies process documentation systems, written rules and company planning. It is not possible to take a long-term approach without having a selection of precise indicators that provide a basis for accurate analysis so that critical problems can be identified.

The fourth factor, lastly, expresses the technological effort from the point of view of hard technology use, i.e., the introduction of new technologies and the renewal of machinery.

Although our initial variables were selected following Lall's (1992) taxonomy, at the end of the analysis it was production capabilities that predominated. Where investment capabilities are concerned, mention should be made of technology purchasing, research and development, and the renewal of equipment and introduction of new technologies.

The results of the linkage variable, where relations with universities and research centres, subcontracting and joint ventures are concerned, undoubtedly reveal one of the greatest shortcomings in the innovation capabilities of Mexican companies. Progress has been made, partly because of the links forged by some companies with universities, which are not reflected at the sample level, but mainly because of contact with foreign customers through exporting.

To examine the distribution of capabilities in the sample we used cluster analysis, taking the score of each observation for each factor as the basis. Four clusters or groups of establishments were identified on the basis of their factorial capability indices. Group I presents three factors with positive levels: documentation and planning systems, the introduction of new technologies, and continuous improvement innovation. Group II exhibits vigorous training

programmes and planning and documentation systems, followed by group III, which only has documentation and planning systems. Group IV displays negative levels for all three factors, i.e., it is the least advanced.

While it was to be expected that training would be found in group I, the companies in this group had a low training average; in our opinion, it is possible that they had carried out training in the past and that this was not reflected at the time of the interview; but in any event, where the second factor is concerned (continuous improvement innovation), these firms were found to have a policy of recruiting highly qualified staff. As already explained, the small number of establishments in group IV does not indicate that this is representative of industry, since the sample is skewed towards medium-sized and large enterprises. In a larger sample, the bottom group includes 41% of businesses. The evidence on structural underdevelopment in microenterprises and small businesses suggests that the largest percentage of firms in Mexican industry belongs to this cluster.

The characteristics of the clusters confirm the association between company size and technological capability levels. Our results cast an interesting light on the effects of foreign direct investment on these capabilities. It is clear that a large number of foreign enterprises belong to the group with the highest level of technological capabilities. But not all foreign firms have these characteristics, as is revealed by the large percentage of them located in group III.

Lastly, we need to return to our original argument regarding the importance of analysing the technological capability levels of different firms to attain a better understanding of their differences in the heterogeneous situation that characterizes developing economies. The analysis of performance indicators in the groups with different technological capability levels revealed an association between technological capabilities and performance in the case of labour productivity, profit

margins and technical change. This indicates that technological capabilities, because of their effect on companies' innovation behaviour, have a positive influence on performance and help explain the differences found in this respect.

Given that performance averages decrease from group I to group IV, it is tempting to suggest that the distribution of these groups by factorial scores might reflect a pattern of capacity accumulation in firms. Acquiring technological capabilities by developing documentation and planning systems (group III) would seem to be the minimum necessary for learning; this would be followed, in ascending order, by in-house training programmes (group II), then by the most comprehensive learning effort involving continuous improvement innovation (group I), which in the case of Mexico includes research and development. The risk here is that the analysis may be too simplistic. The Scheffe test only supported this possible pattern of capability accumulation in the case of labour productivity and profit margins, where the differences between group I and the rest are significant. In the case of technical change, the large differences are between group IV (the lowest scoring) and the rest. Thus, there is scope for selecting corporate learning strategies that derive from the sectoral needs of firms, rather than progressing necessarily in defined stages. This line of research remains pending, however, and work needs to be done here. If it were shown, for example, that documentation were a first step, this might lead to technology and industrial policy setting the requisite priorities.

In any event, our results suggest a need to devise a technology policy to support the accumulation of technological capabilities in Mexican firms. Some progress has been made with support programmes, but their coverage is still inadequate. The results also show that very few of them have a comprehensive technological learning strategy.

APPENDIX A

Methodology for constructing variables from the National Survey of Employment, Wages, Technology and Training (ENESTYC)

Group	Variables	Unit in which expressed in the survey	Criterion for assigning values to the variable
Learning and investment	Purchase of technology packages or transfer from the parent company	% of investment	Ranges from 1 to 3
	Investments in management technology	”	”
	Investments in basic engineering	”	”
	Investments in patents	”	”
	Policy of recruiting qualified staff for each level of employment	Number of employees by level of formal education required for managerial, clerical and manual staff	If managers have to have at least a <i>bachillerato</i> (post-secondary qualification) w = 1 If clerical employees have to have at least <i>bachillerato</i> x = 1 If manual workers (skilled or general) have to have complete secondary education y = 1 and z = 1 Recruitment policy = w + x + y + z Maximum score = 4
Production	Research and development applied to the production process	1= yes	1.0
	Organization (just-in-time production + production and process control + rotation + plant lay-out + worker participation + supervision + standards)	1= yes	Maximum score = 7
	Quality (quality circles + total quality control + certification + instrumental c.)	1 = yes	Maximum score = 4
	Preventive and predictive maintenance approach	1 = yes	1.0
	Documentation (norms + training)	1 = yes	1.0
	Security	1 = yes	1.0
	Introduction of new technologies: Buying-in of technology	CNC or robots = 1	1.0
Intensity of training (managerial staff, clerical staff, skilled workers, general workers)	1 = yes Number of employees trained	1 = 1% to 20% 2 = 20% to 39% 3 = over 40%	
Linkage	Subcontracting	1 = yes	1 to 8
	Linkage with universities	1 = yes	
	Joint ventures in:		
	Sales or procurement	1 = yes	
	Research and development	1 = yes	
	Training	1 = yes	
	Use and procurement of machinery and equipment	1 = yes	
Initiatives to link up with universities or other institutions	1 = yes	1.0	
Information flows from contacts with customers abroad	1 = yes		

Source: Prepared by the authors.

APPENDIX B

Malmquist index of total factor productivity

The construction of this index is based on the concept of output distance functions.¹⁵ For each of the periods studied, technology S^t is the set of inputs ($x^t = (x^1, \dots, x^N)$) and outputs ($y^t = (y^1, \dots, y^M)$). The output distance function in period t , expressed as $D_0^t(x^t, y^t)$,¹⁷ measures the maximum expansion of output that can be achieved with a given input vector¹⁸ in relation to a frontier function. The output distance function for a given industry has a value of one when the output level is at the production frontier; it is less than one when the output level is below the frontier value and more than one when it is above this.

Similarly, the distance function $D_1^{t+1}(x^t, y^t)$ is the ratio between the output achieved in period t and the maximum possible given the technology of the period $t+1$.

According to Caves, Christensen and Diewert (1982), the Malmquist index of total factor productivity between two periods, such as t and $t+1$, can use the technology of either of the two years as a reference point. Taking the technology of year t as a parameter, the index is as follows:

$$M_t^t = \frac{D_0^t(x^{t+1}, y^{t+1})}{D_0^t(x^t, y^t)}$$

When the parameter taken is the

technology of the period $t+1$, the index is defined as follows:

$$M_t^{t+1} = \frac{D_0^{t+1}(x^{t+1}, y^{t+1})}{D_0^{t+1}(x^t, y^t)}$$

When $M > 1$, this denotes a rise in

productivity between t and $t+1$ and when $M < 1$ this denotes a drop in productivity.

Färe, Grosskopf and others (1994) showed that the Malmquist index could be regarded as a geometric mean of the two previous equations.

$$M_t(y^{t+1}, x^{t+1}, y^t, x^t) = \left[\frac{D_0^t(y^{t+1}, x^{t+1})}{D_0^t(y^t, x^t)} \right] \left[\frac{D_0^{t+1}(y^{t+1}, x^{t+1})}{D_0^{t+1}(y^t, x^t)} \right]^{1/2}$$

The index thus defined can be broken down into two parts: change in efficiency (approaching the frontier) and technical change (innovation). As follows:

$$M_t(y^{t+1}, x^{t+1}, y^t, x^t) = \left[\frac{D_0^{t+1}(y^{t+1}, x^{t+1})}{D_0^t(y^t, x^t)} \right] \left[\frac{D_0^t(y^{t+1}, x^{t+1})}{D_0^{t+1}(y^{t+1}, x^{t+1})} \right] \left[\frac{D_0^t(y^t, x^t)}{D_0^{t+1}(y^t, x^t)} \right]^{1/2}$$

The method allows for the possibility of working with constant scale and variable yields. Constant scale yields are appropriate when it is assumed that all companies produce at an optimum scale. However, imperfect competition and other obstacles, such as financial ones, mean that establishments do not produce at this optimum scale. When companies do not have optimum scales and constant scale yields are assumed, technical change is confused with scale efficiencies. To separate the scale effect from technical change it is necessary to calculate the index of technical change in accordance with the assumption of constant and variable scale yields. The difference between these two indices reveals a scale efficiency or inefficiency.

APPENDIX C

Analysis of one-way variance: the Scheffe test

Group	Group	Total factor productivity	Technical change	Efficiency	Labour productivity	Margin
I	II	0.954	0.767	0.988	0.123	0.348
	III	0.828	0.907	0.0762	0.000	0.001
	IV	0.324	0.120	0.730	0.000	0.000
II	I	0.954	0.767	0.988	0.123	0.348
	III	1.000	0.513	0.992	0.900	0.878
	IV	0.855	0.011	0.964	0.118	0.403
III	I	0.828	0.907	0.762	0.000	0.001
	II	1.000	0.513	0.992	0.900	0.878
	IV	0.728	0.063	0.990	0.141	0.626
IV	I	0.324	0.012	0.730	0.000	0.000
	II	0.855	0.011	0.964	0.118	0.403
	III	0.728	0.063	0.990	0.141	0.626

Source: Prepared by the authors using information from the National Survey of Employment, Wages, Technology and Training (ENESTYC).

¹⁵ See Färe, Grosskopf and others (1994) and Caves, Christensen and Diewert (1982).

¹⁶ S is a non-empty, closed, convex set, and it is also assumed that both inputs and outputs are freely available.

¹⁷ The formal definition of the production frontiers is: $D_0^t(x^t, y^t) = \min \{ \Theta : (x^t, y^t / \Theta) \in S^t \}$, $x^t \in \mathbb{R}_+^N$, $t = (1, \dots, T)$. In other words

the distance Θ is the ratio between observed output and the maximum possible, for a given level of inputs. See Färe and Grosskopf (1988).

¹⁸ Distance functions can also be expressed in terms of inputs. These functions measure the maximum possible reduction in inputs for the same level of output.

Bibliography

- Amsden, A. (1992): *Asia's Next Giant: South Korea and Late Industrialized Countries*, New York, Oxford University Press.
- Bell, M. and K. Pavitt (1992): Accumulating technological capability in developing countries, *Proceedings of the World Bank Annual Conference on Development Economics*, Washington, D.C., World Bank.
- Cantner, U. and H. Hanusch (2001): Heterogeneity and evolutionary change: empirical conception, findings and unresolved issues, in J. Foster and S. Metcalfe, *Frontiers of Evolutionary Economics, Competition, Self-organization and Innovation Policy*, Northampton, Edward Elgar.
- Carrillo, J. (1993): *La Ford en México: reestructuración industrial y cambio en las relaciones sociales*, thesis, Mexico City, El Colegio de México.
- Casas, R., R. de Gortari and M. Luna (2000): University, knowledge production and collaborative patterns with industry, in M. Cimoli, *Developing Innovation Systems: Mexico in a Global Context*, London, Continuum.
- Caves, D.W., L.R. Christensen and W.E. Diewert (1982): The economic theory of index numbers and the measurement of input, output and productivity, *Econometrica*, vol. 50, No. 6, Evanston, The Econometric Society.
- Cimoli, M. (2000): *Developing Innovation Systems: Mexico in a Global Context*, London, Continuum.
- Coriat, B. (1992): *Pensar al revés*, Mexico City, Siglo XXI.
- Dillon, W. and M. Goldstein (1984): *Multivariate Analysis, Methods and Applications*, New York, John Wiley & Sons.
- Dutrenit, G. and M. Capdevielle (1993): El perfil tecnológico de la industria mexicana y su dinámica innovadora en la década de los ochenta, *El trimestre económico*, vol. 60(3), No. 239, Mexico City, Fondo de Cultura Económica, July/September.
- Edquist, Ch. (1992): Technological and organizational innovations, productivity and employment, Working Paper, No. 233, Geneva, World Employment Programme, International Labour Organization (ILO).
- Färe, R. and S. Grosskopf (1988): *Fundamentals of Production Theory*, Berlin, Springer-Verlag.
- Färe, R., S. Grosskopf and others (1994): Productivity growth, technical progress, and efficiency change in industrialized countries, *American Economic Review*, vol. 64, Nashville, Tennessee, American Economic Association.
- Fransman, M. and K. King (eds.) (1984): *Technological Capability in the Third World*, London, Macmillan.
- Hoffman, K. (1989): *Technological Advance and Organizational Innovation in the Engineering Industry: A New Perspective of the Problems and Possibilities for Developing Countries*, Industry Series Paper, No. 4, Washington, D.C., World Bank.
- Katz, J. (1987): *Technology Generation in Latin American Manufacturing Industries: Theory and Case Studies Concerning its Nature, Magnitude and Consequences*, London, Macmillan.
- _____ (1997): New problems and opportunities for industrial development in Latin America, *Oxford Development Studies*, vol. 25, No. 3, Oxford, Taylor & Francis Group.
- Lall, S. (1992): Technological capabilities and industrialization, *World Development*, vol. 20, No. 2, Amsterdam, Elsevier Science, February.
- Lall, S. and others (1994): *Technology and Enterprise Development: Ghana Under Structural Adjustment*, London, Macmillan.
- Lundvall, B. (1992): *National Systems of Innovation: Towards a Theory of Innovation and Interactive Learning*, London, Printer Publishers.
- Nelson, R. and S. Winter (1982): *An Evolutionary Theory of Economic Change*, Cambridge, Massachusetts, Harvard University Press.
- Pack, H. and L. Westphal (1986): Industrial strategy and technological change: theory versus reality, *Journal of Development Economics*, vol. 22, No. 1, Amsterdam, Elsevier Science.
- Pavitt, K. (1984): Patterns of technical change: towards a taxonomy and a theory, *Research Policy*, vol. 13, No. 6, Amsterdam, Elsevier Science.
- Romijn, H. (1999): *Acquisition of Technological Capability in Small Firms in Developing Countries*, London, Macmillan.
- Schilderink, J. (1970): *Factor Analysis Applied to Developed and Developing Countries*, Rotterdam, Rotterdam University Press.
- Tabachnick, B. and L. Fidell (2001): *Using Multivariate Statistics*, Boston, Allyn and Bacon.
- Tremblay, P. (1998): *Technological Capability and Productivity Growth: An Industrialized/Industrializing Country Comparison*, Montreal, Centre Interuniversitaire de Recherche en Analyse des Organisations.
- Westphal, L. and others (1990): The development of technological capability in manufacturing: a macroscopic approach to policy research, in R. Evenson and G. Ranis, *Science and Technology: Lessons for Development Policy*, London, Intermediate Technology Publications.
- Westphal, L., Y. Rhee and G. Pursell (1984): Sources of technological capability in South Korea, in M. Fransman and K. King, *Technological Capability in the Third World*, London, Macmillan.
- Wignaraja, G. (1998): *Trade Liberalisation in Sri Lanka: Exports, Technology and Industrial Policy*, London, Macmillan.
- _____ (2001): *Firm Size, Technological Capabilities and Market Oriented Policies in Mauritius*, Discussion Papers, No. 1, Maastricht, United Nations University (UNU)/Institute for New Technologies.
- Yan Aw, B. and G. Batra (1998): Technological capabilities and firm efficiency in Taiwan (China), *World Bank Economic Review*, vol. 12, Washington, D.C., World Bank.

Basel II: developing countries and portfolio diversification

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The proposed new Basel Capital Accord aims to better align regulatory capital with the risk that banks actually take on. This paper argues that current proposals will inappropriately and significantly increase the cost or reduce the quantity of bank lending to developing countries, as they will make the requirements for lending to them far more stringent. The failure of the Basel proposals to take account of the benefits of international diversification implies that risk is overestimated at the portfolio level. We show that, for a number of variables (such as bank profitability) and for a number of periods, the degree of correlation between developed economies is greater than that between developed and developing countries. We also show via simulations that a portfolio diversified across developed and developing economies has a lower level of risk than one focused only on developed ones. We therefore urge the Basel committee to explicitly incorporate the clear benefits of international diversification.

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I

Introduction

Our concerns about the potential impact of the proposed new Basel Capital Accord (Basel II) were first expressed following the release of the second Consultative Paper (CP2) in January 2001.¹ However, since that time a number of modifications have been made to the proposals that go some way to addressing these original concerns.

The last paper we prepared on the subject was published in the *Financial Regulator* in September 2002.² There we reiterated our doubts about the consequences the proposals might have for developing economies, assessed the likely impact of the modifications announced by that time, and highlighted remaining areas of concern. These were twofold.

The **first of these concerns** is that widespread adoption of the internal ratings-based (IRB) approach by internationally active banks would lead to a significant increase (decrease) in capital requirements for loans to lower (higher) rated borrowers. To the extent that the pricing and availability of international bank loans is influenced by the capital requirements that relate to them, this would imply a sharp increase in the cost or a reduction in the quantity of international lending to developing and emerging economies. Given the current very low levels of such lending, this raises the possibility of the current situation becoming “institutionalized”, so that, even if global conditions improved, the potential of international bank lending to contribute towards the development of poorer countries would be significantly reduced.

It has long been argued that one of the major benefits of investing in developing and emerging economies is their relatively low correlation with “mature” markets. As we show below this is clearly the case and, consequently, clear benefits —at the portfolio level— would accrue to banks with well diversified international portfolios. That is, a bank with

a loan portfolio that is distributed widely across a range of relatively uncorrelated markets is less likely to face simultaneous problems in all of those markets than a bank with loans concentrated in a smaller number of relatively correlated markets. Therefore, in order to accurately align regulatory capital with the actual risks a bank might face, the Accord should take account of this portfolio-level effect: the capital requirements for a bank with a well diversified international loan portfolio should reflect the fact that total risk is lower than it would be for a more concentrated portfolio. At present the proposals contain no such considerations, suggesting that, in this area at least, capital requirements may not accurately reflect actual risk.

The argument that asset correlation is variable is self-evident. Furthermore, the suggestion that this variability impacts upon the level of risk in an overall portfolio, and should therefore be reflected in capital requirements, would also seem to have force. Indeed, the Basel Committee on Banking Supervision has recognized this fact with the modifications it has already made in respect of lending to small and medium-sized enterprises (SMEs). Following the release of the original consultative document in January 2001, there was widespread concern that lending to SMEs would be adversely affected by a large increase in the capital requirements associated with such lending. After intensive lobbying the Committee reconsidered the issue, and agreed that the treatment of SMEs should be separated from other corporate lending, with borrowers with less than 50 million euros in annual turnover receiving an average reduction in capital requirements of about 10% relative to larger corporates. The rationale for this modification is that the chance of a large number of SMEs defaulting simultaneously is lower than for a smaller group of large borrowers. That is, the correlation between probability of default is lower. Consequently, a loan portfolio that is well diversified across a large number of SMEs will face lower overall risk at the portfolio level than one focused on a few larger borrowers.

The results of our empirical work suggest strongly that a similar modification is justified with respect to international diversification.

The **second aspect of concern** is that the use of market-sensitive measures of risk —as envisaged in the

□ We would like to thank Danielle Nouy, Karsten Von Kleist, Marian Micu, Serge Jeanneau and Philipp Klingelhofer for providing us with valuable data and encouragement in this research. Thanks are also due to Professors Charles Goodhart and Avinash Persaud for wise counsel in the conceptual and practical aspects of the paper. Any mistakes are, of course, our own.

¹ See Griffith-Jones and Spratt (2001).

² See Griffith-Jones, Spratt and Segoviano (2002).

IRB approaches— is inherently procyclical. The fact that capital requirements will move in conjunction with the business cycle implies an amplification of that cycle as loans “migrate” between bands as circumstances improve or deteriorate. The natural tendency of market practitioners—including bankers—to underestimate risks in booms and overestimate risks in recessions will thus be formalized, and legitimized, in regulation. Thus, in an upturn, the perception of generally reduced risks would result in lower capital requirements, further strengthening this perception of lower risk, but perhaps resulting in a longer “boom” period and the build-up of greater levels of potentially systemic risk. Conversely, in a downturn or recession, higher capital requirements, as determined by the IRB approach, would reduce further incentives to lend, and—coupled with the difficulty of raising capital in a recession—create the possibility of a “credit crunch” wherein even potentially profitable business propositions were unable to attract funding. The danger is that a downturn is turned into a recession, or an existing recession lengthened or deepened.

These concerns about the potentially damaging impact of Basel II were viewed in the context of a more general analysis. This argued that the major problems facing developing countries in their attempts to access international finance for purposes of growth and development were: i) the current low level of all types of flows (particularly, but not exclusively, bank lending) and ii) the increasingly short-term and procyclical nature of these flows (Griffith-Jones, 2002). Given our view of this discouraging general environment, it remains of serious concern that the proposals for Basel II may exacerbate, rather than attempt to counter, these damaging trends.

This paper will present the results of empirical work that we have undertaken to address the first point detailed above. We suggested in our most recent paper on this subject that one reason why capital requirements under the new proposals could be inappropriately high for developing and emerging economies was that the benefits of international diversification were not taken into account. We suggested that, if it could be demonstrated that the correlation between developed/developed-country lending was higher than that between developed/developing, then a case could be made that an internationally diversified loan portfolio, with a range of developed- and developing-country borrowers, would have a lower level of risk—in terms of the overall portfolio—than one which focused primarily on

developed-country lending. If this is, in fact, the case, then it would be possible—and certainly desirable—for the Basel Committee to incorporate the benefits of international diversification into the new Accord.

This argument is similar to that used to support the recent modifications (November 2001) that resulted in a flattening of the IRB curve with respect to corporate lending. In the original proposals of January 2001 it was implicitly assumed that the average asset correlation was 0.2. However, following empirical research initiated by the Committee, a modification to the IRB formula was proposed so that the correlation coefficient would decline from 0.2 to 0.1 as probability of default increased. In essence, the argument is that a higher probability of default for a corporate reduces correlation, as bankruptcy/default may be the result of any number of non-systemic factors that would not necessarily have any impact on the prospects for other corporates.

The argument that asset correlation is variable is self-evident. Furthermore, the suggestion that this variability impacts upon the level of risk in an overall portfolio, and should therefore be reflected in capital requirements, would also seem to have force. Consequently, we have followed this approach in our own empirical work, which, as we shall detail below, provides strong support for a similar modification of the IRB formula with respect to internationally diversified lending.

It has long been argued that one of the major benefits of investing in developing and emerging economies is their relatively low correlation with mature markets. Therefore our first hypothesis can be stated as follows:

Hypothesis 1: The degree of correlation between the real and financial sectors of developed economies is greater than that which exists between developed and developing economies.

We have tested this hypothesis of differential correlations, first with specific regard to international bank lending and profitability and, second, in a more general but supportive sense. All of our results offer significant support for the validity of this position. This has provided the basis for a second hypothesis, which relates specifically to the ongoing work of the Basel Committee.

Hypothesis 2: An international loan portfolio which is diversified across the developed, emerging and developing regions enjoys a more efficient risk/return trade-off—and therefore lower overall portfolio-level

risk as measured by unexpected losses— than one focused exclusively on developed markets.

In order to test this hypothesis we have simulated levels of unexpected loss for two portfolios, one of loans that are evenly distributed across developed and developing regions, the second of loans that are distributed across only the developed regions. The results of these simulations provide convincing support for the second of our hypotheses, suggesting that the level of unexpected loss that a portfolio focused on purely developed-country borrowers would face in an extreme event would be about 25% higher than a portfolio diversified across developed and developing countries.

The fact that the tests we have performed, using a variety of variables, over a range of time periods, all provide strong evidence in support of our diversification hypothesis, seems to us compelling. This evidence is further strengthened by the results of

our simulations of loan portfolios, which, by employing a similar methodology to that used by the most sophisticated banks, demonstrate the beneficial impacts of international diversification, as they would be viewed by the major banks. Taken together, this evidence suggests that, so as not to unfairly penalize emerging and developing economies, the Basel Committee should closely examine the practicalities of incorporating the benefits of international diversification into the forthcoming final consultative paper. It is hoped that the evidence presented below will demonstrate the validity of this view.

This paper consists of five sections. After the present introduction (section I), section II details the sources of data and methodology used, section III presents the results of the econometric work, section IV presents a simulation of two loan portfolios, and section V explores the implications of our results and concludes. Technical details on the statistical and simulation work are contained in appendices A and B.

II

Data and sources

The countries analysed are as follows:

— *Developing countries:* Argentina, Brazil, Chile, Ecuador, Mexico, Panama, Peru and Venezuela; Indonesia, Malaysia, Philippines, the Republic of Korea and Thailand; Bulgaria, Poland and Russia; Nigeria and South Africa.

— *Developed countries:* Canada and the United States; Japan; France, Germany, Italy, Spain and the United Kingdom.

— *Others:* Singapore; Finland, Greece, Ireland and Portugal.

The variables analysed are shown in table 1.

III

Results

All the statistical significance tests we have undertaken provide strong support for our first hypothesis. Crucially for the validity of our results, cumulative distribution function (CDF) tests were undertaken in each instance. The purpose of the tests was to establish, for any given level of correlation, the probabilities that the developed/developing series would have a lower level of correlation than the developed/developed series. The results of two of these tests are shown in figures 1 and 2 as an illustration of the fact that, in

every instance, the developed/developed correlation dominates that of the developed/developing correlation (the remaining results are contained in appendix A).

That is, for any level of correlation x , the probability that the actual correlation between developed/developing indicators is lower than x is higher than the probability that the correlation between developed/developed indicators is lower than x .

The results in table 2 offer further support for the first of our hypotheses, in both a general and a specific

TABLE 1

Grouping, description and other characteristics of the variables analysed, selected periods

Grouping	Code	Description	Period	Frequency	Source
Financial sector	ROA	Return on assets (banks)	1988-2001	Annual	<i>The Banker</i>
Financial sector	ROC	Return on tier one capital (banks)	1988-2001	Annual	<i>The Banker</i>
Financial sector	Syndicated	Syndicated loan spreads	1993-2002	Monthly	Bank for International Settlements (BIS)
Bonds	GBI ^a	Global Bond Index	1987-2002	Daily	JP Morgan/Reuters
Bonds	EMBI ^b	Emerging Market Bond Index	1987-2002	Daily	JP Morgan/Reuters
Bonds	EMBI+ ^c	Emerging Market Bond Index Plus.	1987-2002	Daily	JP Morgan/Reuters
Stocks	IFC G ^d	Standard & Poor and International Finance Corporation (IFC) (global)	1990-2002	Daily	IFC/S&P
Stocks	IFC I ^e	S&P and IFC (investable)	1990-2002	Daily	IFC/S&P
Stocks	COMP	Developed countries listed above: composite stock indexes	1990-2002	Daily	Reuters
Macro	GDP	GDP growth rate	1985-2000	Six-monthly	IMF, World Bank (authors' calculations)
Macro	GDP HP	Hodrick-Prescott decomposition of GDP	1950-1998	Annual	National data (authors' calculations)
Macro	STIR	Short-term nominal interest rate	1985-2000	Six-monthly	National data (BIS) or IMF, IFC
Macro	STIRR	Short-term real interest rate	1985-2000	Six-monthly	National data (BIS) or IMF, IFC

Source: Prepared by the authors.

^a The GBI consists of regularly traded, fixed-rate domestic government bonds. The countries covered have liquid government debt markets which are freely accessible to foreign investors. GBI excludes: floating-rate notes, perps, bonds with less than one year maturity, bonds targeted at the domestic market for tax reasons and bonds with callable, puttable or convertible features.

^b Included in the EMBI, which is prepared by J.P. Morgan, are dollar-denominated Brady bonds, Eurobonds, traded loans and local debt market instruments issued by sovereign and quasi-sovereign entities.

^c EMBI+ is an extension of the EMBI. The index tracks all of the external currency-denominated debt markets of the emerging markets.

^d IFC G (Global) is an emerging equity market index produced jointly by the International Finance Corporation (IFC) and Standard & Poor (S&P). The index does not take into account restrictions on foreign ownership that limit the accessibility of certain markets and individual stocks.

^e IFC I (Investable) is adjusted to reflect restrictions on foreign investments in emerging markets. Consequently, it presents a more accurate picture of the actual universe available to investors.

sense. The specific results, for the financial sector, are presented first, followed by those for other, more general economic and financial variables.

As can be seen from table 2, all the results were tested to ensure statistical significance. In all cases, the results were significant at the 99.5% confidence level and the null hypothesis that the average mean correlations of the two series were equal ($H_0: M_x = M_y$) was clearly rejected.

1. Discussion

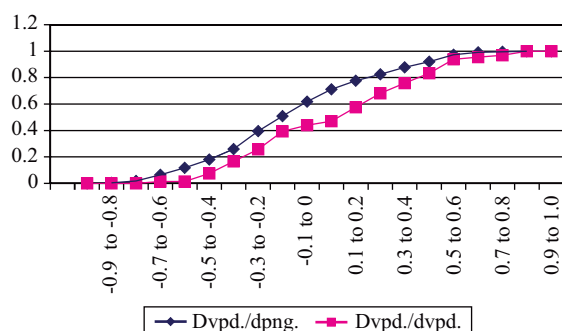
As is clear from table 1, a wide variety of financial, market and macro variables have been employed in our

tests. Whilst it might be suggested that each of the variables we have used could be criticized as imperfect in some way, we would argue strongly that distortions in the data are likely to be cancelled out, as they are unlikely to be the result of common causes. Consequently, the fact that every statistical test that we have performed, regardless of variable, time period or frequency, has pointed in the same direction, and all are clearly statistically significant on a variety of tests, offers robust and unequivocal support for our first hypothesis.

In the case of spreads on syndicated bank loans, and adopting the reasonable assumption that they are indicative of the risk associated with the loans—and therefore a proxy for probability of default—it is clear

FIGURE 1

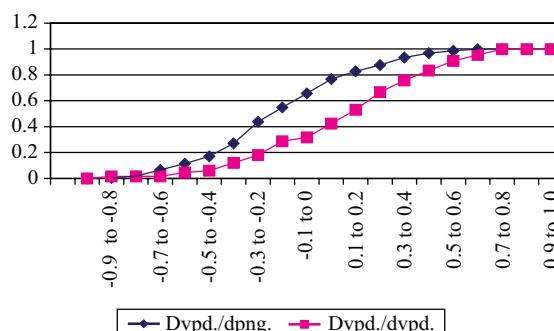
First-order stochastic dominance tests for correlations on banks' return on assets (1988-2001)



Source: Analysis conducted for this study.

FIGURE 2

First-order stochastic dominance tests for correlations on banks' return on capital (1988-2001)



Source: Analysis conducted for this study.

TABLE 2

Mean correlation coefficient

Variable	Period	Frequency	Developed/ developed mean correlation coefficient	Developed/ developing mean correlation coefficient	Test statistic ($H_0: M_x = M_y$) ^a
Syndicated	1993-2002	Monthly	0.37	0.14	3.33 (3.29)
ROA	1988-2001	Annual	0.10	-0.08	4.40 (3.29)
ROC	1988-2001	Annual	0.14	-0.11	6.92 (3.29)
GDP	1985-2000	Six-monthly	0.44	0.02	9.08 (3.29)
GDP HP	1950-1998	Annual	0.35	0.02	9.41 (3.29)
STIR	1985-2000	Six-monthly	0.72	0.23	11.09 (3.29)
STIRR	1985-2000	Six-monthly	0.66	0.22	10.93 (3.29)
GBI-EMBI	1991-2002	Daily	0.78	0.53	5.45 (3.29)
GBI-EMBI	1991-1997	Daily	0.90	0.74	4.64 (3.29)
GBI-EMBI	1998-2002	Daily	0.42	0.09	5.87 (3.29)
IFC I-COMP	1990-2000	Daily	0.58	-0.15	7.83 (3.29)
IFC G-COMP	1990-2000	Daily	0.58	-0.17	8.06 (3.29)

Source: Analysis conducted for this study.

^a Critical value of 0.05% one-tailed test.

that risks, as measured in this way, have had a greater tendency to rise and fall together *within* the developed regions than has been the case for the developed and developing regions. Consequently, this first result would appear to offer support to our hypothesis. That is, over the sample period of 1993 to 2002 a bank with a loan portfolio that was well diversified across the major developed and developing regions would have enjoyed diversification benefits at the portfolio level: the correlation between the risks associated with loans to each of these regions would have been lower than was the case for a bank with a loan portfolio which focused only on developed markets.

Similarly, the fact that the profitability of banks in developed markets has a slight negative correlation with that of banks in developing markets, whilst the profitability of banks within developed markets has a slight positive correlation, provides further support for our hypothesis of the benefits of diversification. Although there may be many factors affecting the level of profitability of a country's domestic banking system, it seems reasonable to assume that one of the more significant factors would be the incidence of non-performing loans in the domestic economy. More generally, the health and consequent profitability of the country's domestic economy must plausibly impact

strongly upon the profitability of its banking sector. Thus, over the sample period, a bank lending to both banks and corporates across a wide range of developed and developing countries would have obtained diversification benefits, at the portfolio level, relative to a bank with a loan portfolio concentrated solely on developed markets.

The results from the macro variables, whilst more general, give some indication of the extent to which developed economies have tended to move in step with each other to a far greater extent than have developed and developing economies. If we plausibly assume that the incidence of non-performing loans (NPLs) in an economy is, at least partially, inversely related to the rate of gross domestic product (GDP) growth, then banks with an internationally diversified portfolio would be less likely to experience sharp increases in the incidence of NPLs in these markets simultaneously. Conversely, a bank that focused entirely on the (more highly correlated) mature markets would have a greater chance of experiencing such an outcome. Similar implications arise if we take movements in short-term interest rates as a proxy for the business cycle (rising rates indicating the close of an upturn and vice versa), and these results provide further evidence in support of our argument. As with GDP growth, the fact that business cycles—and therefore movements in short-term interest rates—are more correlated between developed countries than between developed and developing countries suggests that the incidence of

NPLs and defaults is likely to be more correlated in the former than the latter.

For many market practitioners, movements in government bond prices and yields are seen as a strong indicator of both economic fundamentals and market views on the economic prospects of each country. The fact that developed-country bond prices move in step to a far greater extent than do developed- and developing-country prices suggests a closer correlation between both economic fundamentals in developed countries *and* market sentiment towards them. The evidence of lower correlation between developed and developing stock markets also supports this view. To the extent that a country's stock market reflects economic fundamentals and investor sentiment towards the country, a lower correlation between developed and developing countries provides further evidence in support of our first hypothesis.

The evidence presented above clearly supports our hypothesis that a bank whose loan portfolio is diversified internationally between developed and developing countries will have lower overall portfolio risk than one which focuses exclusively on lending to developed countries. In order to test this hypothesis in the specific context of a bank's loan portfolio, a simulation exercise has been undertaken to assess the potential unexpected loss resulting from a portfolio diversified within developed countries, and one diversified across developed and developing regions.

IV

Simulated loan portfolios

The testing of our second hypothesis involves the construction of two simulated loan portfolios, which enables us to assess the probable level of unexpected loss in each portfolio. Thus we can directly compare the simulated behaviour of a portfolio diversified across developed and developing regions with one focused solely on developed markets.

The basic context for our approach and the results obtained are detailed below. Appendix B contains more information, as well as technical details of the construction of the simulated portfolios.

1. Context

The fact that the quality of the credit portfolio of any bank can change at any time in the future means that there is a need to make frequent calculations of the losses that a bank could suffer, under a variety of situations. Given the constant changes in portfolio quality, it is unlikely that the computed preventive reserves will be the same for different periods. The difference between preventive reserves computed at different periods (due to changing credit quality) is the cause of the potential losses to the bank—those that could erode its capital in extreme situations. These

losses are called “unexpected losses”. Our second hypothesis, in effect, states that the levels of unexpected loss for a portfolio that is diversified across developed and developing markets will be lower than that for a portfolio that focuses exclusively on developed markets. This hypothesis is supported, in principle, by the results of our statistical work above, which demonstrated that there was a lower level of correlation between developed and developing markets than among developed markets only.

2. Simulation

The approach we employ represents a modification of the well known CreditMetrics approach, which has been widely used to simulate unexpected losses in portfolios. Following a similar approach, two simulated portfolios were constructed: one with an even distribution of loans across the major developed and developing regions, the other with the loan portfolio evenly distributed across the developed regions. We then programmed an algorithm that simulated 10,000 different “quality scenarios” that might impact on these portfolios, and so produce migration of loans between credit quality bands.³ Each quality scenario shows a change in the market value of the assets of the creditors in the portfolio, and therefore the difference between the initial and final credit quality can be assessed. Once the credit portfolio quality scenarios have been simulated, it is possible to compute the losses or gains

that come from the difference between initial and final credit quality.

The losses or gains obtained from the simulation process are used to build a histogram, which summarizes the loss distribution of the credit portfolio. From this distribution a “value at risk” (VaR) is defined from which we obtain the amount of unexpected losses from the portfolio.⁴ The unexpected losses divided by the total amount of the portfolio represent the percentage that, with a given probability (defined by the chosen percentile), could be lost in an extreme event.

3. Results

The results obtained from our simulations (table 3) offer strong support for our second hypothesis. As the table shows, the unexpected losses simulated for the portfolio focused on developed-country borrowers are, on average, almost 23% higher than for the portfolio diversified across developed and developing countries.

4. Discussion

The simulated loan portfolios constructed offer clear evidence that international diversification produces a more efficient risk/return trade-off for banks at the portfolio level. Given that capital requirements are intended to deal with unexpected loss, the fact that the level of unexpected loss in our simulation is lower for

TABLE 3

Comparison of non-industrially diversified portfolios
(Weights and percentages)

Portfolio diversified between developed and developing countries Total exposure = 117 625 333.00			Portfolio diversified among developed countries Total exposure = 117 625 333.00			
Percentile	Loss value	Unexpected loss	Percentile	Loss value	Unexpected loss	Percentage difference
99.8	22 595 312	19.21	99.8	27 869 349	23.69	+23.34
99.9	26 390 246	22.44	99.9	32 187 075	27.36	+21.96

Source: Analysis conducted for this study.

³ Developing regions include Africa and the Middle East, Asia and the Pacific, developing Europe and Latin America. Developed regions include European Union countries outside economic and monetary union, those within it, other industrialized countries and offshore centres.

⁴ There are, of course, many problems with and criticisms of the VaR approach to risk management. See Zigrand and Danielsson

(2001) and Persaud (2001), for example. However, it is beyond the scope of this paper to assess these issues. For the purposes of this research, our simulation is designed to demonstrate –in broad terms– the relative difference in unexpected losses that would be likely to occur in each portfolio, in a similar fashion to that currently practised by many major, internationally active banks.

TABLE 4

Comparison of two simulated industrially diversified portfolios
(Weights and percentages)

Portfolio diversified between developed and developing countries			Portfolio diversified among developed countries			
Total exposure = 117 625 333.00			Total exposure = 117 625 333.00			
Percentile	Loss value	Unexpected loss	Percentile	Loss value	Unexpected loss	Percentage difference
99.8	15 111 321	12.85	99.8	17 665 318	15.02	16.90
99.9	15 358 788	13.06	99.9	17 960 850	15.27	16.94

Source: Analysis conducted for this study.

a diversified than for an undiversified portfolio suggests that, in order to accurately reflect the actual risks that banks may face, Basel II should take account of this effect.

It is, of course, always possible to question the assumptions which underpin any simulation. We have attempted to ensure that our assumptions are as reasonable as possible. One aspect that we considered in detail was that the decision to assume no industrial diversification within countries might prevent the benefits of such diversification in developed countries—which generally have a greater range of industries than do developing countries—from being taken into account. We concluded, however, that the potential benefits of such diversification may have traditionally been overstated. This position is supported by recent empirical work produced by the Basel Committee on Banking Supervision (Acharya, Hasan and Saunders, 2002). Using data from 105 Italian banks over the period 1993-1999, these authors test empirically for evidence in support of the theoretical benefits of industrial, sectoral and geographical diversification. The results, although somewhat surprising, would seem to offer support for both the assumptions that underpin the loan portfolio simulation (i.e., no industrial diversification) and, crucially, the general findings of our empirical work.

From the combined results on bank loan return and risk, we conclude that increased industrial loan diversification results in an inefficient risk-return trade-off for the (Italian) banks in our sample, and sectoral diversification results in an inefficient risk-return trade-off for banks with relatively high levels of risk. Geographical diversification on the other hand does result in an improvement in the risk-return trade-off for banks with low or moderate levels of risk (Acharya, Hasan and Saunders, 2002, p. 5).

However, in order to be certain that the simulation results had not been biased by this assumption, a second series of simulations was undertaken. In this instance, both geographical and industrial diversification was assumed. As can be seen in table 4, this modification—which brings the simulation closer to real practice—has the effect of halving the level of unexpected loss in the portfolios; thus they are now closer to the 8% figure which is often encountered in the real world, and which forms the basis of the Basel Committee's stated capital requirements for the system as a whole.

The difference between the simulated unexpected losses in the two portfolios has also been reduced by this modification, although less so. At almost 17%, on average, the difference remains highly significant, and so offers further evidence of the robustness of our results.

Another issue that we have given consideration to is the fact that correlations are not constant over time. The danger, of course, is that correlations among emerging markets increase dramatically in crises, as contagion spreads the crisis from one country or region to another. In this instance, it is possible that a portfolio diversified across a range of emerging and developing regions might be hit simultaneously in each of them. However, while this may well be the common perception of emerging market behaviour in crises, it may only apply to a limited number of cases, which require specific preconditions to be in place; preconditions which at the current time—and indeed at most times—do not apply. Kaminsky, Reinhart and Vegh (2002) examine 200 years of financial crises, in both developed and developing countries, for evidence of contagion. They conclude that “fast and furious” contagion of the type described above may occur, but only under certain circumstances. Of the major

emerging market crises since 1980, the Mexican default of 1982, the Mexican devaluation of 1994, the devaluation of the Thai baht in 1997 and the Russian default of 1998 were all seen as instances where significant contagion did occur. However, with the exception of the Russian default, which affected all emerging and developing regions, as well as the developed world to a surprising extent (Davis, 1999), the resultant contagion was restricted to the same region. Consequently, a portfolio diversified across *all* emerging and developing regions would not have suffered simultaneous problems to the extent described above. On the other hand, more recent events, such as the Brazilian devaluation of 1999, Turkey's devaluation in early 2001 and the problems starting in Argentina towards the end of 2001, have been associated with far less contagion, and have not become an emerging market-wide phenomenon.

Kaminsky, Reinhart and Vegh (2002) suggest that for a crisis to spread beyond regional boundaries, an investment boom, or bubble, has to precede it. In this

way, actors beyond the region become involved in events there, and so the crisis may spread—via common creditors to some extent—to other emerging, and even developing regions. The current environment is certainly not one of boom with regard to capital flows to emerging and developing economies. Furthermore, it seems unlikely that such circumstances will reoccur in the foreseeable future, which means that the preconditions required for system-wide contagion are not in place and the benefits of widespread diversification will remain a reality.

Kaminsky and Reinhart (2002) also emphasize this point. Their research suggests that financial turmoil in the “periphery” (developing countries) only has systemic implications, such as contagion beyond the immediate region, when asset markets in one of the major financial centres (developed world) are affected. “Thus,” as these authors put it, “financial centers serve a key role in propagating financial turmoil. When financial centers remain safe, problems in an emerging market stop at the region's border” (*ibid.*, p. 3).

V

Conclusions

The expressed purpose of the proposed new Basel Capital Accord is to better align regulatory capital with actual risk. This process, it is argued, will put bank lending on a sounder regulatory footing and remove the many distortions that have come to be recognized in the existing Accord. We have argued that the current proposals run the risk of causing an increase in cost and/or reduction in quantity of bank lending to developing countries, as a consequence of the sharp increase in capital requirements for lending to lower-rated borrowers. The response to this argument is that any changes in capital requirements are justified on the basis that, whilst the capital associated with lower- (higher-) rated borrowers is to rise (fall) significantly, relative to the existing situation, this merely reflects the more accurate measurement of risk.

However, as we have demonstrated in this paper, the failure of the proposals to date to take account of the benefits of international diversification suggests that, in this instance at least, risk is not being accurately measured. That is, by excluding the possibility that banks' capital requirements should take account of

portfolio and diversification effects, the proposals effectively impose an inaccurate measure of actual risk, at the portfolio level. At present, the most sophisticated banks often *do* take account of the benefits of diversification in their international lending decisions. The fact that the proposals under Basel II will not allow these diversification benefits to be taken into account suggests that the regulatory capital associated with lending to developing countries will be higher than that which banks would—and currently do—choose to put aside on the basis of their own models.

The Basel Committee has already made a number of modifications to the original proposals of January 2001 (CP2), the most significant being the modifications to the IRB formula to take account of variable asset correlation as related to default, and those relating to SMES. Following the release of CP2 there was widespread concern that lending to SMES would be adversely affected by a large increase in the capital requirements associated with such lending. After intensive lobbying, the Basel Committee has reconsidered the issue. The general changes to the IRB

formula with respect to corporate lending, whereby the curve has been significantly flattened, will obviously be of benefit to SMEs. However, the Basel Committee has gone further. In July 2002 it released a document that highlighted major areas where agreement had been reached. This included the following in relation to the treatment of SMEs:

In recognition of the different risks associated with SME borrowers, under the IRB approach for corporate credits, banks will be permitted to separately distinguish loans to SME borrowers (defined as those with less than Euro 50 mn in annual sales) from those to larger firms. Under the proposed treatment, exposures to SMEs will be able to receive a lower capital requirement than exposures to larger firms. The reduction in the required amount of capital will be as high as twenty percent, depending on the size of the borrower, and should result in an average reduction of approximately ten percent across the entire set of SME borrowers in the IRB framework for corporate loans (Basel Committee on Banking Supervision, 2002).

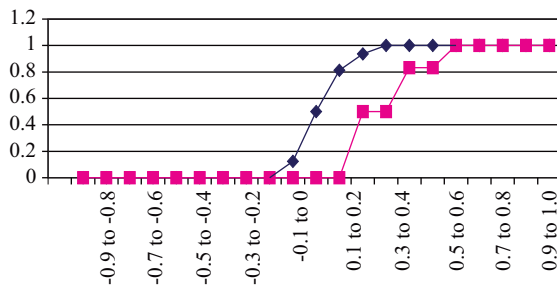
Thus, in the case of SME lending, the Basel Committee has recognized the impact that differential asset correlation can have on portfolio-level risk. Our results strongly suggest that a similar modification is justified with respect to internationally diversified lending.

The specific manner in which the Basel Committee might want to incorporate these findings is, of course, best left to them. Given the experience and expertise at their disposal we would not at this stage want to offer suggestions as to the means by which these modifications might be made. However, given the changes already made to the IRB formula with respect to SMEs, as well as the fact that the changes we propose would seem to have at least as solid an empirical basis, there are no theoretical, empirical or practical reasons why changes should not be made to incorporate the benefits of international diversification.

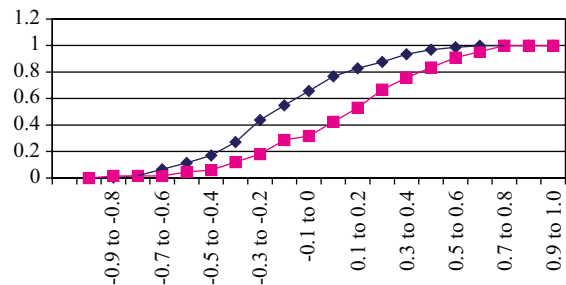
APPENDIX A

Cumulative distribution function tests^a

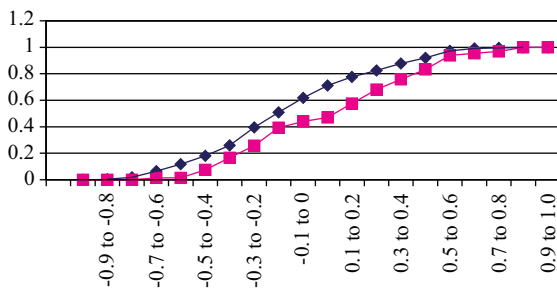
A.1. First-order stochastic dominance tests for correlations on syndicated loan spreads (1993-2002)



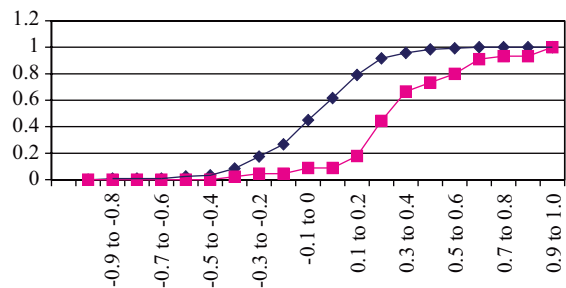
A.2. First-order stochastic dominance tests for correlations on banks' return on capital (1988-2001)



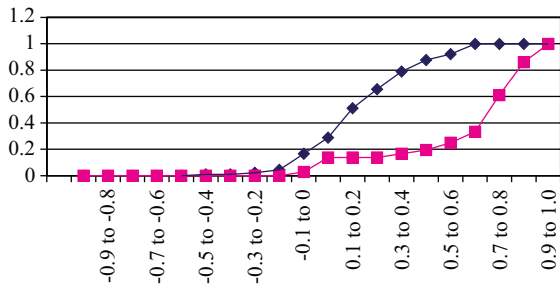
A.3. First-order stochastic dominance tests for correlations on banks' return on assets (1988-2001)



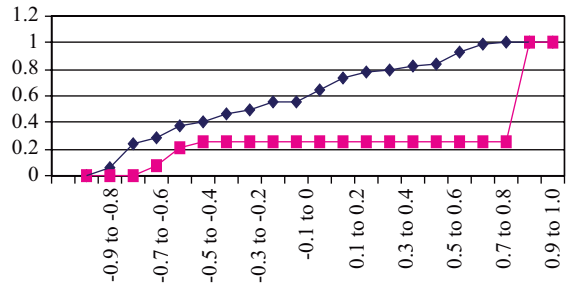
A.4. First-order stochastic dominance tests for correlations on GDP growth (1985-2000)



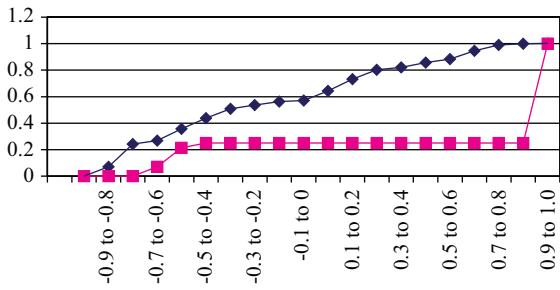
A.5. First-order stochastic dominance tests for correlations on real short-term interest rates (1985-2000)



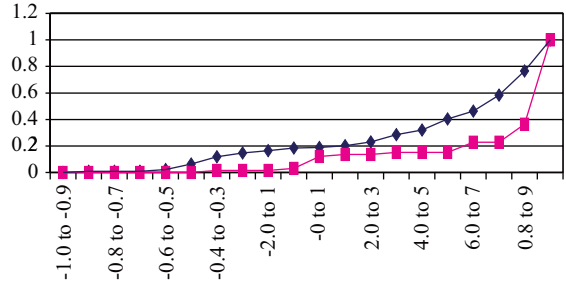
A.6. First-order stochastic dominance tests for correlations on stock exchange movements (IFC I-COMP: 1990-2002)



A.7. First-order stochastic dominance tests for correlations on stock exchange movements (IFC G-COMP: 1990-2002)



A.8. First-order stochastic dominance tests for correlations on bond market movements (GBI-EMBI+: 1991-2002)



◆ Developed/developing ■ Developed/developed

Source: Analysis conducted for this study.

APPENDIX B

Computation of unexpected losses

Considering that the quality of the credit portfolio of any bank can change at any time in the future, there is a need to make frequent calculations of the expected losses that this portfolio could suffer under different risk situations. Given these constant changes in portfolio quality, it is unlikely that the computed expected losses will be the same for different periods. The difference between expected losses computed at different periods (due to changing credit quality) is the cause of potential losses to banks that could erode their capital in extreme situations. These losses are called “unexpected losses” and their estimation is the issue to be addressed in this appendix.

Unexpected losses arise because of joint credit quality changes among the credits that conform a portfolio. In order to model such quality changes, we adopted a portfolio approach.

This method⁵ has been amply documented and adopted in diverse finance applications. Under this theory, investors formulate their investment portfolio, carefully considering the optimal risk-return relationship that a given portfolio has. With this in mind, credit risk modellers have already developed risk evaluation techniques that aim to take account of the portfolio diversification effect. Although such approaches might be subject to improvements, we do believe that portfolio diversification could and should be an integral part of credit risk valuation for regulation purposes.⁶ As we have argued in the main body of the paper and in previous work, we believe that negative economic outcomes will be provoked by the fact that the proposed regulation framework only punishes high risk-taking and does not provide incentives for portfolio diversification.

In this appendix we present a modification to the CreditMetrics methodology that has been used to simulate unexpected credit losses in the portfolios analysed.⁷ J.P. Morgan (1997) describes the CreditMetrics model as “a full portfolio view addressing credit event correlations which identify the costs of over concentration and benefits of diversification”. The objective of this appendix is to present the modifications that were made to the CreditMetrics approach in order to make possible its implementation.⁸ Hereinafter we shall refer to the modified version of the CreditMetrics methodology, which we have termed the Full Credit Risk Model (FCRM).

The Full Credit Risk Model

Empirical studies showing credit defaults to be correlated have been widely presented. Here we present evidence that credit risk can also be diversified. In order to calculate portfolio diversification, it would be necessary to know the probability that each of the credits making up a portfolio migrate jointly from their current rating (credit quality) to each of the possible ratings. For this, we would need to have a number of tables of joint probabilities equivalent to the number of pairs of credits making up a portfolio. This objective is unattainable given the lack of reliable data, the amount required, and the complexity of it.

The CreditMetrics approach makes use of two main elements: the Merton approach for modelling credit quality changes, and an indirect approach for modelling correlations among the credits that make up a credit portfolio.

Finally, once a correlations matrix among the creditors making up the credit portfolio is built, this methodology simulates the unexpected losses for the portfolio.

a) The Merton approach for modelling credit quality changes

The Merton approach assumes that equity can be viewed as a call option on the firm’s assets with a strike price equal to the book value of the firm’s debts (Merton, 1974). The intuition behind this assumption is that given the limited liability feature of equity, equity holders have the right but not the obligation to pay off debt holders and take over the remaining assets of the firm. This approach implies that the credit quality (rating) of a given creditor is related to the difference between the market value of its assets and its debt.

With this approach, the change in the value of the assets of a given company is related to the change in its rating. Therefore, the distribution of the company’s asset returns can be used to calculate the distribution of probabilities of change in its rating. For the generalization of this model, it is necessary to include, in addition to the default state, different credit quality states.

The transition matrix is the variable that summarizes the probabilities of migration from one credit quality to any other. Knowing the probabilities of transition between different credit qualities and considering the Merton approach, it is possible to derive the market value of assets that represent the cut-off values between different credit qualities, as shown in figure B.1. These cut-off values fulfil the condition that if the change in the market value of the asset (r) is sufficiently negative (i.e., smaller than ZE), then the credit falls into default; if $ZE < r < ZD$, the credit is rated D , and so on.

Taking into consideration the empirical transition matrix, it is possible to estimate the probability of these

⁵ See Markowitz (1959).

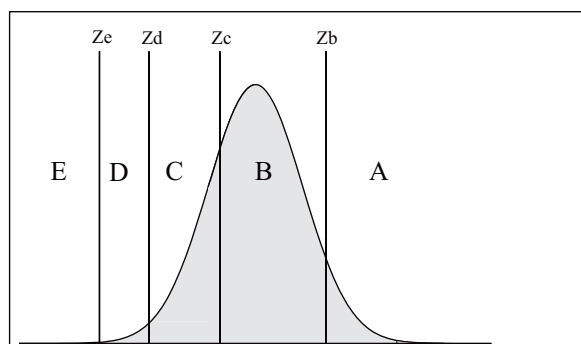
⁶ It is not our intention at this point to analyse the possible improvements to each methodology.

⁷ The choice of this model was dictated by considerations of modelling simplicity and the availability of data. It is not our intention to favour any specific credit risk modelling technique.

⁸ See J.P. Morgan (1997) for a detailed exposition.

FIGURE B.1

Distribution of asset returns



Source: Analysis conducted for this study.

changes happening as follows (for a credit initially rated as X):

$$\begin{aligned} \text{Prob}(E|X) &= \text{Prob}(r < ZE) = \varphi(ZE) \\ \text{Prob}(D|X) &= \text{Prob}(ZE < r < ZD) = \varphi(ZD) - \varphi(ZE) \\ \text{Prob}(C|X) &= \text{Prob}(ZD < r < ZC) = \varphi(ZC) - \varphi(ZD) \\ \text{Prob}(B|X) &= \text{Prob}(ZC < r < ZB) = \varphi(ZB) - \varphi(ZC) \\ \text{Prob}(A|X) &= \text{Prob}(ZB < r < ZA) = 1 - \varphi(ZB) \end{aligned}$$

where:

r = implied market value of assets.

φ = cumulative distribution function for the normal distribution.

From this point of view, the correlation matrix of changes of credit quality between creditors can be computed by developing an explanatory model of the changes in the value of the borrowers' assets.

This approach presents several practical problems for implementation, the most important being the handling of very large correlation matrices. Additionally, it is not possible to obtain the changes in the market value of assets for each particular borrower, since it would be necessary to have specific information about the internal financial structure of each of them. These two disadvantages make it impossible to implement an ideal correlation matrix, and we shall consequently adopt an indirect (but more manageable) method of introducing the portfolio diversification effect.

b) *An indirect approach to modelling correlations among the credits that make up a credit portfolio*

Following the Merton approach, J.P. Morgan (1997) makes an *a priori* distinction between the factors that determine the changes in the value of borrowers' assets. This distinction comes from two basic components: the market component and the idiosyncratic component. By definition, the idiosyncratic component does not correlate with anything, since it refers to those factors that are unique to the borrower.

But the market component brings with it all the elements needed for portfolio diversification.

$$r_{total} = W_M r_{market} + W_I r_{idiosyncratic}$$

where:

W_M = percentage of returns explained by the market component.⁹

r_{market} = market component of returns.

W_I = percentage of returns explained by the idiosyncratic component.¹⁰

$r_{idiosyncratic}$ = the idiosyncratic component of returns.

Conversely, the market component of returns is defined as:

$$r_{market} = H_A r_{GDP\ country} + (1 - H_A) r_{GDP\ economic\ activity}$$

where:

H_A = percentage of market component explained by the GDP of the borrower's geographical area. The Herfindahl index computes this parameter.

$r_{GDP\ country}$ = return on the GDP of the borrower's country.

$(1 - H_A)$ = percentage of market component explained by the GDP of the borrower's economic activity.

$r_{GDP\ economic\ activity}$ = return on the GDP of the borrower's economic activity.

The market component of returns is divided between economic activity and geographical area. Which is more relevant for a borrower? Is it his economic activity or the country where his business is carried on? The percentage of participation of these market factors in the borrower's systemic risk is exogenous to the model, so a methodology was designed to solve this problem in the most objective way possible (Segoviano, 1998).

This methodology was based on the fact that the greater the variety of economic activities in a country, the lesser the effect (on the value of assets of a borrower in that country) of a sudden change in the country's production. Within this framework it is possible to infer that in those countries where there are few economic activities (and thus a high economic activity concentration), the most important factor for the borrower's asset values will be his geographical location. The intuition behind this reasoning is the fact that if the country

⁹ J.P. Morgan (1997) explains how these weights can be calculated. After empirical implementations, it is proved that an acceptable value of W is 70%. For our exercise, we assume this value.

¹⁰ The idiosyncratic component weight is obtained with the following equation:

$$w_I = \sqrt{1 - w^2_M}$$

The objective of this equation is to be consistent with the change in the market value of the assets' standardized returns.

is affected by an economic shock, it is very likely that the borrower will experience a decrease in the value of his assets, since he is highly likely to belong to the economic activities that have been affected.

Following this reasoning, we computed a Herfindahl index with the following formula for each group of countries:

$$H_A \sum_{i=1}^n \left(\frac{X_{Ai}}{\sum_{j=1}^n X_{Aj}} \right)^2$$

where:

X_{Ai} = the participation of economic activity i in country group A .¹¹

Once all the elements that compose the market component of asset returns have been considered, the next step is to calculate the correlations between the borrowers making up a credit portfolio.

Given a pair of borrowers X and Y , working in industrial activities B and V located in country groups A and E and with returns expressed in the following way:

$$r_X = w_{IX}r_{IX} + w_{MX}H_A r_A + w_{MX}(1 - H_A)r_B$$

$$r_Y = w_{IY}r_{IY} + w_{MY}H_E r_E + w_{MY}(1 - H_E)r_V$$

the problem of estimating the correlations between each pair of creditors in the portfolio is summarized in the following way:

$$\rho_{XY} = w_{MX}H_A w_{MY}H_E \rho_{AE} + w_{MX}(1 - H_A)w_{MY}(1 - H_E)\rho_{BV}$$
¹²

where:

ρ_{AE} = correlation between different country groups.¹³

ρ_{BV} = correlation between different economic activities.¹⁴

¹¹ The higher the Herfindahl index for a given country group, the less economic activity is diversified. Thus, the percentage of the market component explained by the GDP of the borrower's country takes on more importance.

¹² Since the correlations between idiosyncratic components and geographical components, between idiosyncratic components and economic activity components and between economic activity components and geographical components are assumed to be zero.

¹³ These correlations were computed between the spreads of syndicated loans for each country group. We considered that such spreads represented the riskiness of the financial system in each country group.

¹⁴ These correlations were computed between indexes for each of the economic activities considered in the exercise. Each economic activity index was built with the economic activity component of the GDP of a representative country for each country group in the sample.

This equation is computed for each pair of borrowers making up the portfolio. The results of computing this equation are compiled in an $(n \times n)$ square matrix, where n is the number of creditors in the portfolio. This matrix is named the matrix of correlation between creditors and is unique for each portfolio. It is an extremely important variable for the simulation of unexpected losses, since it incorporates the elements necessary for quantifying the concentration/diversification of the portfolio.

With these elements, we show in the following section how quality scenarios for the portfolio are simulated. From these, we build the loss distribution from which it is possible to obtain the unexpected losses.

c) Simulation of quality scenarios for the credit portfolio

Combining the transition matrix with the matrix of correlation between creditors, we simulate quality scenarios from which the loss distribution for the credit portfolio is obtained.

As explained above, the transition matrix indicates the probabilities of quality changes that a creditor with a given rating might experience. Additionally, the correlations of quality changes between creditors is involved. Creditors with similar characteristics will tend to migrate jointly to different credit qualities when hit by economic shocks. Creditors with different characteristics will tend to migrate disjointly to different credit qualities when hit by economic shocks. This implies that credit portfolios concentrated in credits with similar characteristics will tend to have higher unexpected losses since they will not be diversifying the possible economic risks.

We programmed an algorithm to compute 10,000 possible quality scenarios for each of the $(n \times n)$ pairs of creditors that make up the portfolio. Each quality scenario shows a change in the market value of the assets of the creditors in the portfolio. This process is repeated 10,000 times. The quality changes of the members of the portfolio can be used to generate an amount of losses or profits that conform the loss distribution of the portfolio.

In order to generate these scenarios, the following process is computed:

- i) Generation of random uniform numbers.
- ii) Transformation of these random numbers into normal standard random numbers.
- iii) Transformation of the normal standard random numbers into normal multivariate random numbers with variance equal to the matrix of correlation between creditors.

Since it was assumed that the process generating changes in the assets followed a normal distribution, we use normal random multivariate distribution to generate joint quality migrations, where credits with high correlation will tend to migrate jointly.

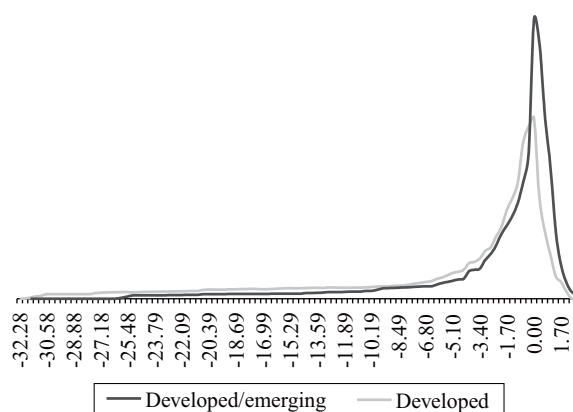
d) *Unexpected losses*

Once the credit portfolio quality scenarios have been simulated, it is possible to compute the losses/gains that come from the difference between initial and final credit qualities. The losses/gains obtained from the simulation process are used to build a histogram which summarizes the loss distribution of the credit portfolio.

Simulated unexpected losses must be ordered to generate the loss distribution. From this distribution a Value at Risk (VaR) is defined from which we obtain the amount of unexpected losses from the portfolio. The unexpected losses divided by the total amount of the portfolio represent the percentage that with a given probability (defined by the chosen percentile) could be lost in an extreme event. Thus, capital requirements should be such that they can cover such losses.

FIGURE B.2

Distribution of credit portfolio losses



Source: Analysis conducted for this study.

Bibliography

- Acharya, V., I. Hasan and A. Saunders (2002): *Should Banks Be Diversified? Evidence from Individual Bank Loan Portfolios*, BIS Working Paper, No. 118, Basel, Bank for International Settlements (BIS), September.
- Basel Committee on Banking Supervision (2002): Basel Committee reaches agreement on New Capital Accord issues [<http://www.bis.org/press/p020710.htm>]
- Davis, E.P. (1999): Russia/LTCM and market liquidity risk, *The Financial Regulator*, vol. 4.2, London, Central Banking Publications Ltd.
- Griffith-Jones, S. (2002): *Capital Flows to Developing Countries: Does the Emperor Have Clothes?*, Sussex, Institute of Development Studies.
- Griffith-Jones, S. and S. Spratt (2001): *Will the Proposed New Basel Capital Accord Have a Net Negative Effect on Developing Countries?*, Sussex, Institute of Development Studies.
- Griffith-Jones, S., S. Spratt and M. Segoviano (2002): Basel II and developing countries, *The Financial Regulator*, vol. 7.2, London, Central Banking Publications Ltd., September.
- J.P. Morgan (1997): *CreditMetrics Technical Document*, New York.
- Kaminsky, G. and C. Reinhart (2002): *The Center and the Periphery: The Globalization of Financial Turmoil*, Washington, D.C., George Washington University, preliminary version.
- Kaminsky, G., C. Reinhart and C. Vegh (2002): *Two Hundred Years of Contagion*, forthcoming.
- Markowitz, H. (1959): *Portfolio Selection: Efficient Diversification of Investments*, New York, John Wiley and Sons.
- Merton, R.C. (1974): On the pricing of corporate debt: the risk structure of interest rates, *Journal of Finance*, vol. 29, Oxford, Blackwell Publishing.
- Persaud, A. (2001): *Sending the Herd off the Cliff-Edge: The Disturbing Interaction Between Herding and Market-Sensitive Risk Management Practices*, State Street Bank, March.
- Segoviano, M. (1998): *Basel II v.s. Creditmetrics*, London, London School of Economics.
- Zigrand, J.P. and J. Danielsson (2001): *What Happens When You Regulate Risk? Evidence from a Simple Equilibrium Model*, FMG Discussion papers, No. 393, London.

IDB lending to budget oversight institutions

Carlos Santiso

International financial institutions are showing a renewed interest in measures to enhance national budget management and strengthen the integrity of public finance in emerging economies. The role of national parliaments and supreme audit institutions in the governance of the budget and the accountability of public finances is being rediscovered. To strengthen the contribution these institutions make to the budget process, the Inter-American Development Bank (IDB) is providing them with multilateral loans whose potential remains unexplored and whose effectiveness could be improved. Besides increasing technical capacity and enhancing operational efficiency, second-stage reforms should enhance the governance of public finance and fiscal control by ensuring greater financial autonomy and political independence for supreme audit institutions and promoting more efficacious links between supreme audit institutions and parliamentary public accounts committees.

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I

Exploring uncharted territory

It is increasingly recognized that the quality of the budget process is a critical determinant of good government. Budget transparency and fiscal oversight are critical for enhancing public finance management, ensuring government accountability and curbing corruption. Consequently, the governance of the budget and the institutions of accountability, transparency and integrity in public finance are the subject of renewed scrutiny.

In the course of the 1990s, there was a general move towards a second wave of reform strategies to enhance public budgeting and public finance management in emerging economies. Traditional approaches have tended to focus on improving efficiency and effectiveness within the executive branch, in particular finance ministries, executing agencies, tax authorities and central banks. In recent years, however, greater attention has been directed at strengthening the institutions of economic governance beyond the executive branch and improving the mechanisms of oversight and accountability. This second stage of reform is partly the result of new findings on the determinants of the quality of economic policy and the need to balance executive discretion in public budgeting with mechanisms ensuring government accountability. This has led to a renewed interest in the credibility of public finance systems and the contribution of national parliaments

and supreme audit institutions¹ to budget accountability.²

The introduction of governance concerns in the development agenda has led international financial institutions (IFIs) to broaden the scope of their efforts to promote economic reform and governmental financial management. These IFIs provide significant support to strengthen the institutions of public finance governance in emerging economies in the broader context of the second-generation institutional reforms being sought (Santiso, 2004c and 2003a; Burki, Perry and others, 1998). A salient feature of new approaches to public-sector reform is the narrowing of the gap between the economic and political aspects of governance, a trend that is particularly noticeable in the IDB approach.

The IFIs have a fiduciary and a developmental interest in improving accountability in public finance management. Mitigating fiduciary risk in policy-based lending and direct budget support necessarily requires strong, credible and reliable budget management systems in recipient countries (Santiso, n/d).

The World Bank adopted a strategy to guide its involvement in governance issues in November 2000 (World Bank, 1997 and 2000) and the IDB updated its strategy for the modernization of the State in July 2003 (IDB, 2003). These strategies underscore the contribution of parliaments and supreme audit institutions to government accountability in public finance management. Furthermore, prompted by recent findings on aid effectiveness, State capture and corruption, the IFIs have upgraded their diagnosis instruments for evaluating the quality of public budgeting and the robustness of the mechanisms of accountability in government finances.³ For example, the Public Expenditure and Financial Accountability (PEFA) programme, a multi-donor initiative established in December 2001, aims at harmonizing international public-sector standards in accounting, auditing and

□ The author specializes in the political economy of governance reform and public finance accountability in emerging markets, in particular public budgeting and external auditing. This essay was partly drafted during his tenure as a Visiting Fellow at the Anticorruption Office of the Ministry of Justice, Security and Human Rights of Argentina in July-August 2003. Opinions expressed herein are those of the author only and should not be taken as reflecting those of the aforementioned institutions. The author is grateful to Linn Hammergren, Javier Santiso, Lynette Asselin, María Isabel dos Santos, Joachim Wehner, Warren Krafchik, John Williamson, Enrique Paixão, Alfredo Fóllica, Arturo Aylwin, Julio Rodolfo Comadira, Miriam Ivanega, Delia Ferreira Rubio, Néstor Baragli, Manuel Garrido, Patricia Llanos, Hernán Llanos, Simon Gill, Yasuhiko Matsuda and an anonymous reviewer for their encouragement, comments and suggestions.

¹ Supreme audit institutions are also referred to as general accounting offices or national audit offices. The term "supreme audit institution" will be used hereafter to refer to those institutions tasked with the external audit of government programmes and public accounts.

² See Santiso (n/d, 2004a and 2004b), Haggard and McCubbins (2001), Schedler, Diamond and Plattner (1999) and Mainwaring and Welna (2003).

³ See DFID (2001 and 2002), Brobäck and Sjölander (2002) and PEFA (2003).

internal control in developing and transitional countries.⁴ The bilateral aid agencies assembled in the Utstein group (Germany, the Netherlands, Norway and the United Kingdom) have been particularly active in supporting government accountability institutions in developing countries.⁵

Similarly, in the context of European Union (EU) enlargement, the European Court of Auditors (ECA) has been particularly active since 1993 in building the institutional capacity of supreme audit institutions in candidate countries from Central and Eastern Europe, as part of the process of convergence towards EU standards of public finance management and auditing.⁶ The Support for Improvement in Governance and Management in Central and Eastern European Countries (SIGMA) programme, established in 1992 as a joint initiative of the then European Community (EC) and the Organisation for Economic Co-operation and Development (OECD), has contributed to the modernization of supreme audit institutions and the strengthening of external control mechanisms in the public sector of candidate countries. Accession has provided a unique incentive to strengthen public finance accountability systems in those countries set to join the EU. For instance, the process established to monitor implementation of the 1997 Copenhagen criteria has allowed reforms to gradually expand and consolidate, leading to the accession of a first wave of 10 countries in May 2004.

In the case of Latin America and the Caribbean, the institutional strengthening of finance ministries and tax agencies has been supported by the multilateral development banks and the United States Government, acting through its General Accounting Office (USGAO) and the United States Agency for International Development (USAID). Already in the 1920s and 1930s, the United States provided technical assistance to Latin American countries for establishing their central banks and upgrading their systems of government finance (Drake, 1989). The Kemmerer missions to the Andean countries helped set up strong comptroller- and auditor-

general's offices to provide for central accounting and auditing of government finances. Similarly, since the early 1990s the World Bank, IDB and USAID have helped Latin American countries to modernize their financial administration through the establishment of integrated financial management systems (Dorotinsky and Matsuda, 2002). In the course of that decade, Argentina, Bolivia, El Salvador, Guatemala, Honduras, Nicaragua and Venezuela benefited from technical assistance loans and grants to enhance their governmental financial management systems.

This essay reviews IDB lending to the institutions of budget oversight and public finance accountability in Latin America and the Caribbean, essentially national parliaments and supreme audit institutions. The support given by the IDB to legislative budget institutions and external audit agencies is part of its broader effort to enhance financial management in the public sector of borrowing countries. Nevertheless, this essay argues that the second stage of economic reform requires new approaches to strengthen the institutions of public finance governance (Krueger, 2000). It involves addressing the political economy determinants of governance reform and fiscal control. In particular, ensuring greater oversight and integrity in public finance necessarily requires enhancing the functional linkages between the different institutions participating in the budget process and the national system of control.

The essay is divided into four sections. Section II that follows briefly reviews the new approach being taken by the IFIs to public finance management, which underscores concerns over transparency and accountability. Section III focuses on the patterns of IDB concessional lending to supreme audit institutions and parliaments in Latin America and the Caribbean. It is argued that there exists unexplored potential to enhance the effectiveness of supreme audit institutions and national parliaments in public budgeting, which would entail addressing the political economy of institutional reform and fiscal control. Besides increasing technical capacity and enhancing operational efficiency, second-stage reforms need to strengthen the political independence and financial autonomy of supreme audit institutions and promote more efficacious links between these institutions and parliamentary public accounts committees. Section IV, lastly, offers some observations on the political aspects of public finance accountability.

⁴ See www.pefa.org

⁵ See, in particular, the Utstein Anti-Corruption Centre, www.u4.no. For more information on donor-funded projects, see also www.respondanet.com.

⁶ Paradoxically, the ECA has not been able to certify the accounts of the EU in the past eight years, reflecting the difficulty of redressing structural dysfunctions in financial management systems.

II

Rethinking public finance accountability

The agencies of public finance accountability constitute a critical component of the new paradigm of development economics. They are key determinants of the institutional capabilities required to undertake second-generation economic reforms beyond the Washington consensus (Krueger, 2000; Kuczynski and Williamson, 2003; Santiso, 2004c and 2003a). In the first stage of reform, the policy prescriptions of the Washington consensus favoured a predominant role for the executive in public budgeting and the insulation of economic policy-making. However, abuses by strong presidents misusing the prerogatives of executive decree authority and the delegation of legislative authority have often led to the neutralization of accountability mechanisms, the capture of supreme audit institutions and restrictions on the role of parliaments in the budget process (Santiso, 2001a and 2001b). Accordingly, the second-generation reforms now being encouraged seek to restore the mechanisms of transparency, oversight and accountability in the governance of the budget.

1. Governance and public finance

The quality of a country's governance system is a key determinant of the ability to pursue sustainable economic and social development. The push by IFIs to confront governance challenges in developing countries has largely originated in the urgent need to tackle the structural causes of embedded corruption. This scourge became a core concern of the World Bank in 1996 when its new president, James Wolfensohn, committed the organization to fighting the "cancer of corruption". It is now well established that corruption has corrosive effects on both economic management and aid effectiveness. Thenceforth, the World Bank began supporting programmes to strengthen accountability institutions, such as the rule of law, judicial systems, public finance management systems, and parliamentary oversight mechanisms (World Bank, 2000). In 1997, it adopted an anti-corruption strategy aimed at mainstreaming anti-corruption in its lending policies and practices.

According to the standard World Bank definition, the concept of governance captures "the manner in which power is exercised in the management of a country's economic and social resources for

development" (World Bank, 1992, p.1). It encompasses the form of the political regime, the process by which authority is exercised in the management of a country's economic and social resources for development, and the capacity of governments to design, formulate and implement policies and discharge functions. Yet, the "importance of government credibility and commitment to policy reform has been essentially neglected as a pivotal condition for effective economic reform" (Ahrens, 2001, p. 75). Credibility in economic policy largely depends on the effectiveness of the mechanisms of accountability (Haggard and McCubbins, 2001; Santiso, 2004a).

2. Approaches to governance reform

Governance is a difficult concept for the multilateral development banks, which do not want to be seen as political and thus adopt a doctrine of political neutrality (Santiso, 2001c and 2004d). One of the most contentious issues relates to the distinction between economic and political aspects of governance. While the World Bank recognizes that governance is intrinsically a political concept, it is careful to stress that its engagement through lending, technical assistance and policy advice is confined to its economic dimensions, and notes that the nature of the political system falls outside the purview of its mandate as enshrined in its Articles of Agreement. Similarly, the Asian Development Bank (ASDB), which was the first regional bank to adopt a governance policy in 1995, defines good governance as "sound development management" based on four interrelated "pillars": accountability, transparency, predictability and participation. For ASDB, "good governance is good government" (ASDB, 1995 and 1999). The African Development Bank (AfDB) follows a similar approach (AfDB, 2000).

The IDB approach to State reform and public-sector modernization shares several features with that of the World Bank, in particular its technical bias (Santiso, 2000). In theory, and like the European Bank for Reconstruction and Development (EBRD, 1992), the IDB adopts a more explicitly political approach to governance reform. It is generally less reluctant to engage in politically sensitive areas and confront the political economy of institutional development. It had

broader political goals enshrined in the expansion of its mandate in 1994, so that this now includes the consolidation of democracy as one of its corporate objectives. The IDB policy on the modernization of the State was first articulated in 1996. It was updated in 2003 to integrate concerns over the political economy of reform, in particular party systems, electoral rules and executive-legislative relations (IDB, 2003). The Bank authorities recognize that politics matters for development and that, consequently, lending and technical assistance should more actively address political economy considerations (Payne, Zovatto and others, 2002).

Undeniably, the introduction of the governance agenda has led the IFIs to broaden the scope of their interventions, entering largely uncharted territories such as judicial reform, parliamentary strengthening and anti-corruption. Between 1996 and 2000, the World Bank began over 600 governance-related programmes and initiatives in 95 countries, and between 1987 and 1998, it carried out 169 civil service reform programmes in 80 countries. In Latin America, according to recent estimates, it undertook 126 core public-sector reform projects between 1982 and 2002, totalling US\$ 12 billion (Fuhr and Krause, 2003). A majority of these projects, usually policy-based loans with a marked emphasis on fiscal reform, have a strong focus on public budgeting and government financial management. Similarly, legal and judicial reform has become a core component of the World Bank governance portfolio (Santiso, 2004d). Since 1991, the World Bank has financed 480 projects in 84 countries that deal with or include components of legal and judicial reform, totalling US\$ 380 million. Between 1991 and 2001, the Bank approved 35 projects exclusively devoted to judicial reform.⁷ It has also established targeted lending instruments and upgraded its own capacities to assess judicial performance and promote judicial reform by undertaking judicial sector assessments (JSAs) since 1994 and more comprehensive institutional and governance reviews (IGRs) since 1999.

Similarly, between 1993 and 2001, the IDB approved 18 loans and 65 technical co-operation operations to reform judicial systems and modernize the administration of justice in 21 of its 26 member

countries, amounting to US\$ 461 million in investment (Biebesheimer and Payne, 2001; Santiso, 2003b).

The International Monetary Fund (IMF) was also urged in 1996 by its Board of Governors to “promote good governance in all its aspects, including by ensuring the rule of law, improving efficiency and accountability in the public sector, and tackling corruption, as essential elements of a framework within which economies can prosper”. Since then, the Fund’s role in governance has expanded considerably, integrating concerns over transparency, accountability and predictability of fiscal policy (IMF, 1997 and 2001). The Fund has spread the neutral mantle of technical expertise over its approach to governance reform, focusing on those economic aspects of governance that could have a significant macroeconomic impact and those that affect the implementation of economic reforms. In 1997, it adopted guidelines specifying that its “involvement in good governance should be limited to economic aspects of governance” (IMF, 1997, p. 3), namely, the transparency of government accounts, the effectiveness of public resource management, and the stability of the regulatory environment for private-sector activity. Nevertheless, the Fund’s position regarding the political context of borrowing countries remains ambiguous, as its involvement in Indonesia and Argentina reflects.

The Fund’s involvement in the reform of domestic governance stems in part from its new role in capital-account management and its promotion of structural adjustment since the 1980s. These new roles necessarily entail a more continuous involvement in the reform of borrowing countries’ policies beyond temporary crisis management. The main channels through which the Fund promotes good governance are surveillance, lending and technical assistance. In terms of surveillance, the Fund has actively sought to promote standards and codes of good practice through consultations under Article IV of its Articles of Agreement, particularly with regard to fiscal matters.

Since the late 1990s, the Fund has acknowledged the importance of transparency in monetary and financial policy management, adopting a Code of Good Practices on Fiscal Transparency in 2001.⁸ A country’s observance of these standards is assessed in the Reports

⁷ The Bank’s Legal Vice Presidency has provided legal advice to over 87 countries in over 45 specialized areas since 1986, and training in legal and judicial reform has also become a core activity of the World Bank Institute (WBI).

⁸ The Fund has identified 12 key areas, which include accounting, auditing, anti-corruption, banking supervision, corporate governance, fiscal transparency, monetary policy and financial policy transparency.

on the Observance of Standards and Codes (ROSCs); 264 of these had been completed for 80 countries by the end of June 2002, of which 193 have been published. These diagnosis instruments complement those used by the World Bank to assess the quality of public finance processes, such as Public Expenditure Reviews (PERS) and Country Financial Accountability Assessments (CFAAs). Although they possess different mandates and perform different functions, the IFIs are seeking to better coordinate and harmonize their assessment instruments over the public finance cycle, from revenue collection to expenditure management (PEFA, 2003).

3. Budget oversight

The role of parliaments and external auditing agencies in public budgeting, public finance accountability and corruption control figures prominently in the new strategy on the modernization of the State adopted by the IDB in July 2003.⁹ After a first wave of reforms targeting the efficiency and effectiveness of government financial management systems within the executive, the new strategy acknowledges the critical importance of the mechanisms of transparency and external oversight in the budget process. The role of national parliaments in public budgeting is being rediscovered throughout the region.

In its efforts to consolidate democratic governance, the IDB (2003) stresses the need to

“strengthen the institutional capacity of the legislative branch”, in particular by supporting programmes designed to “strengthen technical assistance systems that will improve the quality of legislation and help ensure budgetary, monitoring and oversight functions are performed based on objective and technical criteria” (p. 12). Furthermore, the strategy allows the IDB to provide support for increasing “the technical capacities and functional independence of institutions that oversee government performance, for example, the offices of the comptroller general, court of accounts, auditor general, ombudsman, public defender, public prosecutor and attorney general” (p. 13).

Accordingly, parliaments and supreme audit institutions are to be approached as key components in national systems of control. The IDB recognizes that “audit and other supervisory institutions do not always have the independence, objectivity and technical capacities necessary for them to be able to oversee adherence to the rule of law” (IDB, 2003, p. 5). It notes that “the prevalence of corruption is to some degree an expression of the weakness of the rule of law, but calls attention also to the weakness of the State’s financial administration” (p. 5). The IDB approach emphasizes the need to “strengthen the fiscal capacity of the State and improve the efficiency and transparency of expenditure management” and the necessity of implementing “comprehensive financial and accounting management systems and promoting the transparency of budgetary information” (p. 18).

III

Lending to budget oversight institutions

In recent years, the IFIs have “rediscovered” public budgeting, in particular the role of parliaments and external audit agencies in the governance of the budget. Consequently, the contribution of legislative budget institutions to budget policy-making and oversight is being re-evaluated. It is being increasingly recognized that these institutions are critical to enforcing government accountability and guaranteeing integrity

in public finance management. In particular the importance of parliamentary budget and public accounts committees is being re-emphasized, especially in presidential systems. The OECD Best Practices for Budget Transparency (OECD, 2001a) include considerations concerning the role of parliaments in the budget process, and thus go a step further than the IMF Code of Good Practices on Fiscal Transparency, which tends to restrict itself to the governance of the budget within the executive. This restraint is also noticeable in the assistance provided by the IFIs to transitional countries reforming their budget procedures. Furthermore, technical assistance has tended to

⁹ The strategy focuses on four priority areas of intervention: the democratic system; the rule of law and justice reform; State, markets and society; and public management.

concentrate either on the expenditure side, providing assistance to prime minister's offices and finance ministries, or the revenue side, providing tax reform advice and strengthening the capacities of tax authorities.

Nevertheless, in recent years multilateral development banks have started to broaden their support for budget policy-making and oversight institutions, by lending support to supreme audit institutions and national parliaments. While their approach remains restrained by a technical bias which tends to inhibit them from addressing politically sensitive governance issues such as the deficient links between supreme audit institutions and parliamentary public accounts committees, this is starting to change. Indeed, the effectiveness of fiscal control mechanisms and legislative budget oversight in Latin America is hampered by the dysfunctional relations between the individual components of the systems of control and integrity in public finances. In general, these different components tend to act in isolation from one another. This has allowed corruption to flourish almost unrestricted in countries such as Argentina under Carlos Menem (1989-1999) and Peru under Alberto Fujimori (1990-2000), where the institutions of integrity and accountability were particularly vulnerable to capture.

Ultimately, as this essay argues, the effectiveness of national integrity systems largely depends on the strength of the synergies between their different components, including government accounting systems, internal auditing mechanisms, external control institutions, administrative and criminal courts, and parliamentary oversight committees (Diamond, 2002). The support provided by the IDB to national parliaments and supreme audit institutions will now be briefly reviewed.

1. Lending to national parliaments

Parliamentary strengthening is a relatively new area for multilateral development banks. There is indeed heightened awareness of the role of parliaments in the budget process and their responsibility in ensuring government accountability.¹⁰ Legislatures play a pivotal role in the budget process, contributing to democratic accountability and providing the necessary "checks and balances" to executive discretion in

presidential systems. Indeed, the general trend is for legislatures to take a more active role in the budget process. However, they have to demonstrate that they are able to do so responsibly and ensure fiscal discipline. The challenge facing Latin American legislatures is to strengthen the institutional arrangements fostering fiscally responsible interventions.

In Latin America and the Caribbean, as table 1 shows, the IDB approved seven lending operations between 1994 and 2003 totalling US\$ 45 million, as part of parliamentary reform programmes totalling over US\$ 60 million. The stated aim of IDB financing is to strengthen the representative, legislative and oversight functions of parliaments. The bulk of financing is directed at "hardware investments" such as physical infrastructure development, information technology improvements, and human resources management.

A salient feature of IDB lending to this sector is its focus on enhancing the role of parliament in the budget process, primarily by improving committee work, strategic planning and capacities for legislative research. Legislatures are central both to the making of budget policy (through the budget committees approving the State budget) and to the oversight of budget execution (through the public accounts committee). A first set of initiatives supported by the IDB aims at strengthening legislatures' internal structures and the procedures shaping the legislative process. There is a marked emphasis on those parliamentary committees involved in the budget process, at either the approval or the oversight stage (e.g., the budget and public accounts committees). Public accounts committees, now regarded as a core legislative budgetary institution, are a critical linkage between the responsibility of parliament in enforcing government accountability in public finance and the external auditing function performed by supreme audit institutions (Wehner, 2002). A second set of IDB initiatives aims at enhancing the capacities of parliaments for independent budget analysis, contributing to the creation or strengthening of legislative research centres and budget offices advising budget and public accounts committees. IDB lending operations have been relatively successful in helping parliaments to enhance their research and advisory services. In Venezuela they have contributed to the creation of legislative budget offices, although this remains an isolated case.

The strengthening of legislative budgetary powers also reflects a gradual shifting of power between the executive and the legislative branches in Latin

¹⁰ See Krafchik and Wehner (1998), OECD (2001b), Manning and Stepenhurst (2002) and Wehner (2003).

TABLE 1

**Latin America: Inter-American Development Bank lending
to national parliaments**

Year	Country	Title	Amount (millions of dollars)			Disbursement period (years)
			Total	IDB lending	Counterpart financing	
2003	Peru	Institutional Strengthening Programme for the Peruvian Congress	10	7	3	4.5
2000	Honduras	Modernization of the Honduran Congress	3.25	2.60	0.65	4
2000	Dominican Republic	Programme for Modernizing the National Congress and the Office of the Comptroller-General	28 (25.55) ^a	22.30	5.70	3
1999	Colombia	Modernization of the Congress of Colombia	10	6	4	...
1999	El Salvador	Modernization and Strengthening of the Legislative Assembly	4.40	3.50	0.90	4
1996	Panama	Project to Modernize the Legislature	4.10	2.80	1.30	4
1994	Peru	Institutional Development for the Legislative Branch of Government	3.74	2.70	1.04	...
<i>Total</i>			<i>61.04</i>			

Source: Based on projects approved as of October 2003, www.iadb.org.

^a Amount allocated to the parliament.

American presidential systems. Legislatures are becoming increasingly assertive as opposition parties make strides. Historically, legislatures have been dominated by majorities belonging to or associated with the president's party. This is starting to change and many presidents no longer control legislative majorities. These new dynamics of executive-legislative relations are having a significant impact on economic policy-making and public budgeting. Legislatures are gradually re-asserting their powers of budget oversight, partly as a result of the new-found assertiveness of parliamentary oppositions. Divided government—the situation in which the president no longer controls the legislature—is becoming increasingly common throughout the region and creating new constraints on executive discretion in public budgeting. The surge of legislative activism in public budgeting in Mexico is partly the result of the emergence of an assertive opposition since the long-time ruling party, the Institutional Revolutionary Party, lost its majority in parliament in 1997 (Carbonell, 2002; Weldon, 2002). In Brazil, parliament has traditionally been the privileged arena for pork-barrelling over budget appropriations and amendments (Samuels, 2002). Even in Argentina, a country characterized by relatively disciplined parties, public

budgeting has been the subject of more conflict and bargaining than formerly (Eaton, 2002; Jones, 2001).

The case of Mexico is illustrative. Since 1997, Mexico has undertaken a series of institutional reforms specifically aimed at strengthening the role of parliament in budget policy-making and oversight. The technical capacities for independent budget scrutiny were significantly enhanced with the establishment in 1998 of the well staffed and funded Centre for the Study of Public Finances (*Centro de Estudios en Finanzas Públicas*, CEFP) in the lower chamber of parliament. The Mexican parliament's general research capacities were already fairly substantial by that time, with the Research and Analysis Service (*Servicio de Investigación y Análisis*, SIA) of the parliamentary library and the Institute for Legislative Research of the upper chamber of parliament (*Instituto de Investigaciones Legislativas del Senado de la República*, IILSEN), created in 1985 to provide general technical advice to the Senate. Thus, parliament is now better equipped than before to discharge its budgetary responsibilities. It is indeed noticeable that a main impediment to legislative budgeting often resides in the incapacity of a parliament to engage with the budget process, rather than the restraints put on its budgetary powers. Technical capacities are thus important

considerations when assessing the effective role of legislatures in budget oversight. In 1999, after four years of negotiations, an external audit office was established specifically to assist parliament in the oversight of federal public finances and the certification of public accounts. The Supreme Federal Auditing Office (*Auditoría Superior de la Federación*, ASF) was created as an advisory body to the lower chamber of parliament, assisting the latter in the review of budget execution and certification of the federal government public accounts. In 2000, parliament also passed a law on external oversight and accountability (*Ley Superior de Fiscalización de la Federación*). The emergence of an effective parliamentary opposition as a result of the 1997 elections, which ultimately succeeded in defeating the long-time ruling party in the general elections of 2000, thus significantly increased both the incentives and the capacities for effective legislative budget oversight.

The contribution of parliamentary budget offices to effective budget oversight is increasingly recognized, as it allows parliaments to access independent sources of budget analysis, rather than relying on the information provided by the government. Access to budgetary information is indeed strategic in the sense that it is the parliamentary opposition that has the greatest incentives to strengthen parliament's capacities for independent budget analysis, thereby allowing it to effectively oversee government performance (Messick, 2002; Rubio Llorente, 1993). Capable professional staff and institutionalized technical expertise within parliament itself are necessary conditions for legislatures to be able to exercise their budget oversight functions effectively and responsibly. The lack of professional legislative staff and the absence or weaknesses of advisory services to parliamentary committees are major hindrances to effective legislative budgeting. Members of parliaments, including those sitting on the budget and public accounts committees, do have their own political advisors. However, standing parliamentary committees lack the necessary research and advisory capacity and permanent advisors with the required technical expertise and institutional memory. This, too, is starting to change. Although not as powerful as the United States Congressional Budget Office (CBO), incipient legislative budget offices are tending to gradually emerge throughout Latin America, reflecting an increasing recognition of the current weakness and, simultaneously, the potential contribution of parliaments to budget oversight. Chile, Mexico and Venezuela possess incipient legislative

budget offices, while Argentina and Colombia are currently considering establishing such offices.

Understandably, the IDB is reluctant to engage in reform of the incentive structure shaping the role of parliaments in the budget process, in particular the quality of the legislative process, the role of political parties and parliamentary groups, executive-legislative relations and electoral rules. These are indeed very complex and sensitive areas, which do not lend themselves to quick fixes and transposed institutional solutions. They require a solid understanding of the interests and incentives shaping the behaviour of individuals in institutional contexts. The IDB, which is owned by borrowing governments and staffed by high-quality policy makers from the region, is well placed to understand these dynamics. Yet, lending operations tend to confine themselves to the inner working of parliaments, rather than approach public budgeting as an integral process. As a result, loan operations often fail to generate the systemic impact they potentially could have on the quality of the budget process and parliament's role in budget oversight.

More fundamentally, it is increasingly recognized that the nature of the political regime and the quality of the political party system are key variables. In particular, "opposition parties have the greatest incentive to oversee government" (Messick, 2002, p. 2) and ensure effective oversight of government financial management. Indeed, in many parliamentary systems, such as the United Kingdom, a representative of the main opposition party chairs public accounts committees. Ultimately, the degree of cohesion and discipline of political parties determines, to a great extent, the effectiveness of the institutions of accountability and the quality of executive-legislative relations. Understandably, these are extremely difficult questions and highly contentious areas of engagement for the IFIS.

A critical challenge for strengthening legislative budget oversight is that only the parliamentary opposition, when it exists, has an interest in enhancing parliament's capacities for effective budget oversight, and thus an incentive to create or strengthen legislative capacities for independent review. As a result, the strengthening of legislative budget institutions must necessarily be approached in the broader context of executive-legislative relations in presidential systems of government.

In Venezuela, for example, an Economic and Financial Advisory Office (*Oficina de Asesoría Económico y Financiera de la Asamblea Nacional*,

OAEF) was created in 1997 within the National Assembly, with IDB support. Its objective was to enhance the technical advisory services of parliament in public finance. This new parliamentary structure was able to draw on existing sources of legislative research and analysis, such as the Autonomous Legislative Information Service (*Servicio Autónomo de Información Legislativa*, SAIL) created in 1994. Nevertheless, increasing tensions between the executive and the legislature since President Hugo Chávez took office have undermined the functioning of the OAEF, which was closed in February 2000 to be subsequently reopened in June of the same year, as part of the reactivation of the loan suspended by the IDB. In 2002-2003 it came under renewed pressure (Rojas and Zavarce, 2004). The case of Venezuela is particularly interesting because the IDB became, willingly or not, an actor in the struggle between the executive and the legislature over budgetary powers.

2. Lending to supreme audit institutions

Lending to supreme audit institutions is also a relatively new area for multilateral development banks (Llanos, 2002). In theory, supreme audit institutions act as a core oversight mechanism to ensure that government is held to account for the manner in which it manages public finances. They are independent State institutions responsible for auditing government performance and public accounts and, in some cases, supervising the internal auditing system.¹¹ While significant progress has been made over recent years in improving legal and financial compliance in government spending, much remains to be done to anchor performance auditing, as well as the effective external auditing of budget execution. In many Latin American countries, external auditing of budget execution and certification of public accounts remains deficient, and external audit reports fail to inform the budget-making process in a timely manner.

The multilateral development banks have only recently begun to support auditors-general and strengthen supreme audit institutions, and their role is still modest. IDB support for supreme audit institutions

has generated great expectations in many countries, as it is taking place at a critical stage of the reform process and the modernization of the State. As countries realize that sound public financial management and effective anti-corruption mechanisms require robust accountability institutions, especially in Latin America's presidential systems, IDB support for supreme audit institutions necessarily occurs in the broader context of the work needed to strengthen governmental financial administration. This being so, IDB lending constitutes a potent signalling mechanism that may help strength the hand of reformers. For example, in Chile, the US\$ 25 million loan programme agreed with the IDB in 2001 has allowed the Chilean supreme audit institution to pursue its institutional strengthening programme, which probably would not have been possible otherwise.

Since 1993, the IDB has approved nine institutional strengthening projects for supreme audit institutions in Latin America, involving lending of over US\$ 50 million in the context of institutional strengthening worth over US\$ 90 million, while two new operations worth over US\$ 12 million are in the pipeline. When the latter are approved, the loan portfolio will total some US\$ 65 million (table 2). While these are regarded as "pilot" loans by the IDB, since they are still considered "innovative", the pace has been quickening since 2000.

Nevertheless, the relative size (in financial terms) of these operations varies across countries, in both absolute and relative terms. Therefore, expectations about their impact ought to be realistic. Table 3 shows the contribution of IDB loans to the budget of supreme audit institutions in Brazil, Chile, Colombia and Nicaragua.

Several issues are worth underlining. First, bilateral lending represents only a portion of the institution's budget, which can nevertheless be substantial in some cases. While in Nicaragua IDB lending contributes almost 30% of the annual budget of the supreme audit institution, in Brazil the figure is barely 1%. In Chile and Colombia, IDB lending represents approximately 18% and 11% of the institution's annual budget, respectively. As might be expected, this figure tends to be higher for smaller countries, since the IDB regards these projects as "innovative loans". Second, budget allocations to supreme audit institutions have tended to increase in recent years, although their share of the national budget remains small. In the case of Brazil, the budget of the Federal Court of Accounts (*Tribunal de Contas da*

¹¹ In some countries supreme audit institutions also act as the supervisory agency for internal government auditing. Although this essay focuses on external auditing, it is to be noted that the links (or lack thereof) between internal and external auditing functions are critical (Diamond, 2002).

TABLE 2

**Latin America: Inter-American Development Bank
lending to supreme audit institutions**

Year	Country	Title	Amount (millions of dollars)			Disbursement period (years)
			Total	IDB lending	Counterpart financing	
2004	Peru ^a	Modernization of the Office of the Comptroller-General and deconcentration of the national oversight system	14.50	10.15	4.35	4
2002	Brazil	Modernization of the Federal Court of Accounts	10	5	5	3
2002	Chile	Modernization of the Office of the Comptroller-General of the Republic	25	15	10	4.50
2002	Nicaragua	Modernization Programme of the General Auditing Office	6	5.40	0.60	4
2000	Colombia	Strengthening of the Offices of the Comptroller-General (CGR) and Auditor-General of the Republic	42	23	19	4
2000	Honduras ^d	Strengthening and Modernization of the Office of Administrative Integrity	3	2.5	0.50	...
2000	Dominican Republic	Programme for Modernizing the National Congress and the Office of the Comptroller-General	2.45 (28) ^b	2.45 ^c	...	3
1999	El Salvador	Modernization and Strengthening of the Accounts Tribunal	4	...	...	...
1994	Uruguay	Modernization of the Accounts Tribunal	1.50	1.41	0.09	...
1993	Caribbean	Audit Institutions of the Caribbean Countries	0.81	0.60	0.21	...
<i>Total</i>			<i>109.26</i>	<i>64.91</i>		

Source: Projects approved or in preparation as of May 2004, www.iadb.org.

^a Lending operation at the approval stage.

^b Total for the project to modernize parliament and the supreme audit institution.

^c Amount allocated to the supreme audit institution. The total is ascribed to the IDB loan because the amount of the local counterpart financing cannot be determined.

^d Lending operation at the design phase.

TABLE 3

Latin America: Inter-American Development Bank lending
(Millions of dollars^a and percentages)

Country	Supreme audit institution's annual budget, millions of dollars	Annual IDB lending	
		In millions of dollars	As percentage of supreme audit institution's annual budget
Brazil (2003)	242.2	1.6	0.7
Chile (2002)	19.0	3.3	17.4
Colombia (2003)	54.3	5.8	10.6
Nicaragua (2002)	5.2	1.5	28.8

Source: Prepared by the author using data from the reports of supreme audit institutions.

^a The fluctuation of the dollar in recent years means that caution is warranted when using it as a referent.

União, tcu) represents a mere 0.08% of the federal budget (TCU, 2002, p. 38). Third, counterpart financing is often significant, as in Brazil (50%), Chile (40%) and Colombia (45%). These latter two aspects reflect the increasing importance national governments attach to

the strengthening of external audit functions. Hence, any assessment of the impact of these innovative projects ought to consider not only their financial size, but also their technical content and institutional focus.

In broad terms, IDB loans tend to focus on improving the administrative efficiency of supreme audit institutions through strategic and organizational development, human resources management, capability building and training, and improvements in information technology, equipment and infrastructure. They also include provisions for improving relations with civil society. Furthermore, IDB projects have a marked focus on improving legal and financial compliance auditing functions, the core business of supreme audit institutions. They sometimes include provisions for “innovative initiatives”, in particular performance auditing, environmental auditing or auditing techniques for regulating agencies of public utilities, such as in Brazil. Furthermore, they usually concentrate their efforts on improving operational auditing of government programmes, especially in the social sectors, rather than enhancing the role of supreme audit institutions in the auditing of the national budget and the certification of public accounts by the legislature. Arguably, this latter core function of supreme audit institutions would be naturally enhanced as a result or “side-effect” of the strengthening of the supreme audit institution as a whole, albeit not automatically.

IDB lending operations only marginally address the functional links between supreme audit institutions and public accounts committees. As table 4 underscores, a series of institutional factors determine the ultimate effectiveness of supreme audit institutions, such as vested powers, supervising authority, nomination and removal procedures, scope of mandate and terms of office. These are areas in which the IDB is reluctant to engage openly. Supreme audit institutions in Latin America are indeed characterized by their great diversity. In Argentina, for example, the Office of the Auditor-General (*Auditoría General de la Nación*, AGN) is a collegial body that acts as the technical advisory agency to parliament to ensure government accountability and budget oversight; its president is nominated by the main opposition group in parliament. In other countries, such as Chile, Peru and Brazil, supreme audit institutions are nominally independent of both the executive and the legislature. In Brazil, the TCU is a collegial body with a long institutional history that also operates as an administrative court. It concentrates its audit work on compliance auditing of government programmes and agencies. Its main “client” is thus the public administration it audits. In the Andean countries, such as Chile and Peru, supreme audit institutions position themselves as governance institutions, independent of both the executive and the legislature.

Nevertheless, all supreme audit institutions, because of their role as fiscal comptroller, are particularly exposed to political meddling and prone to capture by partisan interests, especially in presidential systems of government. The experience of the Peruvian Comptroller-General’s Office (*Contraloría General de la República*, CGR) between 1993 and 2000 is illustrative. A first strategy for preventing such capture is to strengthen the functional links between the institutions of “horizontal accountability” that are part of the national system of control (O’Donnell, 1998; Schedler, Diamond and Plattner, 1999). Considerations of political economy are thus crucial in explaining the effectiveness of supreme audit institutions, conceived as integral parts of the national systems of fiscal control and anti-corruption.

In particular, the strengthening of the functional links between supreme audit institutions and the other institutions in the national system of fiscal control, in particular the judiciary (administrative and criminal courts) and the legislature (public accounts committees), is key. Whether nominally attached to parliaments or not, supreme audit institutions are functionally linked to them in the “chain of public finance oversight”. The case of the support provided by the IDB to Colombia offers an illustration of this, as it reflects an integrated effort to simultaneously strengthen government accountability, public finance integrity, budgetary oversight and law enforcement. In April 2003, the IDB approved a US\$ 14 million loan (as part of a US\$ 20 million programme) to the Office of the Attorney-General (*Procuraduría General de la Nación*, PGN), the judicial office in charge of overseeing and disciplining public agencies. This programme completes a decade-long financing cycle to modernize oversight and law enforcement agencies in public finance management. In March 2000 a US\$ 23 million loan was granted (as part of a US\$ 42 million programme) to the offices of the Comptroller-General (*Contraloría General de la República*, CGR) and Auditor-General (*Auditoría General de la República*, AGR), and in December 1995 a US\$ 9.5 million loan (part of a US\$ 15.7 million programme) went to modernize the administration of justice and the Public Prosecutor’s Office (*Fiscalía General de la Nación*, FGN). All three loans had significant counterpart financing (US\$ 77.7 million in total), reflecting the commitment of Colombia to these programmes.

Supreme audit institutions provide critical advisory services to parliaments, directly or indirectly, in the exercise of their accountability functions. However, relations between supreme audit institutions

TABLE 4

Latin America: Institutional determinants of supreme audit institutions' effectiveness

Country	Ex ante control	Institution linked to the executive	Institution linked to the legislature	Autonomous institution	Quasi-judicial powers	Nomination procedures	Term of office	Removal procedures
Argentina			✓	Financial and functional independence		Legislature	8 years (renewable)	Legislature through a joint resolution of both houses
Bolivia		✓		Financial and functional independence		Executive (acting on Senate proposal)	10 years	Legislature through a judgement of responsibilities by the Supreme Court
Brazil		✓			✓	Mixed: president elected by peers; 1/3 nominated by the President of the Republic with Senate confirmation and 2/3 by Congress	President: 1 year Members: indefinite, until 70 years old	Supreme Federal Tribunal
Chile			✓	✓	✓	Designated by President subject to agreement of Senate majority	Indefinite, until 75 years old	Chamber of Deputies carries out accusation and Senate removes
Colombia			✓	✓	✓	Legislature, from list presented by Constitutional Court, Supreme Court and State Council	4 years	Supreme Court, following accusation by Attorney-General
Costa Rica	✓		✓	Financial and functional independence		Legislature	8 years, renewable	Legislature
Dominican Republic	✓		✓	Administrative, budgetary and financial autonomy		Executive	Indefinite	
Ecuador						President, from list presented by Congress	4 years	Legislature, after impeachment
El Salvador	✓		Submits report to Congress	✓	✓	Legislature	3 years, renewable	Legislature
Guatemala			✓	Functional independence	✓	Legislature	4 years, non-renewable	Legislature
Honduras			✓	Functional and administrative independence		Legislature	5 years	Legislature
Mexico			✓	Technical and managerial autonomy		Legislature	8 years	Legislature, also by impeachment
Nicaragua			✓	Functional and administrative autonomy		Legislature, from list proposed by President and members of the legislative assembly	5 years	Legislature
Panama	✓		✓	✓	✓	Legislature	5 years, renewable	Supreme Court
Paraguay			✓			Legislature	5 years	Executive, with agreement of Senate
Peru	✓		✓	✓		Legislature, proposed by President	7 years	Legislature
Uruguay	✓		✓	Functional autonomy		Legislature	5 years	Legislature, after definitive ruling by court of justice or competent court
Venezuela				Functional, administrative and organizational autonomy		Legislature, from list presented by citizen committee	7 years, renewable	Legislature, after pronouncement of Supreme Tribunal of Justice

Source: Based on Payne, Zovatto and others (2002, pp. 228-31, tables 9.2 and 9.3).

and parliamentary budget and public accounts committees are deficient, often characterized by polite indifference. Loans to supreme audit institutions tend to overlook the dysfunctional linkages between these bodies and parliaments. While IDB lending to national parliaments focuses on enhancing their role in budget policy-making, support to supreme audit institutions tends to neglect their role in budget oversight and auditing. Only in a few countries, such as the Dominican Republic in 2000 and El Salvador in 1999, has the IDB addressed the relationship between supreme audit institutions and parliaments. In these two instances, loans were made simultaneously to both institutions; in the case of the Dominican Republic, they were merged into a single loan.

IDB lending operations tend to avoid confronting the broader governance context in which supreme audit institutions operate and the incentives conditioning public finance accountability. They seldom seek to enhance the political independence and financial autonomy of these institutions in an active and purposeful manner. Issues such as the criteria guiding the nomination and removal of auditors-general and the length of their term in office, and the procedures regulating recruitment, promotion and dismissal of professional staff, are nevertheless critical determinants of the effective independence of supreme audit institutions. Credible appointment criteria and stability of tenure determine the extent to which auditors-general are likely to behave independently. Predictable financial resources are also a necessary (albeit not sufficient) condition for institutionalizing supreme audit institutions and insulating them from political meddling (INTOSAI, 2001).

Politicization of the auditor-general's appointment procedure and that of the supreme audit institution's staff is a major hindrance to the effective independence of the institution. When the government controls a majority in parliament, in either parliamentary or presidential systems, nominations often reflect political bargains. Furthermore, short terms of office that coincide with that of the president tend to reduce the incentives for auditors-general to exercise any political independence they may have. Ultimately, these

individual incentives motivate the institutional behaviour of supreme audit institutions. In Argentina, for example, the constitution and the law on financial administration stipulate that auditors-general are appointed for an eight-year renewable term. However, in an effort to increase the independence of the AGN, an amendment to the constitution in 1994 established that the president of the AGN was to be chosen from the main opposition party. As a result, presidents of the AGN have changed as government majorities have. Furthermore, the politicization of the civil service has entailed high rates of staff turnover and thus has not allowed the consolidation of technical expertise and an "esprit de corps" within the supreme audit institution. A highly capable and respected civil service, with stability of tenure and reasonable career prospects within the institution, is crucial for consolidating a professional approach to the external auditing of government finances.¹²

In general, strengthening technical capacity *per se* does not necessarily improve the effectiveness of supreme audit institutions, nor has it prevented them from being captured, as in the case of Nicaragua. Yet, securing the effective independence of these institutions is a critical determinant of their ultimate ability to hold government accountable, as was underscored by the 1977 Lima declaration of principle of the International Organization of Supreme Audit Institutions (INTOSAI) and, more recently, the final report of the INTOSAI task force on independent government auditing (INTOSAI, 2001). It is widely recognized that an inherent weakness of the State in developing countries resides in the frailty of the institutional mechanisms of "horizontal accountability" anchored in those State institutions whose function is to control government and restrain the State (Mainwaring and Welna, 2003).

¹² Moreover, IDB lending operations have tended to concentrate their efforts at the national or federal level. The mechanisms for internal and external auditing of government finances are particularly weak at the local level, often being captured by local elites. The IDB is only just starting to support subnational supreme audit institutions in federal systems and to cooperate with the deconcentration of such institutions in unitary States.

IV

The politics of public finance accountability

A decade after the emergence of governance to the forefront of the development agenda, new approaches to governance reform and institutional development are warranted. These require in particular a narrowing of the gap between economic and political facets of multilateral development finance. The assessment of the IDB approach to the modernization of budget oversight institutions is particularly instructive in that regard, as the IDB is the most political of the multilateral development banks.

The impact of IDB lending to parliaments and supreme audit institutions is still difficult to decipher. As Kaufmann (2003, p. 3) notes, “we need to take into consideration that this effort has taken place against the backdrop of a relatively undeveloped state of the art in the complex and multidisciplinary field of governance and anticorruption”. There are a number of difficulties in evaluating results. First, it is necessary to define indicators of impact for this new type of projects that deliberately set out to strengthen institutions. A second and even more critical challenge is to identify indicators that can measure the performance and ultimate impact of the institutions of control themselves. A third challenge is to decide how the politics of public finance accountability can best be addressed, and to what degree. When all this is done, the number and variety of explanatory variables expands considerably. Acknowledging the importance of the politics of budgeting and the political economy of public finance accountability is certainly a step forward.

Nevertheless, IDB lending to national parliaments and supreme audit institutions displays a reluctance to confront dysfunctions in the political economy of fiscal control and the politics of financial accountability. The bulk of IDB financing to budget oversight institutions is directed towards hardware investments, such as infrastructure development, information technology and human resources management. In a more recent past, IDB support has also been directed at reforming the procedures and strengthening the structures framing the parliamentary budget process, such as budget and finance committees, legislative research capacities and legislative budget offices. Only a handful of Latin

American parliaments such as those of Brazil, Chile, Peru, and Venezuela do possess such independent research and advisory capabilities. The IDB increasingly advocates strengthening these where they exist, and creating them where they do not.

The IFIS justify their apolitical approach by arguing that technical improvements can, over time, contribute to improving governance, without being diluted in the intricacies of politics. Framing governance as a technical question has indeed allowed them to justify their involvement in governance issues, while remaining within the boundaries of their respective mandates. There are limits to this technocratic consensus, however. This functionalist approach gives the illusion that technical solutions can solve political problems. Institutional reforms in public budgeting are inherently political (Shepsle, 1999; Wildavsky, 1964 and 1992). While usually couched in the language of efficiency, public finance reform affects power relations, as the budget is a key arena for political bargaining. Decisions as to who controls the budget process and how budgetary allocations are made are intrinsically political. As a consequence, trying to separate the economic and the political facets of public budgeting is, to a large extent, artificial. As Kaufmann (2003, p. 33) underscores, “a proper understanding of the *political* forces affecting policy-making and, related, the set of required institutional *incentives* for progress” is necessary to understand the dynamics of budgetary reform.

The IDB (2003, p. 9) does recognize that “projects that are limited to changing instrumental elements or simply strengthen technical organizational capacities, without altering the structure of incentives that affect the political will to apply them are likely in general to have a negligible impact. Thus institutional changes that condition the effectiveness of instrumental and organizational reforms need to be addressed at the same time [...] It does little good to establish a financial management system without the development of a budgetary authority with the professional independence, power, and capacity to enforce it.” Reform efforts fail not only because they are incomplete, but also because they are often designed

to solve technical shortcomings when the problem lies in the institutional framework.

A broader understanding of the governance of the budget process is thus warranted. Supreme audit institutions and public accounts committees occupy key positions in the architecture of public finance management and fiscal control (Wehner, 2003; Petri 1998). The quality of parliament's oversight of government finances depends critically on credible information and independent budget analysis being provided by supreme audit institutions in a timely manner. At the same time, the effectiveness and ultimate impact of supreme audit institutions largely depend on the extent to which parliaments act upon the recommendations of their audit reports. Thus, the quality of the functional linkage and institutional relationships between parliamentary public accounts committees and supreme audit institutions is key (SIGMA, 2002). Again, the ability of supreme audit institutions to fulfil their mandate depends on their effective independence from government and, at the same time, the cooperation they receive from government agencies.

Relations between supreme audit institutions and public accounts committees are decisive for the enforcement of government accountability. Institutional arrangements and incentive structures largely explain the ultimate effectiveness of both. First, the reports and recommendations of supreme audit institutions are largely ineffective if they are not acted on by other institutions that are part of the system of control, in particular the public administration itself (administrative accountability), the judiciary (criminal accountability) and parliament (political accountability). Thus, their effectiveness is *conditional* on the cooperation of other State institutions. Furthermore, in many cases, especially in presidential systems, the consent of a qualified majority of members of parliament (often two thirds), including the ruling party, is required to nominate auditors-general. The political bargains that are struck often undermine the political independence of the chosen candidate.

Second, the willingness of public accounts committees to exercise their powers and hold government to account is also determined by broader governance factors. These committees are a reflection of legislative politics and the nature of executive-legislative relations (Morgenstern and Nacif, 2002). Indeed, their composition reflects that of parliament itself and, as a result, the ruling party often controls them. By contrast with parliamentary systems, where

they are presided over by a representative of the opposition, in Latin America the chairmanship of budget and public accounts committees traditionally goes to a member of the ruling party. Indeed, it could be argued that the effectiveness of the mechanisms of horizontal accountability within the State ultimately depends on the effectiveness of the mechanisms of vertical accountability, in particular electoral rules and party structures.

The behaviour of members of parliament is itself shaped by the incentives to which they respond. Executive-legislative relations are necessarily intermediated by political party systems and electoral rules, as there is a possibility of control being diluted when the ruling party or coalition holds a majority position in parliament. Recent research on the politics of budgeting in Brazil¹³ shows that participation by the legislative branch in the budget process can only be understood when the political parties and electoral rules are taken into account. As the executive dominates the budget process and controls budget execution, the way parties participate in this process depends on their relations with the executive (Pereira and Mueller, 2002). Indeed, in presidential systems marked by the fusion of executive and legislative majorities, systems for enforcing government accountability tend to be inoperative.

There thus exists unexplored potential in the support provided by multilateral development banks to Latin America's supreme audit institutions and public accounts committees. The second stage of multilateral support to budget oversight institutions should thus seek to strengthen the political independence and financial autonomy of supreme audit institutions, and promote more effective links between these and parliamentary public accounts committees. Analysis of IDB loans often reveals that such linkages are absent from the design of these interventions. In general, IDB lending operations tend to be designed as self-contained interventions, which has the advantage of protecting them from unwarranted external interference, but which also has the disadvantage of inhibiting synergies between them.

Furthermore, the IFIs should also endeavour to design integrated initiatives addressing the entire budgetary cycle and the governance of the budget process as a whole. This would require linking efforts

¹³ See Mainwaring and Welna (2003), Morgenstern and Manzetti (2003) and Figueiredo (2001 and 2003).

to coordinate projects intended to modernize public financial management information systems within the executive with those aimed at enhancing the contribution of external audit agencies and legislative committees. This would also mean integrating efforts to improve public finance management and accountability more tidily with those aimed at consolidating the rule of law, reforming civil services, strengthening legislatures and combating corruption.

More fundamentally, multilateral lending operations aimed at strengthening budget oversight institutions need to factor in and engage with structural power dynamics. As Messick (2002, p. 1) underscores, "success requires changing the incentives facing public officials [...] Constitutional structure and party cohesion are key determinants of a legislature's independence." Increasing technical capacity and enhancing analytical capabilities by building up

legislative research services or improving investigation techniques in audit institutions are likely to remain ineffectual as long as there is not enough political space for them to be exercised effectively. Technical improvements are likely to be emasculated by adverse political dynamics and governance constraints. The key question is whether endowing oversight institutions with more technical capacity can strengthen them, or whether increased independence and assertiveness would lead these institutions to create and utilize more technical capacity. The IDB tends to rely on the first approach, focusing on building up the technical capacity of oversight institutions. However, there are reasons to believe that the latter might be an efficacious complementary strategy, and it is now within the purview of the new IDB strategy for reforming the State and modernizing government adopted in 2003.¹⁴

Bibliography

- AfDB (African Development Bank) (2000): *Good Governance Policy*, Abidjan, AfDB Operational Strategy.
- Ahrens, J. (2001): Governance, conditionality and transformation in post-socialist countries, in H. Hoen (ed.), *Good Governance in Central and Eastern Europe*, Cheltenham, Edward Elgar.
- AsDB (Asian Development Bank) (1995): *Governance: Sound Development Management*, Board Paper, Manila, August.
- _____ (1999): *Governance in Asia: from crisis to opportunity, Annual Report 1998*, Manila.
- Biebesheimer, C. and M. Payne (2001): *IADB Experience in Justice Reform: Lessons Learned and Elements for Policy Formulation*, IADB Technical Paper, Washington, D.C.
- Brobäck, U. and S. Sjölander (2002): *Programme Support and Public Finance Management: A New Role for Bilateral Donors in Poverty Strategy Work*, Sida Studies, No. 6, Stockholm.
- Burki, S.J., G. Perry and others (1998): *Beyond the Washington Consensus. Institutions Matter*, Washington, D.C., World Bank.
- Carbonell, M. (2002): Los conflictos entre el poder legislativo y el poder ejecutivo en México, *Contribuciones*, No. 3, Buenos Aires, Centro Interdisciplinario de Estudios sobre el Desarrollo Latinoamericano (CIEDLA).
- DFID (Department for International Development) (2001): *Understanding and Reforming Public Expenditure Management*, London.
- _____ (2002): *Managing Fiduciary Risk when Providing Direct Budget Support*, London.
- Diamond, J. (2002): *The Role of Internal Audit in Government Financial Management: An International Perspective*, IMF Working Paper, WP/02/94, Washington, D.C., Fiscal Affairs Department, International Monetary Fund, May.
- Dorotinsky, W. and Y. Matsuda (2002): *Reforma de la gestión financiera en América Latina: una perspectiva institucional, Reforma y democracia*, No. 23, Caracas, Latin American Centre for Development Administration (CLAD).
- Drake, P. (1989): *Money Doctor in the Andes: the Kemmerer Missions, 1923-1933*, Durham, Duke University Press.
- Eaton, K. (2002): Fiscal policy making in the Argentine legislature, in S. Morgenstern and B. Nacif (eds.) (2002): *Legislative Politics in Latin America*, Cambridge, Cambridge University Press.
- EBRD (European Bank for Reconstruction and Development) (1992): *Political Aspects of the Mandate of the EBRD*, London.
- Figueiredo, A. (2001): Instituições e política no controle do executivo, *Dados*, vol. 44, No. 4, Rio de Janeiro, Instituto Universitário de Pesquisas do Rio de Janeiro.
- _____ (2003): The role of Congress as an agency of horizontal accountability: lessons from the Brazilian experience, in S. Mainwaring and C. Welna (eds.) (2003): *Democratic Accountability in Latin America*, Oxford, Oxford University Press.
- Fuhr, H. and P. Krause (2003): *Overview of Core Public Sector Reform Projects 1982-2002*, Washington, D.C., World Bank.
- Haggard, S. and M.D. McCubbins (eds.) (2001): *Presidents, Parliaments, and Policy*, Cambridge, Cambridge University Press.
- IDB (Inter-American Development Bank) (1996): *Frame of Reference for Bank Action in Programs for Modernization of the State and Strengthening Civil Society*, IADB GN-1883-5, Washington, D.C.
- _____ (2003): *Modernization of the State: Strategy Document*, BID 7/03, GN-2235-1, Washington, D.C.
- IMF (International Monetary Fund) (1997): *Good Governance: The IMF's Role*, Washington, D.C.
- _____ (2001): *Review of the Fund's Experience in Governance Issues*, Washington, D.C.
- INTOSAI (International Organization of Supreme Audit Institutions) (2001): *Independence of Supreme Audit Institutions: Final Task Force Report*, Vienna, General Secretariat.
- Jones, M. (2001): Political institutions and public policy in Argentina: an overview of the formation and execution of the national budget, in S. Haggard and M.D. McCubbins (eds.), *Presidents, Parliaments, and Policy*, Cambridge, Cambridge University Press.

¹⁴ See IDB (2003).

- Kaufmann, D. (2003): *Rethinking Governance: Empirical Lessons Challenge Orthodoxy*, Discussion Draft, Washington, D.C., World Bank, March.
- Krafchik, W. and J. Wehner (1998): The role of parliaments in the budget process, *South African Journal of Economics*, vol. 66, No. 4, Lynwood Ridge, Economic Society of South Africa (ESSA).
- Krueger, A. (ed.) (2000): *Economic Policy Reform: The Second Stage*, Chicago, University of Chicago Press.
- Kuczynski, P. and J. Williamson (eds.) (2003): *After the Washington Consensus: Restarting Growth and Reform in Latin America*, Washington, D.C., Institute for International Economics (IIE).
- Llanos, P. (2002): *Las entidades fiscalizadoras superiores y la cooperación internacional*, document presented at the EUROSAL-OLACEFS II Euro-American Meeting of Supreme Audit Institutions (Cartagena de Indias, Colombia, 11 July).
- Mainwaring, S. and C. Welna (eds.) (2003): *Democratic Accountability in Latin America*, Oxford, Oxford University Press.
- Manning, N. and R. Stepan (2002): *Strengthening Oversight by Legislatures*, PREM Note, No. 74, Washington, D.C., World Bank, October.
- Messick, R. (2002): *Strengthening Legislatures: Implications from Industrial Countries*, PREM Note, No. 63, Washington, D.C., World Bank.
- Morgenstern, S. and L. Manzetti (2003): Legislative oversight: interests and institutions in the United States and Argentina, in S. Mainwaring and C. Welna (eds.) (2003): *Democratic Accountability in Latin America*, Oxford, Oxford University Press.
- Morgenstern, S. and B. Nacif (eds.) (2002): *Legislative Politics in Latin America*, Cambridge, Cambridge University Press.
- O'Donnell, G. (1998): Horizontal accountability in new democracies, *Journal of Democracy*, vol. 9, No. 3, Baltimore, Maryland, The Johns Hopkins University Press.
- OECD (Organisation for Economic Co-operation and Development) (1998): *The Role of the Legislature*, Paris.
- _____ (2001a): *OECD Best Practices for Budget Transparency*, OECD PUMA/SBO(2000)6/FINAL, Paris.
- _____ (2001b): *Budget: Towards a New Role for the Legislature*, Paris.
- Payne, M., D. Zovatto and others (2002): *Democracies in Development: Politics and Reform in Latin America*, Washington, D.C., Inter-American Development Bank (IDB).
- PEFA (Public Expenditure and Financial Accountability) (2003): *Assessing Public Expenditure, Procurement and Financial Accountability: A Review of the Diagnostic Instruments*, Washington, D.C.
- Pereira, C. and B. Mueller (2002): Comportamento estratégico em presidencialismo de coalizão: as relações entre executivo e legislativo na elaboração do orçamento brasileiro, *Dados*, vol. 45, No. 2, Rio de Janeiro, Instituto Universitário de Pesquisas do Rio de Janeiro.
- Petri, H. (1998): *Budget and Control: Reforming the Public Sector in Latin America*, Washington, D.C., Inter-American Development Bank (IDB).
- Rojas, E. and H. Zavarce (2004): *Instituciones para la coordinación de la política monetaria y fiscal: un enfoque transaccional para el caso venezolano*, document presented at the XVI Regional Seminar on Fiscal Policy (ECLAC, Santiago, Chile, 26-29 January 2004).
- Rubio Llorente, F. (1993): *La forma del poder*, Madrid, Centro de Estudios Constitucionales.
- Samuels, D. (2002): Progressive ambition, federalism and pork-barreling in Brazil, in S. Morgenstern and B. Nacif (eds.) (2002): *Legislative Politics in Latin America*, Cambridge, Cambridge University Press.
- Santiso, C. (n/d): *The Governance of the Budget in Emerging Economies: Institutions of Accountability, Oversight and Anti-corruption in Public Finance*, unpublished.
- _____ (2000): Towards democratic governance: the contribution of the multilateral development banks in Latin America, in P. Burnell (ed.), *Democracy Assistance: International Cooperation for Democratization*, London, Frank Cass.
- _____ (2001a): Democratic governance and second generation economic reforms in Latin America, *Instituciones y desarrollo*, 8-9, Barcelona, Instituto Interamericano de Gobernabilidad, May.
- _____ (2001b): Insulated economic policy and democratic consolidation: the paradox of second generation reforms in Argentina during the 1990s, *Contribuciones*, year 18, No. 4(72), Buenos Aires, Centro Interdisciplinario de Estudios sobre el Desarrollo Latinoamericano (CIEDLA), December.
- _____ (2001c): Good governance and aid effectiveness: The World Bank and conditionality, *Georgetown Public Policy Review*, vol. 7, No. 1, Washington, D.C., Georgetown University.
- _____ (2003a): Another lost decade? The future of reform in Latin America, *Public Administration and Development*, vol. 23, No. 4, New York, John Wiley and Sons.
- _____ (2003b): The elusive search for the rule of law: promoting judicial reform in Latin America, *Brazilian Journal of Political Economy*, vol. 23, No. 3, São Paulo.
- _____ (2004a): Re-forming the State: governance institutions and the credibility of economic policymaking, *International Public Management Journal*, vol. 7, No. 3, International Public Management Network.
- _____ (2004b): *Legislative Budget Oversight and Public Finance Accountability in Presidential Systems: Governance of the Budget in Peru*, document prepared for the XVI Regional Seminar on Fiscal Policy (ECLAC, Santiago, Chile, 26-29 January 2004).
- _____ (2004c): The contentious Washington Consensus: reforming the reforms in emerging markets, *Review of International Political Economy*, vol. 11, No. 4, London, Routledge.
- _____ (2004d): The political economy of governance and conditionality in multilateral development finance, *International Public Management Journal*, vol. 7, No. 1, International Public Management Network.
- Schedler, A., L. Diamond and M. Plattner (eds.) (1999): *The Self-Restraining State: Power and Accountability in New Democracies*, Boulder, Colorado, Lynne Rienner.
- Shepsle, K. (1999): The political economy of state reform: political to the core, *Brazilian Journal of Political Economy*, vol. 19, No. 3, São Paulo.
- SIGMA (Support for Improvement in Governance and Management) (2002): *Relations Between Supreme Audit Institutions and Parliamentary Committees*, SIGMA Paper, No. 33, CCNM/GOV/SIGMA(2002)1, Paris.
- TCU (Tribunal de Contas da União) (2002): *Relatório das atividades do TCU, 3 Trimestre de 2002*, Brasília, D.F.
- Wehner, J. (2002): *Best Practices in Public Accounts Committees*, unpublished.
- _____ (2003): *Back from the Sidelines? Redefining the Contribution of Legislatures to the Budget Cycle*, unpublished.
- Weldon, J. (2002): Legislative delegation and the budget process in Mexico, in S. Morgenstern and B. Nacif (eds.) (2002): *Legislative Politics in Latin America*, Cambridge, Cambridge University Press.
- Wildavsky, A. (1964): *The Politics of the Budgetary Process*, Boston, Little, Brown.
- _____ (1992): Political implications of budget reform: a retrospective, *Public Administration Review*, No. 52, Oxford, Blackwell Publishing.
- World Bank (1992): *Governance and Development*, Washington, D.C.
- _____ (1997): *World Development Report 1997: The State in a Changing World*, New York, Oxford University Press.
- _____ (2000): *Reforming Public Institutions and Strengthening Governance: A World Bank Strategy*, Washington, D.C., Public Sector Group.

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The screenshot shows the CEPAL Review website in Microsoft Internet Explorer. The browser window title is "http://www.cepal.cl/revista/default.asp?idtema=01 - Microsoft Internet Explorer". The address bar shows "http://www.cepal.cl/revista/default.asp?idtema=01". The page features a navigation menu with links for Home page, Reviews, Articles, Subjects, Authors, Contact, and Search. The main content area is titled "PRESENTATION" and includes a paragraph about the CEPAL Review's history and editorial independence. A "SUBSCRIPTIONS" box with the text "WE CALLS: CEPAL Review" and a "GUIDELINES" box with the text "for contributors to the Review" are also present. The page features a banner for "April 2004 CEPAL Review No. 82" by Director Oscar Alzola. A "Summary" link is visible at the bottom.

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Recent ECLAC publications

Institutional periodical reports

Economic Survey of Latin America and the Caribbean, 2002-2003, LC/G.2208-P/I. United Nations publication, Sales No. E.03.II.G.2, ECLAC, Santiago, Chile, December 2003, 376 pages.

This edition of the *Economic Survey of Latin America and the Caribbean, 2002-2003*, which is number 55 in the series, contains an analysis of developments in the regional economy in 2002 and of the tendencies identifiable up to mid-2003. It consists of two parts, one dealing with the region generally and the other with the individual countries, plus a statistical annex with region-wide data. The statistical data used in most of the analyses is provided on CD-ROM.

The first part contains three chapters. Chapter I gives an overview of the situation and trends of the main macroeconomic variables in the region. Chapter II covers four subject areas: the external sector, economic policy, domestic performance and the problem of external debt. The section dealing with the external sector examines developments in the components of the balance of payments, commodity prices, the terms of trade, capital flows and credit conditions. This is followed by a review of the fiscal, exchange-rate and monetary dimensions of economic policy, while domestic performance is analysed in terms of growth, investment, inflation, pay and employment. Lastly, the external debt problem is examined with reference to the new methods of renegotiation applied by some countries during the first half of 2003. Chapter III argues for a strengthened development banking system capable of stimulating investment, given the current dearth of long-term financing, information asymmetries and the segmentation of national financial systems.

The second part of the Survey consists of a series of notes on recent macroeconomic developments in 27 countries of the region. The tables and charts differ from those presented in earlier editions, owing to the methodology employed on this occasion. The main changes are that investment financing is now measured in current values, real interest rates are calculated on a monthly basis from nominal annual rates, and monetary figures are recalculated as annual averages. Indices for goods exports and imports and for the terms of trade are calculated with 1997 as the base year, even when the original series are dollar estimates at constant 1995 prices, as in other ECLAC publications. In addition, the number of tables included in the statistical annex has been increased to 25.

Social Panorama of Latin America, 2002-2003, LC/G.2209-P/I. United Nations publication, Sales No. E.03.II.G.185, ECLAC, Santiago, Chile, May 2004, 348 pages.

The 2002-2003 edition of the *Social Panorama of Latin America* explores issues related to a number of the Millennium Development Goals. Three of the five chapters (on poverty, hunger and gender inequality) assess how likely it is that the countries of the region

will succeed in meeting the targets in these areas agreed upon by the Member States of the United Nations for 2015.

One of the chapters that refers to the Millennium Development Goals deals with hunger and food insecurity. This chapter, which was produced in collaboration with the World Food Programme, provides information on the scale, trends and main causes of child malnutrition and undernourishment in 24 countries of Latin America and the Caribbean.

The chapter on poverty includes figures for Latin American countries in 2001 and 2002, together with an estimate for the region as a whole for 2003. This chapter points out that the poverty reduction process has been at a standstill since 1997, but it also notes that many countries may still manage to halve their extreme poverty rates by 2015.

The chapter on gender indicates that poverty in Latin America is more widespread among women than men and that most indigent households are headed by women. Moreover, if it were not for the financial contribution made by women, poverty would be at least 10 percentage points higher in most of the countries. The discussion also deals with other disadvantages suffered by women, such as those linked to the lack of social recognition, unpaid domestic work, the slow pace of progress with their involvement in politics (particularly in decision-making positions), higher rates of unemployment and wage discrimination.

The chapter on social expenditure furnishes information on 18 Latin American countries and analyses trends in social spending over the last decade. The impact on social expenditure of the economic slowdown that began in 1998 is discussed, and the point is made that the higher priority assigned to public social expenditure (measured as a percentage of GDP) prevented what could have been a larger per capita decline.

The final chapter examines the main labour-market policies and singles out some interesting initiatives aimed at combating unemployment, poor job quality and underemployment. Information supplied by the countries' labour ministries serves as the basis for an analysis of cross-country differences in the minimum legal working age, minimum wage levels, types of contracts and the right to join unions and to strike. It is further noted that, despite some progress with labour legislation, there are still serious problems with the enforcement of existing laws and regulations. The section on the international social agenda summarizes the main points agreed upon at the World Summit on Sustainable Development (Johannesburg, South Africa, August-September 2002), known informally as Rio+10.

Foreign Investment in Latin America and the Caribbean. 2003 Report, LC/G.2226-P/I. United Nations publication, Sales No. E.04.II.G.54, ECLAC, Santiago, Chile, May 2004, 155 pages.

In 2003, flows of foreign direct investment (FDI) to Latin America and the Caribbean continued to shrink steadily for the fourth year running. With this latest decline, Latin America and the Caribbean turned in the worst performance of any world region. This situation was exacerbated by the steady increase in profit remittances and other FDI-related outflows, diminishing the impact of such investment on the balance of payments. The decrease in FDI inflows over the past few years has varied across subregions and countries in Latin America and the Caribbean, however. In Mexico and the Caribbean Basin inflows have diminished less, while South America has been worst affected. Within South America, inflows have held up well in the Andean Community but dropped sharply in Mercosur, particularly Brazil.

This publication assigns particular importance to the strategies employed by multinational corporations to improve their efficiency with a view to moving into outside markets. Accordingly, one chapter is devoted to FDI trends in Latin America and the Caribbean, while the other two deal with different aspects of such strategies. One analyses events in Costa Rica, the Dominican Republic, Honduras and Jamaica, which are regarded as cost centres for labour-intensive activities producing low value-added goods, while the other looks at the challenges facing Brazilian and Mexican manufacturing centres in the automotive industry production chain.

Statistical Yearbook for Latin America and the Caribbean, 2003, LC/G.2224-P/B. United Nations publication, Sales No. E/S.04.II.G.1, ECLAC, Santiago, Chile, May 2004, 548 pages.

The 2003 edition of the *Statistical Yearbook for Latin America and the Caribbean* contains a selection, updated to early December, of the main statistical series available on economic and social trends in the countries of the region.

Since the 2002 edition, the Yearbook has also been available on CD-ROM. In addition to the text provided in the printed publication, for ease of reference the CD-ROM includes statistical tables (in Excel) covering the series in their entirety from 1980 onward.

Structurally, this year's edition does not differ from that of 2002. The tables in the balance of payments chapter continue to be presented in accordance with the guidelines for the analytical version found in the fifth edition of the *Balance of Payments Manual* published by the International Monetary Fund in 1993.

Part One contains derived social and economic indicators (growth rates, ratios or coefficients) which provide an overview of each area of interest, along with the background material needed for the information to be used in specialized analyses. This group of indicators includes those used by the ECLAC Secretariat in its periodic regional appraisals of the development process in Latin America and the Caribbean.

Part Two provides historical series in absolute figures, which means that they can be used for a wide variety of purposes. Most of the statistical tables provide data on a single topic, organized in such a way as to facilitate comparisons between one country and another and between individual countries and regional totals or averages. The balance of payments and national accounts tables are the only exceptions in this respect, since they have been prepared on a country-by-country basis.

Although there are currently 33 Latin American and Caribbean member countries of the Commission, the tables giving regional totals generally use the sum of data on 25 countries. The statistics of the Caribbean countries are less complete, which is why the regional coverage varies according to the subject area dealt with. Efforts continue to be made to resolve this situation and it is hoped that in the medium term complete information will become available, at least on the major macroeconomic items such as national accounts, the balance of payments and foreign trade.

In most of the tables the countries appear in alphabetical order, and those for which there are no data or for which the amounts are zero or negligible are not included.

In Part One of the Yearbook, most of the indicators are for the years 1980, 1985 and 1990, and for the 1994-2000 period. In cases where the information has not been sufficiently updated, figures for the latest year available are given in each case. Some indicators based on census data are obtained only for the census

years. The country and regional series included in Part Two cover 1980, 1985, 1990 and the 1995-2000 period.

In view of the excellent response from users and the degree of accuracy achieved in previous versions, preliminary estimates for the year of issue of the Yearbook (in this case, 2003) are once again given. These estimates are the result of an effort made during the last two months of each year to inform the international community about macroeconomic trends in the countries of the region during the period under consideration. It is important to note here that due to the difference in closing dates, and thus in the point of time at which information was obtained, in certain cases the historical figures given for recent years in the Yearbook tables may differ slightly from those given in the *Preliminary Overview of the Economies of Latin America and the Caribbean, 2003*.

This document can also be found on the ECLAC web site (<http://www.eclac.cl/publicaciones/default.asp?idioma=IN>), under Institutional periodical reports.

Other publications

Energía y desarrollo sustentable en América Latina y el Caribe, Cuadernos de la CEPAL, No. 89, LC/G.2214-P/E. United Nations publication, Sales No. S.03.II.G.160, ECLAC, Santiago, Chile, December 2003, 230 pages.

This is the Spanish-language version of the Guide for Energy Policymaking produced by ECLAC as part of the "Energy and sustainable development in Latin America and the Caribbean" project. This project, conducted jointly with the Latin American Energy Organization (OLADE) and the German Agency for Technical Cooperation (GTZ), used a series of case studies in a number of the region's countries to examine the contribution of energy policies to more sustainable development.

The central objective of this Guide is to present the basic elements needed to identify and formulate energy policies that will lead to more sustainable development, and to analyse instruments and approaches that can be used to improve the viability of the policies arrived at.

The first part of the Guide explains the conceptual underpinnings of the relationship between energy policy, sustainability and reform: the concepts of sustainability, the dimensions of sustainability, and energy policy and sustainable development.

The second part provides all the information needed to formulate energy policy: the policymaking process; energy policy goals and instruments; energy policymaking approaches and tools and, lastly, implementation of the policies decided upon.

Of particular interest is the annex of chapter VI, which presents the main results of the workshop-seminars held on the basis of the first version of the Guide, to illustrate its use in energy policymaking and discuss the issues put forward on the agendas of these events.

A Decade of Social Development in Latin America, 1990-1999, Libros de la CEPAL, No. 77, LC/G.2212-P/I. United Nations publication, Sales No. E.03.II.G.143, ECLAC, Santiago, Chile, April 2004, 285 pages.

The final decade of the twentieth century was a momentous one for Latin America, as it was a time of sweeping changes that represented a turning point with regard to previous trends in the region. The most

important of these changes were the revival of economic growth and the reduction of poverty in the early years of that period. Also important was the demonstration of the impact of international crises on the Latin American countries, especially in the second half of the decade.

This book analyses events between 1990 and 1999 and revisits issues of interest to ECLAC, using the same approach as has characterized the *Social Panorama of Latin America*.

The analysis begins with a look at a number of "objective" dimensions –poverty, income distribution, employment, occupational stratification, the role of education, the intergenerational transmission of opportunities for achieving well-being and the contribution of social spending to the improvement of the population's standard of living– and at the interrelationships between these and economic growth. It also uses the findings of opinion polls carried out in many of the countries to describe the subjective reactions of the Latin American population to the changes that took place in the 1990s.

Setting objective dimensions against subjective individual responses is especially necessary today. To address the challenges of the social development agenda in the coming years, in particular, there will be a need to take all these factors into account so that a new civic commitment can be built up around the public policy measures taken to foster growth and equity.

Los transgénicos en América Latina y el Caribe: un debate abierto, Libros de la CEPAL, No. 78 (LC/G.2227-P), United Nations

publication, Sales No. S.04.II.G.74, ECLAC, Santiago, Chile, May 2004, 416 pages.

Since they first appeared in the mid-1990s, genetically modified crops have aroused great expectations, but they have also given rise to a fierce debate that is still far from over. The subject is of special importance to Latin America and the Caribbean, both because of the amount of land under cultivation (Argentina ranks second in the world in this respect) and because the region has greater biodiversity than any other on the planet, having been the source of plants such as maize and the potato that are crucial to the world's food supply.

This book brings together a variety of viewpoints in an attempt to provide an initial understanding of the economic, social and environmental impact of genetically modified crops in the region. The different chapters address conceptual aspects, practical aspects (such as the experience of Argentina and Mexico) and problems with the intellectual property regime currently applying to biotechnology products. This diversity of viewpoints accords with the multifaceted nature of the phenomenon, whose study requires a combination of disciplines such as molecular microbiology, economics, sociology and environmental sciences.

The authors of the book have sought to provide governments, academia and businesses in the region with information that will help them analyse the opportunities and dangers associated with the new technologies and proceed with national policymaking in this area.



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La Revista se inició en 1976 como parte del Programa de Publicaciones de la Comisión Económica para América Latina y el Caribe, con el propósito de contribuir al examen de los problemas del desarrollo socioeconómico de la región. Las opiniones expresadas en los artículos firmados, incluidas las colaboraciones de los funcionarios de la Secretaría, son las de los autores y, por lo tanto, no reflejan necesariamente los puntos de vista de la Organización.

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