

Project Document

**Public Policy for Pensions, Health and
Sickness Insurance. Potential Lessons from
Sweden for Latin America.**

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Abstract

This paper discusses the rationale of social insurance and social insurance institutions as they have emerged and developed in economically mature nations. The aim of the paper is to present discuss experience in a perspective that can be useful for discussions in Latin America. Key issues in system and institution design are identified and discussed, and examined with reference to experience from Sweden.

The paper contains three major sections and concludes with some final remarks. The first of these discusses the case for publicly mandated insurance. The second discusses models and issues for health care and sickness insurance and the third section models and issues for pension insurance. The paper presents the arguments favoring mandated insurance for health care and pensions. The paper concludes that public provision of health care insurance combined with some private-public mix of health care services has strong advantages in the Latin American setting. The paper discusses various institutional issues in designing health care and sickness insurance, referring specifically to experience from Sweden.

Likewise, the paper argues in favour of mandated old age pension insurance, presenting the arguments for why the present trend in pension reform is in the direction of notional (NDC) and financial (FDC) defined contribution earnings-related schemes. A large portion of the population in Latin America will not be sufficiently covered by earnings-related schemes, stressing the need for the public sector to tread in with income support for the poor, only partially covered or wholly uncovered population as the market economy develops. The safety net will need to be a publicly provided defined benefit or means-tested income support, with the defined benefit taking the form of a minimum pension guarantee or demogrant.

I. Introduction

This paper discusses the rationale of social insurance and social insurance institutions as they have emerged and developed in economically mature nations. The purpose of the paper is to present experience in a framework that can be useful in institutional discussions in Latin America. The focus of the paper is on the institutional organization of the provision of old-age pensions, health care, sickness and disability insurance. The paper discusses the design of systems and what we have learned about organizing institutions around them efficiently. Key issues in system design and the building of institutions are identified and discussed, with a focus on the development of institutions in Sweden.

Even so-called developed nations are constantly developing their institutions so that the word development is a relative concept. Because of this, it is certainly a mistake to assume that the institutions of developing countries must evolve following the historical blueprint of forerunners. What served a particular country or group of countries well in a specific time in history may be entirely inappropriate for other countries developing in other times and other environments. Clearly the most appropriate development strategy in building institutions is to learn from the experiences of the forerunners and to avoid their mistakes.

Generally speaking, in any national setting one would expect to see some combination of family, public and private market insurance arrangements. In developing nations, and not the least in Latin America, the intergenerational family provides the most important safety net. The long-run challenge of the transition process in developing nations involves moving the bulk of insurance for the whole population from the social insurance provided by the intergenerational family to a) private market arrangements and b) mandated private or publicly provided social insurance. The challenge for public policy is to discover the appropriate mix and develop the institutions that enable this transition to occur. The aim of this paper is to provide food for thought for policy making aimed at expediting this process.

The paper is organized as follows. The next section discusses the case for publicly mandated insurance. Section 3 discusses health care and sickness insurance, Section 4 discusses pension insurance and Section 5 presents some final remarks.

II. The case for publicly mandated insurance

Insurance deals with managing risks. The risks involved in the present context are the risks of not being able to provide for oneself due to old age, the risk of losing one's work capacity due to a sickness or injury or the risk of being confronted with medical expenses that are not possible to pay with a given income. Economic theory tells us that most individuals are risk averse. They will prefer a *certain* outcome rather than risk the economic consequences of an uncertain event – here income loss due to sickness, disability, expensive medical care and the possibility of living longer than one can provide for oneself. In theory, risk averse individuals will want to purchase insurance to cover these contingencies. Consequently, in theory, in the perfect market economy individuals would purchase the insurance they require to cover these contingencies, and without the intervention of the state. In this more or less perfect world, the demand for insurance will lead to a supply of market provided insurance products.

The world is far from perfect, however. In practice, even in mature market economies it is likely that a large portion of the population would not be insured without public mandates requiring either privately or publicly provided insurance. In the literature on this topic, two reasons are usually given for this. The first is that even though people generally know what's best for them – that is, that they are rational, risk averse individuals – they will not bother to purchase the insurance they require because they always prefer consumption today. They are informed about the risks involved and are risk averse individuals, but they do not get around to contracting the insurance they know they need. They are “myopic,” putting off for tomorrow what they should do today. The second reason for the state to mandate insurance is that there will be some individuals who consciously choose to be “free riders,” persons who take for granted that the public sector will take care of their basic economic needs anyway, if and when the time comes.

In developing economies, such as the economies of Latin American, there is reason not to accept these two arguments a face value. First, in developing countries, a large segment of the population is likely to be living in poverty. For example, in 2000 in Bolivia around 50 per cent of the population and in Brazil about 25 per cent of the population had less than two dollars a day to live on (*World Development Report*, 2002). For obvious reasons, among the poor there is a pronounced time preference for consumption today rather than in the future. This is easy to understand since the very poor have no other choice. Individuals and households with small means will by necessity need to spend their resources to obtain food for the day rather than purchase

insurance to meet possible contingencies tomorrow. In other words, for the poor myopic behaviour may be the most rational behaviour.

Second, for a large percentage of the population the family network will be the insurer of last resource, rather than the state. If the state or local community does not provide assistance for the poor, then of course the poor cannot be free riders for public benefits. The family network is like a pay-as-you-go social insurance system with the insurance collective restricted to the extended family. In the absence of any social assistance at all from the state, the choice not to insure oneself will mean that the extended family will be expected to provide the safety net when the contingencies of poor health, the need of medical care or hospital services, disability or reduced earning incapacity due to old age arise. The capacity to provide help will depend on *family* rather than individual income. However, as economies develop, per capita income increases and the state will eventually take on the responsibility to provide a minimum level of welfare for its poorest citizens. At some point in the development of a country the free rider argument will become valid, as long as the state provides minimal coverage of the population.

Insurance markets may not emerge fully if left on their own. In both developed and developing countries, insurance markets will be imperfect. First and foremost, private insurance needs institutional legislation to regulate the nature of contracts and the business of providing insurance. In Sweden it was not until financial institutional legislation for creating a national supervisory board and financial market regulations was enacted in 1904 that companies began to provide private group insurance arrangements (Palmer and Wadensjö 2004). The first to be covered by employers in Sweden were white collar staff usually employed with large employers. In Sweden, generally speaking, blue-collar workers were not covered by private employer arrangements as late as 1960, whereas schemes had developed for white-collar private and public employees (Markowski and Palmer 1979). In fact, when reform of the then existing public coverage, the *folkpension*, was on the political agenda in Sweden in the 1950s, more than 50 years after the legislation regulating the financial market had been introduced, generally speaking, blue collar workers were still not covered by private insurance arrangements, and were still dependent on the still meagre universal public old age *folkpension* benefit granted from age 67. This example from Sweden suggests that there is no reason to presume that private initiative will lead to sufficient coverage if left to develop on its own, even though the legislative framework for regulation and supervision is in place. Generally, experience indicates that although legislation regulating the insurance market and institutions to supervise it are necessary, they are far from both necessary and sufficient for the development of ample wide-spread coverage to occur.

Importantly, suppliers need demand to develop the supply of insurance products. However, lack of demand from persons who in principle should insure themselves is not the only cause of market failure. The supply of insurance products that can be purchased may be thin, as suppliers may cater their services to high income earners. In fact, if one relies on the private market to develop to cover all insurance needs, a public mandate may be required to stimulate development of the market. Given a public mandate the supply of privately produced insurance services will emerge and develop and people who otherwise would not purchase insurance will be compelled to choose from among alternatives provided.

In the development setting, the rationale for either mandating private insurance coverage or providing public universal coverage is at least as great as in developed countries, but probably more so, for three reasons. First, large segments of the population may be so poor that they will opt to go without insurance. One can assume that this would be the case for the poor in Latin America. Second, there is a microfinance issue. Potential suppliers may not be interested in clients with very small incomes. Insurance is nevertheless not a typical micro-finance issue. Insurance for health care, disability and old age require large insurance pools. Large numbers of insured persons enable risk pooling and the pooling of a large number of risks reduces the variance in outcomes and makes

it possible to provide less expensive insurance. Generally speaking, if the market does not fulfil the need of *all* individuals to contract insurance and in reasonably large insurance pools, there is a reason for the state to intervene and provide this insurance. And, in addition, if the state is the provider of universal coverage, no individuals will be excluded because of their risk status.

Germany provides the classic example of a country that has mandated insurance coverage, where present legislation dates back to 1883 for mandated health care and sickness insurance for employees, with contributions coming from both employees and employers, 1884 for mandated accident insurance for employers and shortly thereafter mandated old age pension insurance from age 70, also financed with a combination of employee and employer contributions. Although health care insurance is financed with contributions based on a fixed percent of earnings, which may vary between insurances anchored in branches, guilds and employer groups, all persons covered by the mandate are entitled to the same health care, without risk differentiation. These systems remain even in today's Germany, where around 90 percent of the population are covered by the mandate (Breucker and Bindzius 2006). The remaining approximately 10 percent, mainly the self-employed, must provide for themselves through private arrangements. The Bismarckian model eventually spread to a number of countries in Europe.

Mandated systems are also common in Latin America, although typically with coverage levels of around 50-70 percent of the population, due to the large degree of informality in the economy. Of course, this is a situation countries can expect to emerge from with time and new systems should be designed with this long-term development perspective in mind. For example, the present Chilean mandatory contributory pension scheme covers only about two thirds of the working age population and among those covered a much smaller portion can expect to receive a benefit above the guarantee offered within the system. This is not necessarily an argument against mandated private pension insurance, but rather a reminder that the role of the state in providing a safety net can not be wholly avoided by mandating private insurance. In fact, the evidence from Chile and elsewhere suggests that the mandate is far from being sufficient to provide coverage for persons without regular earnings from formal employment.

The alternative to mandating private coverage is for the state to provide coverage. The option of providing *universal public coverage* was the course taken from the outset, for example, in the United Kingdom and Scandinavia. Universal public provision has been the main model from the outset in the provision of health care, sickness, disability and old age benefits since their inception. The clear advantages of a public truly *universal* system is, first, that everyone is covered, and, second, that the same conditions apply to all, regardless of occupation, branch or locality. Where there is a justification for a difference based on occupation or branch, this should be covered by a private (individual or group) arrangements. Thirdly, there is one set of administrative procedures instead of many, which, at least in principle, should hold down costs.

In addition to providing insurance, the government may want to achieve distributional goals in setting up a mandated system. An advantage of public systems is that they can be set up as defined benefit systems, which means the government can attempt to achieve distributional goals within the system. On the other hand, private insurance necessarily bases benefits on contributions, and normally premiums are based on risk. It would be unreasonable to mandate private insurers to provide the same benefits to all regardless of what people pay. Public schemes can be designed specifically to provide the same benefit for all, even though persons with higher incomes pay more. This is obviously a way to redistribute money targeted for, for example, health care, disability and insurance in old age from persons with higher to persons with lower incomes. This is a significant policy opportunity in an economy where a large percentage of the population is extremely poor. With regard to pension coverage, a defined benefit first tier, perhaps supplemented by a mandated notional or financial defined contribution individual account second tier, is an approach now

applied by many countries in Europe.¹ The Swedish pension model, dating from legislation in 1994, to be discussed below, is an example.

An advantage of universal public provision over mandated private insurance is that there is a possibility of covering the entire population with public coverage, whereas the mandate may exclude large segments of the population. Developing countries rank high in rankings of corruption, so a possible disadvantage of public systems in the development context is the risk of misuse. However, it is important to keep in mind that even private administrations can use money improperly, so the distinction between private and public is not clear cut on this issue. Good governance procedures are crucial regardless of whether a system is privately or publicly administered. Good governance involves establishing transparent procedures with checks and controls, especially regarding the flows of money, and is helped along by designing systems so that money passes through as few hands as possible.

In sum, it is rational for risk averse individuals to insure themselves against contingencies – such as poor health and work incapacity due to injury, sickness and old age, *i.e.* to have health care, disability and pension insurance. Because many individuals will nevertheless not opt to insure themselves or owing to imperfect markets cannot purchase insurance, the case is strong for introducing mandatory universal insurance, either provided privately or publicly. Mandatory universal insurance *is* social insurance. Assuming risk averse individuals, both individual and social welfare are greater with than without insurance and if coverage without mandated insurance is not universal then the case for mandated insurance is strong. Mandated private insurance has drawbacks, however, among them is the difficulty in providing truly universal insurance. This tips the scale in favour of public provision of universal coverage, where everyone is covered with the same rules, and where it is possible, if desirable, to redistribute resources within systems from the better off to the worse off. Some of the forms mandates can take in health care and pensions are discussed in more detail in the following sections on health and pension insurance.

¹ The list is long. Examples in Western Europe are Denmark, Sweden, Switzerland and the UK. Examples in Eastern and Central Europe and Central Asia are Bulgaria, Hungary, Estonia, Kazakhstan, Latvia, Lithuania, Poland and Russia.

III. Health care and sickness insurance

There are several approaches to – or models of - health insurance provision that a country can adopt. One is the free market model where the state attempts to let the forces of market supply and demand prevail. Other models can be devised that combine various degrees of public involvement in the provision of insurance and health care services. These different models are presented and discussed here. The models are listed in Table 1. The first model in the table is the pure market model where the normal forces of supply and demand determine what insurance is provided and who is covered. As has already been argued above, this model is not likely to fulfil the needs of all or perhaps not even most individuals in a country. If this is the case, taken alone, it is sub-optimal in maximizing national welfare, given the premise that individuals are risk averse and prefer a state of the world with insurance. The pure market model, thus, will have to be supplemented by some form of public commitment. In the development setting with the safety net being the extended family, poor families without the means to pay will have to go without necessary health care in the absence of some form of public commitment. This emphasizes the potential importance of the public commitment in the development setting.

Whatever combination of insurance and health care provision is chosen, the economic criteria should be to utilize restricted resources efficiently – to produce good quality at a minimum cost. In addition, in principle the model should lead to full coverage of the nation's population. The scale of overall coverage will nevertheless be determined by overall national resources. Poorer countries can afford less than richer countries, but a premise here is that within a given country's resource constraint it is desirable for all residents to have equal access to basic health care services.

This section begins with a discussion of possible models for health insurance. The first section discusses the market model and the following sections discuss various institutional designs with mandated private or universal public insurance provided by the state. The following two sections discuss issues in coverage and moral hazard. With Swedish insurance as the framework the last two sections discuss issues arising in designing the institutional infrastructure, first in health care and then sickness and disability insurance.

A. The market model

We begin with the competitive market model. In developed market economies where the average level of income is high, one would expect nearly complete private health care insurance coverage of the population – even without a mandate – since we have argued that this is in the interests of all individuals. Nevertheless, the evidence from countries where private insurance is the prevalent model, with the best example being the United States, is that a fairly significant percentage of the population will not have insurance coverage.

There are several reasons why coverage will not be complete in the pure market framework. One important reason is that a large percentage of individuals will have a known *previous condition*. A known risk increases the probability that expensive health care will be needed. This means that the insurer will adjust the premium accordingly and this may make persons in this situation uninsurable at an affordable price, unless they were insured before the known condition developed or became known. Another reason why coverage may not be universal is that low income individuals and families will choose not to insure themselves because health insurance is a major expense and would absorb too large a portion of a small income. Among these are the long-term poor, persons without a permanent connection to the labor market such as students, migrant workers, etc., some single adult families and a significant percentage of the elderly. Together these groups account for a large percentage of a country's population. In spite of the fact that the US is the world's richest economy, due to a combination of the reasons discussed here, about of a third of the population is not covered by private health care insurance.

In the absence of a mandate, health care insurance may be provided as a part of an employment package for a segment of the population, which is usual in the US. Nevertheless, this is usually only the case for larger private enterprises and the government. Employer insurance will not usually be a part of the remuneration package for employees in small enterprises, whereas this segment of the workforce will constitute a large percent of the working population in all countries. In Latin America it dominates employment. Consequently, insurance becomes an individual outlay decision and an individual expense, and contracting with health care insurance providers occurs on an individual basis. For this reason a large percentage of the population will not purchase health care insurance, for the reasons already elaborated.

If a country opts for the private market approach some form of public commitment is needed to cover individuals excluded from the private insurance market. The US has developed a form of means-related safety net for the elderly and the poor, Medicare and Medicaid, which covers individuals excluded from private coverage for financial reasons. This is little help, however, to persons who are not poor, but who are excluded from affordable coverage due to previous health conditions.

In sum, in the absence of a mandate, the state will still have to intervene to cover the inadequacies of the market. Taxes will have to be levied to finance transfers to those covered by the safety net. This means that in the end there will be a considerable redistribution of income in order to provide adequate health care for the poorer segment of the population. In addition, some persons with higher incomes but with very costly risk profiles may still be priced out of the insurance market. These considerations speak in favour of publicly mandated universal health care. This enables transfers to the “poor” and covers the costs of individuals whose risks are uninsurable at a reasonable market price. The case for public provision is even stronger in the development setting where very small enterprises dominate the labor market and where a large segment of the population is so poor that they can only receive basic health care if money is transferred through general revenues.

B. Alternatives to the market model—mandated/public insurance

A mandate for individuals to purchase insurance. A first alternative to the free market model is a model with a mandate for all individuals to purchase private health insurance to pay for privately produced health care services. This is alternative 2 in Table 1. As opposed to the free market model, now all individuals are required to purchase private insurance. Insurance organizations would compete for customers. The mandate would probably also lead to provision of insurance through employment contracts for workers with larger employers and the government.

TABLE 1
MODELS OF MANDATED HEALTH CARE INSURANCE

	Insurance	Health care provision
1. Pure Market Model	Private	Private
2. Mandated individual insurance provided privately	Individuals are mandated to purchase private insurance	Private
3. Mandated employer insurance provided privately	Employers are mandated to purchase private insurance	Private
4. Mandated private employer insurance with <i>no</i> risk differentiation allowed	Private provision of insurance and health care services with a tendency for the same company to provide both.	
5. Public provision of universal health care insurance	Universal public health insurance coverage	Private
6. Public provision of insurance, with mixed provision of health services	Universal public health insurance coverage	Public and private
7. Public provision of health care		Public

The problem with solely market determined health insurance is that, if not restricted by legislation, insurers will set individual premiums based on risk – that is, previous health, living habits, etc. Some individuals will be excluded entirely from the market at an affordable price. In addition, since persons with greater risks will have to pay more, this form of mandate gives a *distributional profile* determined by individual health profiles and, hence, individual risk. Regarding the latter, generally speaking, women and older persons use the health care services more frequently than men and younger adults, and, thus, in a risk based market would normally have to pay more. Given aggregate risk profiles, a 65 year old contracting insurance for the first time should pay more than a 25 year old, a 65 year old smoker should pay more than a non-smoker the same age, etc.

This model resembles the market model in all respects except for the mandate. It recognizes the nature of private insurance and rewards those with better living habits, better health, better working conditions etc. It is likely to have the same drawbacks as the pure market model regarding both the scale and composition of the excluded population.

A mandate for employers to purchase insurance. A second alternative to the free market model is to mandate private insurance for employers, instead of individuals. Employers would contract private insurance providers who would purchase privately provided health care services. The social policy drawback of this model is, once again, precisely that of the US model without publicly mandated health care insurance, that is, a large segment of the population (the self-employed, students and others without employment and the elderly), will inevitably be excluded –

requiring state financing of this large residual group. Like mandated individual insurance, mandated employer insurance is likely to result in risk differentiation - by age, previous health status, etc.

Note that there is a tendency for company book reserve systems to be substantially underfinanced, which opens the door to using bankruptcy legislation to reduce commitments. Regarding health care, company health care plans frequently cover both the employee and the employee's spouse and continue to cover costs after retirement from the company. Since the latter commitments arise in the distant future, the risk is great that they will be under-funded. Both health and pension commitments can in addition be dramatically underestimated and, hence, underfinanced due to rapidly increasing longevity. In addition, the funds risk being jeopardized if companies borrow from these funds to pay for current investment and other current costs.

It follows then that a disadvantage specific to the employer model is that benefits will be in jeopardy when companies go through a dissolution process.² To cover this contingency a mandated reinsurance arrangement or state guarantee can be created. The latter could, however, encourage abuse, *i.e.* dumping benefit costs off on the state in the process of reforming companies, whereas the former would have the advantage that companies would be compelled to pay for their own reinsurance on an insurance basis.

Models ruling out risk differentiation

A strong case can be made for sharing the costs of known risks in the overall health insurance collective, which is the approach typically taken in the Western European countries. It is straightforward to argue in favour of this model in principle. Assume individuals are asked to choose between two alternative regimes under a Rawlsian veil of ignorance: The first alternative is individual health care insurance where the size of individual premium payments is based on known individual risks. The second is universal pooling of risks for the entire population with the same premium payments for all. Risk averse individuals would prefer the second rather than the first option since without prior knowledge no one knows who will be the bearer of the relatively poor risks. Hence, assuming risk aversion is a more or less universal trait, the society is better off by not differentiating premiums for health care based on risk.

Risk in an insurance setting is attached particularly to age, gender and occupation. First, we note that in a life cycle perspective all individuals will be both young and old. Charging the same rate for all ages in a mandated system redistributes some of the costs of insurance when old to younger years. In addition, it equalizes costs by gender, even though differences may be motivated by gender risk profiles. A possible exception to not taking risks into account is the risk associated with accidents and diseases due to hazardous work conditions. A goal would be to for costs to be factored into the prices of the products and services produced under hazardous working conditions

Mandated insurance without risk differentiation. The public legislator can prohibit individual risk differentiation by private insurers and by doing so attempt to achieve the goal of non-differentiation of risks. It may nevertheless be difficult in practice to prohibit employers from forming or employees from belonging to collectives indirectly based on risk owing to the grounds for forming the insurance collective. The actual outcome will depend on how insurance groups are formed in practice. For example, assume that better health is a function of higher income and better education and that persons working in banking typically belong to this category. On the other hand, blue-collar workers in manufacturing will typically have lower earnings and less education. In this setting if employees in banking and blue-collar workers in manufacturing belong to different insurance groups, then the blue-collar insurance group will cost more per covered person. Hence,

² The occurrence of headlines in the financial news during recent decades suggests that this is a problem with potentially large dimensions both in the US and the UK, where also book-reserve systems are not uncommon in the area of health care and pensions.

within insurance groups there may be no risk differentiation based on age, gender or pre-conditions, but there will still exist a form of risk differentiation between groups. Whether or not this is desirable is determined depends on the goal of policy.

Not only employees but also their families are typically covered in employer schemes, and employer schemes can be designed to cover employees even after they retire from the company. The obvious drawback of a mandate, as has already been discussed, is that they leave persons without a connection, directly or through a spouse, uncovered. This may be a significant portion of the population. If the insurance group is to cover persons of all ages then insurance groups encompassing individuals in a profession, branch or place of employment with a declining population run the same risk of becoming increasingly more expensive per insured, as all pay-as-you-go schemes would in this situation. An example would be an insurance group for seamen where in a country where the shipping industry is declining in importance. Remaining workers will be compelled to finance with inordinately high contributions the costs of health care for the retired seamen – unless the insurance group has foreseen this decline and funded in advance. Experience shows that insurance groups are seldom so prescient.

Health care insurance and services in Germany follow a model resembling this model, as has already been discussed in the preceding section. Originally about 23 000 local, industrial, guild and community based administrations developed to administer this insurance, with budgets being financed by a combination of an employer and an employee fees (Gr?ndger 1994). Today there are around 300 legally independent insurance groups (Breucker and Bindzius 2006). The insurers provide both health care benefits and sickness insurance, i.e. remuneration for earnings lost due to sickness absence from the workplace. The insurance groups are based on various occupational and employer categories and for this reason contribution rates can differ between insurance groups. Since 1996, individuals have been free to move between insurance groups, which may lead to an evening out of differences. This also raises the question of whether it is not more efficient to have a single insurance administration with regional offices.

The German model of pricing services is based on a procedure where all insurers together negotiate the prices of health care services with representatives of providers. The result is that doctor and hospital unit charges for specific categories of services are the same for the whole population, regardless of their insurance group affiliation. Diagnosis related groups (DRGs) are used to establish prices for services.

Health care and sickness insurance are integrated in Germany, which is not the case in all of Europe. In principle, this would also be possible even in the public provider model discussed below. As will be discussed in greater depth below, Germany is the country in Europe with the lowest rate of absenteeism from the workplace due to sickness, suggesting that, among other things, this integrated model causes the insurer to focus health care procedures on curbing over use of sickness absenteeism from the workplace. Other advantages of the German system in this respect are discussed below under the topic of sickness insurance.

Single public provider of health insurance. A single public health care provider can create a truly non-risk differentiated universal insurance. There are also two pure social policy – distributional - arguments favoring a single public provider of health insurance. The first has already been elaborated upon above. This is to create an insurance pool that shares *all* individual risks – “bad” and “good” – so that persons with greater risks regardless of the their cause (i.e. previous conditions, age, gender, branch, etc.) do not have to pay more for insurance. As opposed to the mandate of private insurance, there is no occupational or branch differentiation, as has already been noted above. The second social policy argument favoring a single national pool for the insurance mandate is that this is a means for redistributing income from the richer to the poorer, but in a way that restricts redistribution to subsidized health care for the poor. This goal may be especially relevant in the development setting of Latin America.

The single public insurance provider model also brings into the overall insurance pool those groups that may fall by the wayside in the other models (the self-employed, students, the elderly etc.), making endogenous the taxes and transfers that are required anyway if the public sector is to provide health care for the excluded groups in the other models. In the single public insurance provider model the health care insurance is universal mandated health insurance, administered by the public sector, with health care services provided either privately or publicly.

Given that the single public insurance provider model is the chosen model, the question of public or private provision of health care services – or both in some combination - should be determined by relative cost efficiency and quality of services. It can be argued that a model where health care services are at least partially provided by private suppliers has the potential of being the most efficient since it introduces competition among providers with regard to cost efficiency and quality of services. Paradoxically, however, competition alone is apparently not sufficient to keep costs low, at least not judging by the fact that health care costs around 14 percent of GDP in the US, and around 10 percent in Europe where health care is financed either through mandated insurance or public provision. It is doubtful that the level of technology accounts for this difference.

There are several other possible reasons why the private model in the US costs so much more than the mandated or public insurance models of Europe. First, it is possible that the result reflects the method of determining overall costs. In the single public insurance provider model total costs are determined by a revenue ceiling set by the provider, whereas in the private model insurance covers all claims and increases premiums to accommodate these, when necessary. In other words, the budget restriction model may force providers to work harder to curb moral hazard (see the separate section below), whereas private market providers have no incentive per se to attempt to curb costs. Second, in the US, the occurrence of law suits for malpractice has become a common element of the medical system, and this increases the overall costs of medical care. For example, tests and procedures often not required to satisfy “good practice” are nevertheless purchased to provide additional security for doctors in the event a law suit should arise. A system based on public insurance and public provision of services will generally not include large malpractice sums and, hence, do not encourage overutilization of medical services. Third, the occurrence of many insurers also means that health care providers will have to have service routines vis á vis many insurance providers. A large hospital in a major US city may have to deal with hundreds of insurance companies. It goes without saying that a single provider of insurance must be cheaper, all other things equal. Finally, if everyone is to be insured with the same conditions in the contract – as in a universal national insurance scheme – then the occurrence of hundreds or thousands of insurers must increase the cost of providing insurance per capita compared with the state as the single provider.

In sum, the arguments presented here point towards a system with public provision of health care insurance covering the entire population, rather than a mandate of private health care for employers or individuals. Public provision has the advantage of covering the entire population and with no risk differentiation in premium costs. This truly universal coverage can be combined with some combination of public and private provision of health care services. This model is suitable for all countries, and is certainly worth considering in developing countries. Some lessons from applying this sort of model in Sweden are discussed in a separate section below.

C. Coverage

In a private market, at least in principle, individuals could choose from different health insurance packages. These packages would determine the health care available to them. At least in principle, these packages could be more or less comprehensive and purchasers could choose among these. If

there is a mandate, the question is which services should be covered? Without attempting to provide an answer to this unanswerable question, we can discuss some of the aspects of the problem here.

Services usually covered by mandated or public systems are the standard procedures of school medicine. The line is hard to draw, however, and how it is drawn can have real significance for the health and welfare of people. There are a number of alternative or complementary therapies to traditional western school medicine (e.g. psychoanalysis, cognitive therapy, chiropractor therapy, natural medicine treatments, acupuncture etc.). Should these be encompassed by the mandated insurance? For example, is it reasonable to include the medical therapy (pharmaceuticals) provided by psychiatrists in the mandate, but not the therapeutic care of cognitive therapists? These are important considerations since the choice of what is covered by mandated insurance will also tend to steer the development of the supply of and demand.

Pharmaceutical products must also be covered by insurance, since most of the doctor's advice will involve prescribing medicine. Given that pharmaceutical products are covered it is important for the insured as a group that a given treatment costs as little as possible, since this holds back the overall cost of the system and leaves room to encompass even more services or medicines. Hence, the insurer should promote the purchase of generics. In addition, it will usually be to the advantage to make bulk purchases vis á vis pharmaceutical companies in order to negotiate more favourable prices. Public monopoly or private syndicate purchasers should have an advantage in this respect. For example, Sweden has a single public purchaser of all pharmaceuticals and negotiates prices with international suppliers. In countries where resources are extremely limited there may also have to be hard decisions taken on encompassing new, expensive pharmaceuticals.

Policy makers may decide that it is necessary only to cover some basic package of services, which means that a two tier system will emerge. If the first tier covers basic school medicine, the second tier will include all other "residual" services. These services become available only to those who can afford and are willing to pay for them. However, it is inevitable that in the development setting more expensive – but necessary procedures, therapies, etc. – may be unaffordable on a universal scale and, thus, become luxury services. In the end, the overall scale of national – and individual – income will determine the scale of services included by the mandate.

There are some reflections on financing that need to be made. Coverage encompasses making payments, through contributions or general taxes, as well as receiving benefits. Employer based systems imply that the government has mandated employer contributions. For example Germany finances its mandated health care with contributions shared equally between employers and employees. Employer contributions are likely, however, to be passed through to workers in the form of lower wages or to consumers – also inevitably workers – through higher prices. A public insurance scheme could be financed through general tax revenues, avoiding employer contributions and, thus, the pass through mechanisms from contributions to lower wages or higher prices.

Finally, services may be completely free of charge or require a co-payment and, in addition, the total sum of a co-payment can have a ceiling per payment period. Co-payments are often used in insurance, not necessarily as a means of finance, but to combat moral hazard (to be discussed in the next section) arising from unwarranted overuse of services. The clear disadvantage of co-payments is that they are a real burden for the poor – and perhaps even make medical services practically unaffordable. If co-payments are required the policy maker can counter the effect on the very poor through community means-tested financial social assistance. In fact, the latter is the model employed in Sweden, where co-payments, with a ceiling per twelve month period of roughly 150 USD per year in 2004, are required for all medical services. This type of model could probably be adapted for the development setting, using a lower co-payment ceiling.

In sum, many priorities will have to be established in determining what services, pharmaceuticals etc. insurance should cover, whereas in a completely private system consumer demand and producers' supply would determine product mix and consumption. How the priorities

are set is not inconsequential since they may determine the scale and access to important health care services for persons with specific health problems. Consideration of the source of financing suggests that public systems financed by general revenues may be superior to mandated private schemes financed by employer contributions, since general revenues avoid the possible drawback of employer contributions, that is, possibly undesirable, heterogeneous pass-through to wages and prices.

D. Health care and moral hazard

The Achilles heel of insurance is moral hazard. As has been established above, insurance is an institution that provides a collective means for covering *risks*, where the risks are in principle outcomes that the insured cannot influence. To the extent that individuals can influence the risks covered by the insurance moral hazard will enter the picture. Moral hazard reflects the interaction of insurance rules with individual behaviour and can occur in both private and publicly managed insurance. Hence, the existence of moral hazard is not a circumstance *per se* that motivates recommending either a public or private regime. However, a public mandate is motivated if the occurrence of moral hazard means that private producers will provide only imperfect coverage, which is a form of market failure.

Within the framework of health insurance moral hazard can take one of two forms. The first form of moral hazard, which can be called exogenous, arises when users of health care demand too much care compared with what is objectively called for – for example too many visits to the doctor - because all visits are perceived as “free” for a given insurance premium. A second form is endogenous and is the result of conscious behaviour. An example of endogenous moral hazard is remaining on compensated sick leave when it is in fact possible to return to work.

Moral hazard leads to an increase in premium costs for all, in the worst case eventually pricing marginal individuals out of the market. In fact, in a private market where insurance is based on risks, this can lead to a situation not only where only those who can afford insurance at higher prices remain in the insurance pool, but even persons with low risks might find that the cost of insurance is too high and decide not to insure themselves. This process is called adverse selection, and can lead to a socially undesirable result, given that it is in the interests of all risk averse individuals to have insurance. If there is one national scheme with universal coverage, there will be no possibility for adverse selection since everyone is mandated into the system. The public alternative may be socially preferable to a private mandate for this reason.

A way to minimize the costs associated with moral hazard is to require a co-payment. Both private and public providers can use this device. However, co-payments are an extra burden on the poor – a large group among them usually being the elderly. When co-payments are used in health care the very poor can be helped if there is also some form of community-based (but perhaps state financed) social assistance payment that can be availed to cover co-payments in cases of dire need. Another option available to both private and public providers is to devise screening methods to ration unnecessary use of health services. Screening methods often used are queuing or waiting for (non-acute) services, screening through first contacts with nurses, etc. Patients can be “educated” to think about how important a visit really is. For example, is this the first day with a fever or has it gone on many days already? If it’s the first day, the patient can be requested to call back in a couple of days if the problem persists. If medicines are covered by the insurance, generics can be prescribed when available, etc.

In the context of moral hazard there is a possible advantage of employer based insurance over individual based insurance. Why is this? Moral hazard leads to higher costs than are objectively justified, with the presumption that more stricter gate-keeping procedures could help to hold down costs. However, on their own individuals have no bargaining power vis á vis large

insurance companies, whereas employers, at least potentially, do. Hence, in principle, one could expect employers to use their bargaining power to demand more cost efficient health care insurance, which to accomplish requires also more efficient health care services. In the best of worlds, the insurance company works with the health care supplier to produce cost efficient health care.

In sum, moral hazard will always tend to exert upward pressure on total costs, and hence individual premiums in private schemes and total public revenues in public schemes. Co-payments are frequently used to force patients to weigh the importance of their use of services, but this will be to the disadvantage of the poor, among them the elderly. Instead, the insurer should encourage or devise procedures to steer patients to less costly services. The latter is more appropriate in all settings since it does not discriminate against the poor as do co-payments, and for this reason is especially attractive in the developing setting.

E. The institutional infrastructure of health care provision

This section describes how the single provider public health care insurance model is set up in Sweden and discusses some of the pros and cons of the Swedish approach.

The Swedish health care legislation establishes the right of all individuals to access to good health care. The county councils in Sweden are given the responsibility to provide this care, which they may do by delivering the services themselves or through private producers. Doctors' practices, clinics and hospitals can be either public or private. There are fixed per capita prices for services. Private producers of health care have contracts with the county council administration, and receive their remuneration through the county council based on fixed per capita fees. The county also provides the tax base for financing the county council's costs. In principle, patients have access to medical care in all regions of the country, not just the region in which they live, which means that if they require care while away from their normal regional network they can obtain it. In addition, larger hospitals in the large metropolitan areas are specialized in and supply more advanced procedures, such as transplants, to patients from all over the country.

As a rule, all residents are listed with a general practitioner (GP) in their region, whom they have chosen themselves. Those who have not chosen actively are allocated to available GPs nearest them. GPs are remunerated on the basis of the number of persons on their list. To come to a specialist, a patient usually has to be referred by a GP, although there are numerous exceptions. The exceptions are usually privately run clinics with specialists. This practice reflects the goal of making the GP the point of first contact, a policy developed in the early 1990s, designed to compel everyone to have contact with a medical professional on a continuous basis, with the aim of thereby providing better care. There is a maximum number of patients that can be listed per GP.

In principle, the single provider model has the entire nation as the insurance collective. For historical reasons, Sweden has chosen the smaller, county (province) level as the administrative entity. This has two drawbacks. The first is that some risk pools may be unnecessarily small, due to their geographic constitution. The smallest county administrative entity in Sweden has a population of only 40 000 persons. This is unnecessarily small and is a result of political jurisdictional considerations rather than the goal of optimal design. Second, by setting up the system so that there are over twenty independent administrative units based on tax jurisdictions, there is no national administration. Separate regional administrations create unnecessary top administration and the replication of a number of basic administrative services. Sweden could improve upon this considerably by creating a single health care insurer with regional offices. Hence, Sweden has still not gone as far as it appears desirable to go in developing the single insurance provider model.

One of the challenges in a model where equal access to health care is provided to the entire population, as in Sweden, is to achieve cost efficiency and service quality. Total costs are determined by a ceiling on expenditures set by the county councils, or in a truly national scheme by

the national insurance agency. In the latter regional funding are determined per capita, with consideration given to the age distribution of the population.

In the single public insurance provider model it is desirable for the insurer to devise systems for following up and comparing costs and quality of services among the country's providers. A standard approach to comparing costs is to compile and compare costs for diagnosis related groups, called DRGs. In Sweden, this sort of information is collected by larger health care producers, normally hospitals, and some geographical administrative regions. In principle, collection of information on costs and information on quality of services provided (for example health complications arising in conjunction with services provided, waiting periods etc.) should be required of all producers and compared on a national basis. Because the financial-administrative units in Sweden are the politically autonomous counties - including the taxation needed to finance health care - there has been no national body responsible for compiling and disseminating information on costs and quality. This is clearly another major failing of the present Swedish system, which could be resolved by creating one state insurance agency, with regional offices.

In an attempt to hold down costs, Sweden has focused on functions within health care provision. For example, pure medical services have been separated from "hotel" services. In-patient days per episode have been reduced dramatically, thereby reducing institutional costs. In addition, new technology has also dramatically reduced the need for complicated operations and helped to finance itself by reducing the need for costly hospital in-patient care. Recuperation after more complicated medical procedures occurs instead at home with the support of out-patient services, provided by general practitioners and nurses at standard GP clinics. Furthermore, as has already been mentioned, patients are steered through the system by requiring a referral from a GP to obtain specialist services. In principle, this constitutes a sort of first level screening. Scarce services at hospitals are allocated on a need for services basis, which results in queues, with the order of access being determined among other things by how acute a measure is.

As opposed to in Germany, described summarily above, Sweden separates health care insurance and provision from insurance compensating lost income due to sickness. This has the indirect result that primary health care providers focus on efficient production of health care services, but they have not been given a decisive role in going a step further and rehabilitating to restore or improve the patient's capacity to work, given some form of illness or injury. It is argued in the next section that this is a function that is crucial in holding back costs of sickness absenteeism.

The viability of a model with public insurance and partial or sole private provision of health care depends on whether the process of distributing money from public insurance to private health care providers can be accomplished without various forms corruption (cronyism, money under the table, etc.). In principle, this can be avoided by devising transparent payment and bookkeeping procedures, where payments reflect the number of patients and the payments per patient are based on DRG procedures.

The lesson for Latin America, and others, is that, if one accepts the logic of large insurance pools and non-discrimination in health care due to risks, a single public insurance provider with regional is preferable to a system with a number of regional insurances. The argument for this approach is greater, also, the greater is the inequality of income regionally, since one of the reasons to choose the single public provider is to create a redistribution of income within the health care framework from the richer to the poorer. More generally, the nation provides the largest risk collective, which is desirable if the goal is for the whole nation to participate in the same non-risk related insurance system. Finally, a single administration also eliminates duplication of administrative functions that can be centralized for the entire country.

F. The institutional infrastructure for sickness and disability insurance

Traditionally, countries' provision of disability insurance has been integrated into the national pension system, as a part of a package with old age, disability and survivors insurance. As a part of the Swedish 1994 pension reform legislation, to be discussed in a separate section below, Sweden broke with this tradition. Instead, the policy experts and policy makers in Sweden argued that transition to a disability benefit is one of the end results of a spell of sickness and in this sense it is reasonable for sickness and disability to be considered together – in the same system. Consequently, in reforming its pension system in the 1990s, Sweden separated disability out from the pension system and integrated it in financially with sickness insurance. In this section, sickness and disability insurance are considered together, since the latter is the consequence of a period of sickness without return to the workplace. However, since disability is best prevented by doing the right things at the beginning of a sickness spell, the focus here is on sickness benefit systems.

Most European countries have mandated provision of compensation for employees for income loss due to sickness. One way to do this is to mandate employers to provide income replacement during sickness spells. The Netherlands has gone the farthest in this respect, where employers are now mandated to cover costs for up to two years. Another model is to cover employees by universal public insurance, as in Sweden. The alternative to these is the private market system, typified by the US, where individual employers or groups of employers provide a number of paid days of sickness as a part of the private employment contract. Once again, this results in only partial coverage of the population, and for those who are covered with various conditions for coverage. Europe has chosen the universal model.

In some countries, for example Sweden, in addition to the employed, sickness insurance even includes the self-employed and the unemployed. The self-employed must be insured by law, but they have some options regarding coverage, namely they can choose not to be covered during an initial period of various optional lengths. In Sweden, the unemployed can switch to a sickness benefit status when sick. Even with the same compensation in both systems, there is an advantage for the unemployed in doing this since days of sickness are not counted as unemployed days, enabling the unemployed to lengthen a compensated period with unemployment – a possibility often criticized by Swedish economists. The best design would provide the same replacement rates for both sickness and unemployment – with the same ceiling on income covered – and to be much more restrictive with the possibility to receive a “sickness” benefit during a spell of unemployment that de fact extends the length of the period of compensated unemployment. One could eliminate this possibility, which would be to the obvious disadvantage of persons who are so sick that they can not reasonably be expected to search for and accept a job.

There is a wide variety of models in Europe for the institutional arrangements of providing sickness insurance. The international data also show that there are considerable differences in the take up of these sickness benefits between countries, as Table 2 shows. This section discusses how the design of benefit rules and the administrative framework (*vis á vis* individuals, employers, the health care services, the employment services etc.) can influence total benefit payments. The discussion draws on a series of studies – in English (Bergendorff and Palmer 2006) and in Swedish (Nyman, Bergendorff and Palmer 2002; Bergendorff and Larheden 2003; and Palmer 2004a and 2004b) devoted to understanding why compensated sickness absenteeism from the workplace is much higher in Sweden, The Netherlands and Norway compared with the rest of the EU, and especially compared with Sweden and Norway's neighbors, Finland and Germany.

TABLE 2.
PERCENT OF EMPLOYEES REPORTING ABSENCE FROM THE WORKPLACE OF 5 OR MORE DAYS DUE TO SICKNESS - SELECTED EUROPEAN COUNTRIES (YEARLY AVERAGE 1983-2001)

Country	Average
Sweden	4.2
Netherlands	4.1
Norway	3.2
France	2.4
Finland	2.3
UK	2.0
Denmark	1.7
W. Germany	1.4
EU 12	1.8

* Norway from 1989, Sweden from 1987 and Finland from 1984. Germany includes only West Germany prior to unification. Based on country Labor Market Survey data.

Source: Nyman, Bergendorff and Palmer (2002).

Analysis of the data from all the countries have some characteristics in common. First, absenteeism from the workplace increases with age in all countries. Second, in all of the countries but Germany (covered in Table 2), absenteeism is higher for women than for men. These are well-known characteristics of sickness absenteeism data. In the cross-country study reported in Nyman, Bergendorff and Palmer it was found that differences in the gender and age composition of employees could only explain a small percentage of the large country variation in the development of sickness absenteeism in the approximate two decades from 1983 to 2001. The study also examined the effects of the composition of the labor market with regard to contractual versus non-contractual employment and the relative shares of the employed in different branches. There was a tendency for persons with contracts to be absent more. However, neither was this nor branch differences important determinants of inter-country differences.

Objective measures of public health, such as life expectancy, are at least as good in countries with high sickness absenteeism as in countries with low sickness absenteeism. Likewise, Eurostat surveys of the work environment in these countries show that the work environment is at least as good in Norway, Sweden and the Netherlands as in other European countries. Employer health services, with doctors and nurses directly connected to a specific workplace, are considered to be important in promoting healthy work environments and helping sick workers return to work. Here, too, however, it is possible to identify countries with both high and low sickness rates where there are employer health services.

By a process of elimination, this leaves the construction of the insurance rules and the organization of the insurance administration as the most likely candidates for explaining the differences. One of the conclusions of the studies cited above is that in countries with low income replacement rates, for example France and the UK, absenteeism is relatively low. This is not surprising, and provides evidence that income replacement rates matter. The Netherlands, Norway and Sweden have high income replacement rates (90-100%), which is one explanation of why absenteeism is so high in these countries. The incentive to return to work faster is naturally lower

with a high replacement rate, that is, the risk for moral hazard is greater. On the other hand, both Finland and Germany have replacement rates close to 100 percent, but, nevertheless have much lower sickness absenteeism compared with Sweden, Norway and the Netherlands. In fact, Germany has the lowest absenteeism rate in Europe. This raises the question, how can Finland and Germany have high replacement rates, but with low absenteeism?

Before we discuss why this can happen, let us consider yet another hypothesis. It is frequently maintained – not the least in the public debate in Sweden – that if the employer is forced to pay for absenteeism, this will stimulate him to function as a gatekeeper. If this were to be a strong factor the Netherlands would be expected to have one of the lowest absenteeism rates in Europe. The Netherlands had an employer period of a year for several years up until the time of the study discussed above, but still had, together with Norway and Sweden, the highest sickness absenteeism rate in Europe.

The Dutch experience indicates that employers are prepared to carry the costs and, as it appears, factor them into prices or eventually lower wage increases. In addition, the legislative requirement that Dutch employers contract company doctors to work with return to work for sick employees has had no significant effect (Bergendorff and Larheden 2003). Apparently, employers simply purchased only minimal services as a means of fulfilling the requirements of legislation. The Netherlands has extended its model with privatized mandated insurance coverage to a two year employer period, with some indication that this is helping to reduce sickness absenteeism.

An employer period has a major negative consequence on the demand for labor. Employers will screen out job seekers with histories of previous sickness, since statistically, they have an increased risk of being more than normally sick in the future. Of course, some will have a high risk, but not all. The problem is that the employer cannot discriminate between the good and bad risks from among those with a medical “negative” medical history. In addition, Dutch law prohibits the collecting of information on sickness history to determine risk, since, in principle, all risks are to be treated equally under the mandate of employer insurance. In practice this is no help to job seekers since employers can always ask applicants about their health, suggesting they should substantiate their status with information. Hence, legislation against risk discrimination will be circumscribed.

Consequently, by mandating the employer to cover the costs of sickness absenteeism the state creates a situation where “uninsurable” risks become unemployable. This is counter to the philosophy of social insurance, which is for the state as a single provider of insurance to cover all risks, and especially the risks associated with previous medical histories. If workers become unemployable do to the construction of the mandated insurance system, then legislation has become counterproductive in a social policy perspective, since the state may have to step in and provide other forms of income support. This is a strong reason why the state should provide sickness insurance, rather than to mandate it to employers.

Now we return the question of what is behind the relative success stories in Germany and Finland, countries that offer high income loss replacement rates while having low take up of insurance? The evidence in the studies cited above points in the direction of efficient insurance administration. This sounds simple, but apparently is not, since the Netherlands, Norway and Sweden have not succeeded in holding back excessive sickness insurance take up, while Germany and Finland have. So, what do Finland and Germany have in common and what is missing in the institutional setup of sickness insurance in the Netherlands, Norway (with a system similar to Sweden’s) and Sweden?

What Finland and Germany “share” institutionally is the following: First, they screen cases at the outset in an attempt to identify cases where sickness absenteeism can be reduced or avoided with temporarily or permanently modified workplace routines, work tasks or other workplace environmental measures. At the outset of a sickness spell, the employee calls an insurance doctor who is also responsible for the employee’s specific workplace. The doctor has knowledge of the

workplace requirements, conditions, etc. and in cases where the reason the individual needs to be sick-listed is partially or wholly related to the workplace (e.g. back pain, “depression” in conjunction with a workplace conflict, etc.), in which case the doctor – perhaps together with the worker – can discuss solutions that enable continued performance at the workplace. Second, the successful countries work with prevention. These are a part of the same process.

Note that sickness insurance does not compensate for sickness or injury per se, but instead for sickness that significantly reduces work capacity. Hence, *screening* procedures that help make the right decision from the outset are the crucial factor determining success in Finland and Germany in determining work capacity in a given work environment and given a specific illness or injury. In Sweden, on the other hand, there is no screening process from the initial days of sickness and no close connection between the insurance process, the medical professional and the workplace. Instead, in Sweden, individuals are only required to obtain a certificate from a doctor to be at home longer than a period of a week. As opposed to in Finland and Germany, the doctor has no specific connection to the workplace in Sweden, nor any mandate, as in these other countries, to work in the interests of the insurer.

In Sweden, the employer is mandated to pay for the first two weeks of absenteeism due to sickness and national social insurance pays from the third week. The insurer has, thus, no knowledge of the case during the first two weeks and, according to present statistics, it takes at least eight weeks (and normally much more time) for an insurance officer to have a joint review with the general practitioner and an employer representative about work resumption possibilities. In Finland and Germany a review occurs within the first few days of sickness, led by the “claim adjusting” doctor.

The systems in both Finland and Germany work also with *prevention*. They collect and compile statistics on absenteeism on a workplace basis, monitoring the relative frequency of sickness. The information is used by insurance representatives to discuss inordinate absenteeism with employers. This helps to identify workplace environment problems that can lead to sickness absenteeism and to initiate work environment discussions and measures. Sweden, along with Norway and the Netherlands did nothing of this kind during the period examined.

In sum, there seem to be two options for holding back moral hazard in the form of unjustified sick-listing or unnecessarily lengthy spells of sickness. One is to make the worker pay by replacing only 60-70 % of lost income. Of course, this is an onerous penalty for those who have very serious sicknesses or injuries and who are truly in need of good insurance. The alternative is to provide higher replacement rates accompanied by a qualified screening and prevention process. The absence of either of these in the Netherlands, Norway and Sweden appears to be the major reason why absenteeism in these countries is much above the European average.

IV. Pension insurance

This section of the paper begins with a discussion of the logic of mandated old age insurance. This discussion is followed by a discussion of defined benefit and defined contribution and is followed by a discussion of recent trends in reform of old age pension systems. The issue of separating social insurance from social policy, a major tenant of the Swedish reform work in the 1990s, is also discussed. Then the development setting is discussed, with development during the past century in Sweden as a vehicle used to discuss issues in this framework. The section continues with a brief discussion of the question of private or public administration of systems and from there discusses the administrative infrastructure set by the Swedish reform for the mandated public individual financial account scheme. Finally some issues in coverage and economic effects are discussed.

A. The logic of mandated old age insurance

We begin with some issues of principle. To begin with, there is a pure insurance argument for why individuals are better off with insurance for old age compared with the alternative of saving on their own for old age. For most individuals, it is both practically impossible and unreasonable to save individually to cover the most extreme outcome for work incapacity in old age – the risk of living to an extremely old age. The problem confronting the saver for old age is, for example, the risk of living to 100, even though life expectancy is only 80. Clearly, if everyone saves as if they were going to live to 100, this will lead to considerable over saving – and under consumption - because an average life is much shorter. For this reason, it is an advantage to save collectively through an insurance arrangement that pools individual outcomes, redistributing money to those who live longer than expected from those who do not. This is the rationale for old-age insurance.

The rationale for *mandated* pension insurance is similar to that for mandated insurance in general, discussed above. The reasons can be reiterated: First, individuals are myopic, that is, they may not get around to providing for themselves until it is too late. Second, some portion of the population will coldly calculate that even if they do not provide for themselves, a benevolent society will step in and help if they find themselves in destitution. A strong argument for state provision of some - at least minimum - level of universal public pension insurance in old age is that a paternalistic society will find itself anyway in the position of providing a minimum income level for those who do not provide for themselves. A mandatory universal pension system can, thus, be

seen as a vehicle for “protecting” those who would pay anyway for those who otherwise may not provide for themselves.

There is a third argument in favour of a mandatory universal pension scheme that is especially relevant in the development setting. The large segment of the population that is very poor will rationally prefer current to future consumption, and given this time preference will choose not to direct their very limited resources to private pension contracts. In addition, it may be difficult to find providers of contracts to persons with extremely low financial resources. With this point of departure, a defined benefit pay-as-you-go scheme, perhaps as basic as a demogrant granted from a high age, would, first, be a step in the direction of fulfilling everyone’s need for “minimum existence insurance” in old age, and, second, does this through redistributing resources from persons with higher to persons with lower earnings.

In a development setting and in the absence of widespread formal market or public sector arrangements, the intergenerational family is likely to be the counterfactual. The intergenerational family constitutes an intergenerational transfer system similar in principle to a pay-as-you-go (PAYG) national pension scheme, with the exception that the insurance base is the immediate family, rather than the entire country. In this context one reason to introduce a national pension system of any kind is to eliminate the risk inherent in the small family-based insurance pool. This is not the only reason, however. With economic growth, people will move from their multigenerational family situations into economic growth centers, splitting up families geographically.

The process of transition, hence, brings with it the need of non-family-related old-age pension insurance. In line with the discussion above, this can justify a universal mandate. The form of the mandate is a topic that is debated throughout in the literature, however, what can be useful in the present context is to say something about experience with various models.

A general aim of public pension policy is, first, to guarantee a minimum income existence level to all, and, second, to design a system that provides the average covered worker an adequate pension. In order to achieve a minimum guarantee level, the first tier of the system is logically mandated, taking the form of a demogrant or a guarantee minimum pension, perhaps supplemented with means-tested social assistance, or an equivalent. This is hardly a controversial conclusion. It is the tier above this primary tier, i.e. the “second” tier, which is normally the topic of debate. The following sections provide some food for thought about this.

B. Defined benefit or defined contribution?³

By definition, social policy is focused on distributional issues. Generally speaking, for this reason, defined contribution schemes do not enter into the discussion of public mandates, with one important exception. The exception is pension schemes, where defined contribution (DC) schemes can play an important role. In fact, globally, pension reform is moving in the direction of DC schemes for public second tier mandates, but also within privately contracted and managed schemes.⁴

Pension schemes can be identified using two dichotomies – defined contribution versus defined benefit and financial versus non-financial.⁵ This gives four categories of schemes: financial defined contribution (FDC), financial defined benefit (FDB), non-financial defined benefit (NDB)

³ This section draws on (2006a).

⁴ As has already been discussed and exemplified above, publicly mandated first-tier pensions must have a distributional component in order to meet the policy goal of reducing poverty.

⁵ Góra and Palmer (2004) develop the logic of and discuss how these differ in economic terms.

and non-financial, or notional defined contribution (NDC).⁶ NDB and NDC are non-financial, that is, unfunded schemes and with the exception of possible demographic funding, their assets are claims on future contributions. FDC and FDB are funded schemes, but within the latter there may arise internal redistribution of contributions – a sort of internal tax-transfer system whose overall dimension is seldom if ever clear to the participants.⁷ National pension schemes are moving in the direction of FDC and NDC. Why is this? To answer this question, we begin by summarily describing what an NDC scheme is, by comparing NDC with individual financial account schemes.

In FDC and NDC, contributions to accounts are defined in terms of a *fixed* contribution rate on individual earnings. Individuals pay contributions into the insurance system during the accumulation phase – prior to retirement - and receive an annuity at retirement. The annuity is based on their own account balances at retirement and the life expectancy of participants in the same birth cohort.

Accounts in an FDC scheme earn a financial market determined rate of return, whereas the rate of return in an NDC scheme is determined by the system's "internal rate of return." The internal rate of return is the rate of return that maintains a fixed contribution rate, and is determined by what the system can afford to accredit accounts while keeping long-term balance between system liabilities and assets. The internal rate of return is a function of the average real wage of covered participants, the number of covered workers and parameters determining the timing of payments into and out of the system.

As with other pay-as-you based systems, there is a welfare loss associated with NDC if the FDC rate of return is on average higher, which conventional wisdom says it will be (see for example Lindbeck and Persson 2003). However, as is well-known, conversion from a pay-as-you-go to a financial framework creates a double payment burden on the transition generation, thereby making conversion to FDC from pay-as-you-go schemes costly. In countries with comprehensive pay-as-you-go commitments a conversion to FDC on a large scale can be expensive and, thus, not practical. This has been a major reason why most European countries have not attempted to make a conversion. Neither does NDC create pension saving as does FDC, which means that the potential effect of saving on capital formation and thereby national growth is relinquished. On the other hand NDC may have an indirect effect on private saving since it sets a clear limit on the public commitment.

With no redistribution among participants in DC schemes, in principle, there is no tax distortion on labor supply. For this reason NDC and FDC are neutral in terms of their effect on labor supply. Both provide a permissive framework for labor mobility, too. An account value can either be transferred to a new account system or maintained until claimed at retirement – without creating an impediment to moving between places of employment, branches, sectors and countries.⁸

DB schemes contain several drawbacks from which DC schemes are free. Many DB schemes, especially occupational and branch schemes, define benefits in terms of final salaries. This may create a barrier for older workers to change jobs, move between sectors, etc. Furthermore, if the employee leaves a financial DB scheme in conjunction with a job change he (she) may even be excluded from that point from fund growth in a financial defined benefit (FDB) scheme – which is not the case for financial or notional defined contribution schemes. In addition, younger employees may lose all rights by leaving an employer prematurely with respect to the conditions of the FDB

⁶ Note that before Sweden legislated NDC in 1994, it was generally thought that NDC was an impossible construction. Palmer (2006a) describes NDC in detail and Holzmann and Palmer (2006) is an anthology on the topic.

⁷ In fact, it is often argued that an advantage of financial DB schemes is that benefits can be tailored by the employer to favour certain employees or employee categories.

⁸ See also Palmer (2002) and Holzmann (2006).

pension scheme. Generally speaking, then, a disadvantage of DB schemes can be that they “lock” employees into a place of work, whereas DC (financial or notional) schemes permit free flow of labor without penalization through the pension system.

Another advantage of the DC design is that it facilitates gradual exit from the labor force. In principle, one can claim any percentage or all of one’s possible benefit while continuing to work either part or full time. In principle, any combination of work and a percentage of a full annuity claim is possible, and it is only the legal technical construction of the pension system that limits the percentage of a benefit that can be claimed. If workers choose to combine a benefit with continued work, contributions from continued work continue to enhance individual accounts. Account values not fully converted to an annuity continue to earn a rate of return until the entire account has been converted to an annuity – at which point indexation of the annuity becomes effective. Finally, neutrality between sources of income is achieved if tax rules treat pensions and earned income on the same status.

Although DC schemes reflect directly participant earnings and contributions, that is, there is no distributional component intended, some redistribution may nevertheless occur through the calculation of the annuity. The most obvious example of this is the use of unisex life expectancy in the calculation of annuities in the mandated schemes in Sweden and elsewhere.⁹ NDC and FDC schemes can be supplemented with social policy. These can take the form of non-contributory rights that are financed with *external* (general tax revenue) sources. Examples are rights in conjunction with child birth, military conscription but perhaps also care of handicapped family members, elderly family members, etc. Other examples are payments from the disability, unemployment and sickness insurance systems into the accounts of workers currently receiving insurance compensation for one of these.

The minimum age at which a DC insurance benefit can be claimed must also be set high enough to prevent claims at too low an age, where life expectancy is still so high that an annuity must be too low to provide an adequate benefit. Since women are usually younger than their husbands and live longer, it is especially important for systems to contain preventive mechanisms that do not allow retirement at too young an age. It is tempting for women to retire at too young an age to join their older spouses in retirement at a time when joint incomes are high. With the death of a spouse, single survivor income will be too low, however. Generally, the trend throughout Europe in the past decade or so has been both to equalize the pension age of men and women and to increase it for both genders. Also, the minimum age for the guarantee supplement to DC schemes must be high enough to set a minimum standard of adequacy.

Sweden moved from a DB format to a DC format with its pension reform legislation of 1994. The new mandatory public system consists of an NDC and an FDC component.¹⁰ The move to NDC and FDC in Sweden was accompanied by considerable non-contributory social policy supplements, in line with the examples provided above, and a guarantee top-up. One of the advantages of this new approach is to create a “pure” insurance system, bringing the pay-as-you-go system closer to intra- and intergenerational fairness and financial stability. Another is that supplementing the “pure” insurance system with transparent social policy measures – aimed at enhancing pensions for targeted purposes brings transparency to the social policy arena.

⁹ The amount of the transfer from men to women in the system depends on relative life expectancy at retirement. In Sweden, with a difference in longevity of about 5 years, roughly, ten per cent of the total capital of men is transferred to women. Of course, the major transfer within the system is from persons who live less than life expectancy to persons who live longer.

¹⁰ There are several available presentations and discussions of the Swedish pension reform, e.g. Palmer 2000 and 2002 and Könberg, Palmer and Sundén 2006.

In sum, the claim can be made that the combined package of DC plus general budget financed distributional policy dominates the traditional pure DB framework of social insurance pensions, first, in terms of intra and inter-generational effects, second, by creating transparent redistribution, thirdly, by not providing impediments for labor mobility, as DB schemes frequently do, and, fourth, by facilitating flexible retirement from the labor force of older workers.

C. Recent trends in pension reform

In recent years, the “trend” in pension reform has been to replace defined benefit (DB) schemes with defined contribution (DC) schemes. The primary reasons for why DC schemes have gained in popularity are those discussed in the preceding section. This section discusses these trends in more depth.

The invention and introduction of non-financial (notional) defined contribution (NDC) schemes, discussed above, paved the way for the introduction of a pay-as-you-go version of DC. Mandatory NDC – supplemented with a guarantee minimum pension level or established on top of a demogrant – provides a strong alternative to traditional mandatory pay-as-you-go earnings-related defined benefit (NDB) schemes. Introduction of NDC has also been seen as a viable alternative in a setting where one might prefer an FDC scheme, but because of the large debt carried over from existing pay-as-you-go DB scheme it is not feasible to attempt to introduce a financial – funded – scheme. In this case, NDC is introduced as the second best alternative.

Even where there have been financial DB schemes these have been replaced increasingly by financial DC. The move from financial defined benefit to financial defined contribution schemes occurred in Sweden in the sector-based schemes that supplement the public NDC and FDC system following the reform of the public system in 1994. The same trend is also observable in the Anglo-Saxon countries where DB financial account schemes were otherwise the predominant financial pension scheme model.

The reasons for this are at least two-fold. One important reason is technical. It is difficult for actuaries to provide a good estimate of longevity in a worker’s younger years, but this is needed in a DB scheme to compute the contributions needed to provide a benefit with a specific replacement rate at a specific retirement age. The experience of the financial DB schemes is not good. They have cost employers and insurers more than anticipated in the past decade or so because of unanticipated rapid increases in longevity. In DC schemes life expectancy does not enter into the calculation until the annuity has to be paid, in most countries these days at age 60 or later. Overall, financial DC schemes are more transparent and easier to manage than financial DB schemes. Second, as has already been discussed, DC schemes do not impede labor force mobility and provide a more suitable framework for flexible retirement for older workers.

In order to combat rapidly increasing dependency ratios countries have been increasing the minimum pension age. In many countries in Europe the minimum pension age was as low as 55-60 in the early 1990s. Most countries have taken the necessary steps to establish a minimum of at least 60, without gender differentiation. Scandinavia has been an exception with full benefit pension ages of 67 in Denmark and Norway and 65 in Sweden (67 until 1976). A relatively high full benefit pension age in the old Swedish DB scheme was one of the reasons why Swedish workforce participation after age 60 was among the highest in the world in the 1990s (*e.g.* see Palmer 1999 and Gruber and Wise 1999). In conjunction with the Swedish 1994 reform, the Parliament also extended the right to work to age 67, to counter labor market contracts that had set the maximum at 65. Working after 67 is still possible, but employers are not obliged to keep workers past this age.

Generally, the lesson countries have begun to learn is that generous benefit systems with low pension ages eventually become unaffordable and that a main parameter for creating reasonable

costs is to set a high minimum pension age with an affordable contribution rate and that yields an adequate pension for the average contributor. Even the minimum age should be indexed to changing life expectancy, as a minimal measure in pay-ass-you-go DB schemes to hold back cost pressure.

Workers in some specific occupations may have a legitimate claim on early exit – compared to the minimum age in the public scheme, but early exit benefits should be financed by employers of persons in occupations where this occurs, so that the cost of early retirement can be reflected in the prices of goods and services produced – and not subsidized by general tax revenues. A high minimum age for public old age benefit claims brings the disability system into focus. Of course, the balancing act for the insurer, if the same insurer runs the disability scheme, is to promote a sharp gate-keeping regime for disability grants prior to the minimum pension age.

D. Separating social insurance from other social policy

The policy maker should have a clear picture of what is intended to be the insurance component of a pension system, and what is intended to be the distributional component. For the latter one should ask, what is the intended profile and is this achieved by the particular rules under consideration? As has already been established, NDC and FDC schemes are insurance schemes that, from the point of view of the individual, transfer income over the life cycle, the first in a pay-as-you-go format, the second with the help of financial accounts. To the extent that the policy maker wants to bring distributional aspects into the picture, extra rules will have to be devised and the implicit defined supplements financed with revenues from outside the system.

The principle of separating the “pure” insurance and “pure” social policy components of public social policy has been a guiding principle in Swedish social policy beginning with the 1994 legislation on pension reform. The guarantee pension level, which functions as a top-up to the Swedish FDC and NDC schemes is one example. This supplement, when necessary, provides a minimum level benefit, financed with general state revenues. Another example is the child care credit granted parents (usually the mother) in conjunction with up to the first four early child care years, financed as they arise through transfers from the state budget. A third example has to do with the financing of rights for persons granted disability. These are based on an imputed income from the time of the grant to a fixed age for retirement used for this purpose (65 in Sweden). The money needed to finance these rights are transferred on a yearly basis to from the state budget to the NDC scheme where they are noted on accounts and set into the reserve fund and to the FDC scheme where they go directly into individual financial accounts.

In sum, in the NDC and FDC context specific rights are accompanied by financial sources at the time they are granted and financed on a yearly basis as the rights are earned. The extra finances created in the way are held in a reserve fund, and, in principle, are thus available to help finance the commitments when they must be paid. This creates transparency and financial discipline.

E. The development setting – viewed through the example of Sweden

In the development setting, the introduction of a PAYG national pension scheme is likely first to supplement the existing family provider system, rather than immediately replace it. If the public commitment or the ceiling on contributions to an earnings-related PAYG scheme is low, and is kept low, then other private – individual and group (employee groups, employer groups, etc.) - arrangements can – and will - develop with time. If the public commitment or mandate is high from the outset there will be little or no scope left for private supplements to develop. Hence, in designing policy it will be important to have a clear picture of which of these two models

constitutes the blueprint for the future. This section presents some thoughts around the issue of how to approach the question of which path to take for a developing country, using Sweden's development as an example.

By way of introduction, Sweden can provide an example of a country that began originally with a low public commitment, leaving room for the development of private insurance. In 1913, Sweden introduced a universal public *folkpension* benefit, which was a combination of a flat rate benefit and a contribution related benefit and which could be claimed at age 67. Towards the end of the 1930s this benefit was still small, replacing only around 10 percent of an average wage. This left considerable room for private arrangements to develop and by the end of the 1950s there were private contractual arrangements for civil servants and other state employees, local government employees and private white-collar workers. Blue-collar workers and the self-employed – about half of the workforce at the time - were still covered only by the *folkpension*. In 1960, Sweden introduced the earnings-related ATP scheme on top of the *folkpension*, which itself became a full-fledged flat rate benefit. The existing contractual schemes were converted into supplements to the combined *folkpension*-ATP benefit, and in the 1970s a new contractual scheme was introduced also for blue collar workers. Consequently, by the end of the 1970s, about 90 percent of employees in Sweden had a three tier benefit (*folkpension*+ATP+contractual supplement).

Note that the *folkpension* was never enough to alone keep a pensioner with no other means out of poverty. For around a half century Sweden has used a “soft” form of means-tested benefit to supplement this - the housing allowance – rather than social assistance *per se*, which is the income safety net of last resort in Sweden. The housing allowance does not require complete destitution for a grant, as does social assistance. Instead, it is means-tested against wealth, and based, as the name suggests, on housing area. The idea of the latter is that, to qualify for a benefit, one should not have housing costs that are based on more than adequate space per person. This arrangement has been maintained even after the 1994 reform of the earnings-related pension system in Sweden, and the housing allowance now constitutes a means-tested supplement to the guarantee top-up benefit. Without this supplement, depending on housing costs - which are lower in the country than in the main metropolitan areas – an individual or couple living solely on the new guarantee will not likely reach up to the minimum standard of living set for elderly households. Hence, the last link in the chain up to a minimum living standard has for many decades been and still is means-tested.

The 1994 Swedish reform established the maximum scale of the public scheme, by setting a limit on the contribution rate for the FDC and NDC schemes together of 18.5 %. In addition, the ceiling on covered earnings in the ATP scheme had been indexed to prices alone, so as real wages grew from 1960, the average wage earner came closer and closer to the ceiling for covered earnings. One of the items debated in conjunction with the 1994 reform was whether to leave the ceiling price-indexed, which would have successively decreased the public commitment as increasingly larger portions of earnings surpassed the ceiling. The alternative was to index the ceiling to nominal covered wage growth, which would tend to preserve the relative portion of earnings covered by the public system from that point forward in time. The latter alternative was chosen.

Private contractual schemes are still relatively important in Sweden, even after the 1994 reform. In fact, it was an advantage for private commitments that the scale of the public system was set once and for all. Contractual schemes not only provide a supplementary benefit under the ceiling for covered earnings in the public scheme, in addition they are the main organized source of coverage of earnings above the ceiling in the public system – which is roughly 1.5 times an average full-time wage. Since the ceiling on the public scheme is relatively low, there is considerable scope left for contractual schemes. These have almost all been converted into financial account schemes for earnings under the ceiling, following the reform of the public system in 1994, the typical Swedish worker now has contributions of 16 % in the public NDC scheme, 2.5 % in the public FDC scheme (to be discussed in greater detail in a separate section below) and an additional 3.5 % in a

contractual FDC scheme. This gives a total financial component of 6%. In contrast, many European countries established such comprehensive public benefit schemes from the outset that these have left practically no room for private initiative.

What is likely to happen in a developing country with a limited public commitment, left to develop with the forces of market demand and supply? Employer based schemes are likely to emerge for public employees and employees in large private companies. In Sweden, large contractual groups gained private coverage historically because, first, the workforce is highly unionized and, second, unions traded better pension coverage for wage increases. Without a high degree of centralized representation of unions and employers, there will be no central focus working in the direction of creating benefit schemes that encompass large groups of workers or companies. Neither are schemes likely to emerge for employees in small enterprises. Generally, in the absence of a mandate, employees of smaller enterprises and the self-employed will be left to their own initiative and can be expected to opt in favour of not contracting insurance, as in the case of health insurance.

For those schemes that emerge, experience shows us that public employee benefit schemes tend to be (although do not necessarily have to be, and, in fact, should not be) PAYG schemes and private employer-based schemes tend to be privately managed financial schemes, with a legacy of employer book reserve schemes. We have already noted that countries with financial defined benefit schemes are converting these to financial defined contribution schemes, which is in line with the mandated financial schemes of Latin America. Pay-as-you-go public benefits and company book reserve schemes have also come into question. Here, we discuss briefly why.

The first problem with company book reserve schemes is that they imply that the employee has both his/her wage and pension “invested” in the same basket. In other words, employees have all of their eggs in one basket. If the company becomes bankrupt, employees not only lose their jobs, they may also lose their pension rights. Therefore, employer book reserve schemes should be backed by mandatory reinsurance (which has been the case in Sweden since the 1960s). A second problem is that there is a connection between bankruptcy legislation for firms and pension liabilities. From the point of view of a firm moving into bankruptcy, but also in considering mergers, takeovers, etc. pension liabilities can too easily be viewed as liabilities a company would gladly shed. The lesson is that employer based schemes should preferably be organized so that the employer pays contributions into a market-based manager/investor of funds or a regular insurance company. This simple procedure assures that what is contributed on behalf of employees plus a rate of return will always be on accounts when it is time to retire.

The development of PAYG rather than funded commitments for *public sector* employees has brought – or is bound to bring in the future - long-run financial problems to countries all over the world. These push the payment burden onto future workers and taxpayers – on top of the costs of providing the public services commensurate with those provided the older generation. Because of this the rapid development of public services from the 1960s in the welfare states of Europe can be said to have occurred at the expense of future taxpayers. In Sweden, for example, a discussion of the need to fund pension schemes for public sector employees accompanied the discussion of the reform of the universal public pension system in the early 1990s. Following the conversion of the public system to defined contribution, the supplementary pension schemes for civil servants and municipal employees were largely converted into funded defined contribution schemes.

Instead of limiting the scale of the universal public commitment and letting private arrangements develop without a mandate the policy maker may opt from the very outset in favour of a comprehensive PAYG arrangement. Seen over longer periods of time the rate of return in the private financial market is expected to outperform the pay-as-you-go rate of return, which can at best reflect the rate of growth of the economy. Hence, there is a potential welfare loss associated with the choice to introduce an economy-based comprehensive pay-as-you-go rather than a funded

scheme (for a recent account see Lindbeck and Persson 2003). In addition, a funded scheme may contribute to net national savings, which can be claimed to be important for growth. On the basis of simulation, some researchers have shown the possible growth effects to be considerable. For example, Lee, Mason and Miller (2002) show potential positive development effects of a transition from the extended family model to a funded scheme using Taiwan as an example.

In the development setting, the introduction of either a mandated universal pay-as-you-go or a funded scheme means that the contributing generation will have to pay contributions to the mandated scheme *and* continue to transfer money (resources) to their own parents. However, the introduction of the pay-as-you-go scheme will relieve some of the interfamilial transfer burden if it leads to public transfers to the parents of the contributors, whereas the funded scheme will not. Technically, the introduction of the funded scheme in the setting where an interfamilial scheme already is in place is similar to replacing any universal pay-as-you-go scheme with a funded scheme. A double payment burden arises. However, the double payment burden, one could argue, can be borne more easily in a high growth development setting because, even after the transfer, the working generation will still experience considerable net individual welfare gains. However, enclaves in the economy experiencing little or no growth may experience a *real* reduction in individual resources (and consumption) if compelled to participate in a mandatory scheme. In other words the distribution of growth will determine how much the extra payment burden is “felt.”

Another important consideration is that financial systems deal better with increasing dependency ratios than do pay-as-you-go systems. Particularly in Europe and Asia where birth rates have been and are expected to continue to be very low, populations are expected to decline in the coming half century. At the same time they will age considerably. Latin America will eventually experience low birth rates, too. Financial schemes deal with this ageing process much more naturally than do pay-as-you-go schemes, which is an argument favoring financial schemes, in addition to those already discussed. Developing countries with relatively small public debts in existing pay-as-you-go systems have the option of introducing financial account schemes.

In mandating financial schemes the policy maker must also support the development of financial market institutions and financial instruments. Usually local equity markets in emerging economies will be thin, often with few quoted shares and too little volume in transactions. As a result, the bond market, with government and mortgage backed bonds will be likely to dominate. If institutional knowledge is thin it will also be important to import know how. Countries in Eastern and Central Europe that have introduced mandated financial schemes have benefited greatly by allowing insurance companies and banks from their more experienced neighbors in Western Europe to help build up domestic know how through direct participation in building up the market.

Summing up, in choosing the extent of the public commitment from the outset a country is establishing a roadmap into the future. Public pay-as-you-go schemes provide a nationwide alternative to the pay-as-you-go extended family model. A universal defined benefit flat rate from a high age, for example, provides a means of transferring money from the better to the poorer off. The same function can be performed by a public guarantee coupled to a mandated defined contribution scheme, which could be either NDC or FDC. As has already been discussed, Sweden converted to this framework in 1994, for the reasons also discussed above. What has been stressed in this section is that countries should attempt to keep away from company book reserve schemes if they choose to mandate private pension insurance and that governments should consider funding pension commitments to public employees.

If a country chooses to go on the track of a comprehensive public pay-as-you go scheme, if room is not left at the top for the development of private individual or group commitments, then the experience of Europe shows it may be difficult to move in this direction after many years of full reliance on public pay-as-you-go systems. In addition, it should be kept in mind that in a setting with a constantly declining labor force, which will be the case when birth rates continuously are

lower than 2.1, financial schemes provide the additional relative advantage that individual benefits are not directly dependent on the development of the country's own labor force, whereas the contribution base of a PAYG scheme is. What's more, if there is a pay-as-you-go base in the national system, a mandated financial account scheme provides a way to diversify a country's overall pension portfolio.

F. Private versus public administration

The question of public or private administration is generally a question, first, of what is most cost efficient in delivering the systems designed in a specific national environment, and, second, the nature of contracts.¹¹ Private management implies civil contracts and public management does not. Whether private or public management of a system is desirable depends, among other things, on national environments and institutions.

Various combinations of public and private administration are possible for mandated health care and pension systems. We have already discussed that a mandated health care system could consist of mandated private insurance and private production of services, publicly provided insurance and privately produced services or publicly provided insurance and services. Likewise, the functions of financial account schemes can be administered by either private or public suppliers of services. Looking around the world we see many examples of mandatory financial pension schemes in which the major participants are private funds or insurance companies. Sweden, as will be discussed in the next section, has unbundled the functions of the administration of its mandated financial account scheme and, in doing so, it has created a publicly managed clearinghouse for channeling individual account money into privately managed funds in the Swedish financial market.

In principle, public and private management can be equally efficient. Governance is the key word here. Governance relies on transparency - open accounts, open decision processes, etc. and systems of checks and balances executed through regulatory agencies. Since the choice depends very much on the national environment and the system under consideration it is difficult to say anything general other than that cost efficiency should be a major determinant of the choice.

G. The institutional infrastructure of the Swedish FDC scheme

The business of providing pension insurance can be thought of in terms of the bundle of services provided. These include the collection of contributions, keeping participant accounts, providing information services and providing benefits and benefit services. In PAYG systems, all these services are typically provided together by a single government agency. In a financial system, the additional function of investing funds comes into the picture. The administrative model chosen for the Swedish mandatory FDC scheme unbundles these services with the aim of minimizing the costs of administration while providing a high degree of freedom of investment choice for individual participants. This section explains in brief what Sweden has done.

The traditional insurance company includes all of the services enumerated above under one roof. For a nationwide mandated scheme, the first thought that comes to mind is to require all employees (and the self-employed) to contract an insurance company in the domestic financial market. The insurance companies would then compete to provide good investment and information services for their participants and annuities at retirement. Competition would then hold down costs. This is more or less the model chosen in a number of countries, including Chile, Australia and the UK, and then emulated in a number of countries in Latin America, Eastern and Central Europe.

¹¹ See Góra and Palmer (2004) for a discussion.

Sweden chose a different path in setting up the institutional framework for the mandatory financial account scheme. To begin with, the National Tax Authority already at the outset was the single collector of public taxes and contributions. Among the individual and employer contributions collected are contributions for public pensions. With the reform, this same collection service was used for the mandatory NDC and FDC schemes. The clear advantage of this approach is that the same earnings definition is used for all forms of contributions, and the same employer accounts can be used for all tax and contribution purposes. In addition, there will be only one audit for all sources of revenues, which is a clear advantage for the employer. In the next step, the information on individual contributions is passed through to the NDC and FDC schemes, and the money collected is transferred to the pension funds in the NDC scheme, which administers the systems financial transactions, and to a single interim account for the entire FDC scheme. Once individual information is available from the tax authority, new contributions are transferred to individual financial accounts.

The novelty in the design of the Swedish system is the *clearinghouse*. The Swedish clearinghouse is a public agency that is a monopoly provider of fund investment services, information services and account keeping. Although it is a public agency in Sweden, in principle, it would have been possible to privatize this function. The clearinghouse purchases fund shares on behalf of the individual participants, including choices for new entrants and general requests from participants already in the system to buy and sell fund shares (so-called switches). Purchases are grouped together and executed jointly on each transaction day. A fund manager's client is the clearinghouse, not individual participants. As a result, funds have no information about their clients. This was viewed as a desirable feature that would create lower costs – by eliminating participant recruitment costs, although funds are free to advertise their results in the media. Funds compete for clients only through their investment and cost performance. Information on the investment and cost performance of the participating funds is gathered, organized and published by the clearinghouse. Fund values are registered on a daily and are accessible to participants through a number of sources, including major newspapers and the internet.

The number of participating funds in the Swedish system is, in principle unlimited, and was close to 700 in 2005. Funds are allowed to charge their normal rates, but the clearinghouse has devised a procedure that requires lower fee charges as the volume of total mandatory assets managed by a specific fund increases. In 2005, the sum of costs for all functions is about 0.6 percent of total capital. Costs were relatively high in the start up years of the system from 2000, but they will decline to around 0.3 percent of capital or lower by 2015-2020 (Palmer 2004).

During the accumulation phase, participants have contact only with the clearinghouse. At retirement capital on individual accounts is transformed into an annuity. Here the alternatives are either to create a public monopoly provider or to let participants contract with one or more annuity providers in the financial market. Sweden chose the monopoly provider alternative, using the clearinghouse for the administration of this service.

A major reason why Sweden chose a monopoly annuity provider was adherence to the principle that in the mandatory scheme there should be, first, a life annuity and, second, that everyone should be required to have a standard product. Phased withdrawals, which may not be sufficient for a whole life and lump sums, which may entice the participant into poverty, were excluded. In addition, a unisex life expectancy factor is used in computing the annuity, which may be viewed as unrealistic by private insurance providers.

The Swedish design of the financial account scheme is intended to create competition based on investment portfolio performance and cost profiles during the accumulation phase, but not during the annuity phase. What could be gained by letting the private market sell annuities to participants in the mandatory public scheme? If companies are not allowed to differentiate on the basis of risk profiles they can only offer competing products that *do not* take individual risk profiles

into account. This leaves less room for product differentiation, but does not eliminate all possibilities. The monopoly is also appropriate in the start-up phase when account values of retiring participants are small, which would give considerable uncertainty if these accounts were spread out to a large number of providers. In the long run it is still conceivable that the management of annuity products in Sweden could be opened for private management – using a bidding process.

Given the prevalence of financial account schemes in Latin America, the Swedish clearinghouse model may provide some valuable input into country discussions of design options.

H. Some coverage issues

Countries have for one reason or another sometimes chosen to limit the “universal” public commitment to some specified groups. Groups frequently excluded from the universal mandate are the self-employed, including farmers. There are drawbacks with excluding specific groups from the universal commitment or creating groups with different insurance “contracts. These are discussed briefly here.

There are at least two problems with exclusion that should be addressed by the policy maker. One is that people may be working both within the excluded group and the included group. For example, farmers might be employed during the non-farming season or even work with another occupation more generally while farming. Also, in the long run even farmers and the other self-employed will need income assistance in old age when the circumstances of ageing reduce their capacity to farm. The second problem is that over time people will inevitably “migrate” between groups. Persons who migrate into the covered group will, thus, by definition have only partial careers in the covered group, which will provide less than full benefits.

Another coverage issue has to do with what portion of earnings should be covered by social insurance. A low (but sufficiently high to provide adequate minimum coverage) ceiling on the public commitment leaves room for private initiative and individual diversification. For example, in Sweden the ceiling on the mandated old age pension system is low by international standards at about one and a half times the average full-time annual wage. This has left considerable room at the top for the development of contractual schemes – and even some room for individual initiative among high income earners.

Where a ceiling should be set is debatable and will certainly depend on individual country cultures and preferences. What is certain is that given the fundamental goal of the public pension mandate, to protect otherwise rational individuals against putting themselves into poverty, there will be some level of protection at which this goal is largely achieved and where the social commitment can logically come to an end.

I. Economic effects of pension system design

The way in which social insurance systems are designed can affect the efficiency of allocation of resources in the economy and the growth of the national product. The effects run through possible effects on private and public saving and on the demand for and supply of labor. For this reason it is important to consider possible interactions between the economy and social insurance that can be propagated through the decisions of individuals, employers and politicians. This section reviews some selected issues and comments on them.

1. Saving

All other things equal, higher saving rates lead to higher capital formation, higher economic growth and more affluence for the residents of a country. By definition, a PAYG scheme yields no national savings whereas a financial (funded) scheme may. Financial schemes certainly contribute to

financial saving, but whether they contribute to economic growth depends on whether this saving is transformed into capital formation. In this respect, financial schemes only potentially dominate pay-as-you-go schemes. The effect of national pension systems on private saving depends on the counterfactual, that is, how would income in retirement be provided without the national pension system under consideration? This is the point of departure for the following discussion.

Generally speaking, if one pay-as-you-go system replaces another of a similar magnitude there would only be a potential effect on private saving if one system were more comprehensive than the other. If the public PAYG commitment increases, it can be argued that saving replacement may occur, since individuals will have less incentive to save for old age on their own – or employers to contribute to schemes on their behalf. Likewise, a decrease in the public commitment may cause individuals to save more on their own, in addition employer or other group schemes may fill some of the gap.

A goal of policy might be to reduce the PAYG commitment and replace the gap created by a mandated financial account scheme, thereby increasing financial saving, and perhaps national capital formation, compared with the counterfactual. For example, the UK reduced its PAYG State Earnings Related Pension System (SERPS) commitments as it introduced the option to opt into privately managed financial pension schemes in the 1980s. Sweden reduced its PAYG commitments in its 1994 reform but within the same reform introduced a mandatory universal financial account scheme, shifting some of the overall weight of the public system from coverage provided by the PAYG scheme to coverage provided by a mandatory financial scheme.

One of the explicit goals of the 1994 Swedish pension reform was to create more financial saving through the pension system, which the introduction of the mandatory FDC scheme helped to accomplish. With a contribution rate of two and a half percent, the yearly increment of the mandatory Swedish FDC scheme to financial saving corresponds to about one per cent of GDP. Whether this will result in an equivalent amount of capital formation, and eventually to economic growth is another question, however, which in principle can be investigated empirically once the system has been in operation a decade or so.

By setting a ceiling on the mandated public commitment through the new NDC scheme, the policy makers in Sweden may have contributed indirectly to increasing private saving – if individuals attempt to save more on their own in order to retire earlier or have a higher income during retirement. Finally, as a result of the reform of the public system in Sweden, private occupational schemes for blue collar workers, municipal and state employees also converted to a FDC– supplementing the public mandate. This conversion to financial account schemes has also contributed to additional financial saving. Once again, whether this has led to greater capital formation is an open issue that will have to be studied empirically.

It would be inappropriate here not to mention the contention that, in a development setting, the introduction of a mandatory financial account scheme may also promote financial market development and deepening. There are few empirical studies of this effect, however. Among these, studies of Chile find it difficult to confirm a savings effect but conclude that the Chilean reform contributed to financial market deepening (Holzmann 1997 and Schmidt-Hebbel 1999). These authors find no clear cut evidence for or against a growth effect through saving and instead argue that we need to know more about modeling the process through which this can be traced. From the mid-1990s a whole wave of reforms has come in Latin America, Eastern and Central Europe and countries of the former Soviet Union that have presupposed both the saving and the financial market deepening effects, and in time these will be analyzed to try to sort out the effects.

It is already possible to conclude that in Eastern and Central Europe, where financial account schemes were introduced in the 1990s and immediately after the turn of the century, this has attracted foreign based companies – insurance companies, banks and fund managers - from the original EU 12 countries. It can be argued that this has hastened the spread of established financial

market know-how. In a developed economic setting, Palmer (2001) argues that the liberalization of financial market legislation preceding the passage of the Swedish pension reform in 1994 together with the institutions emerging with the financial component of the Swedish reform promoted financial market deepening in Sweden in the 1990s.

What can be concluded about the effect on saving of the introduction of a mandatory funded scheme in a developing economy where the point of departure is predominantly the family provider model? In practice, it is not possible for a country to avoid its social commitment to provide minimum income support in old age, so the counterfactual to a PAYG scheme is *not* exclusively a funded pillar, although mandated individual financial accounts might be considered to be an important component of a reform blueprint. There is no escaping the fact that there will always have to be some form of transfers to provide social protection for the very poor.

This said, the greater the scale of the mandatory financial component the more likely it is that national saving will be enhanced, assuming that the effect is less than one to one. Note that there is yet another caveat here, that is, if the mandatory insurance-saving scheme only purchases government debt issued to finance current public consumption, *ceteris paribus*, there is no net effect on national saving. In fact, it can be argued that a financial defined contribution scheme that invests in government bonds that finance public consumption is simply a monetized NDC scheme - with high transaction costs compared to non-monetized NDC (Góra and Palmer 2004).

In sum, it is important to keep in mind what the counterfactual is in a reform process in a discussion of the possible effect on saving and the national product. Financial pension schemes can never completely replace the need for transfers to support the very poor, so a mandated financial scheme must always be accompanied by some form of minimal PAYG arrangement. In addition, money mandated into the pension system must be channeled into productive investments to achieve a growth effect. Investments can be either private or public, where the latter implies net public financial saving. Also, a case can also be made for the claim that financial market development can be a by-product of introducing a mandated financial scheme in the development setting.

2. Labor Supply

The aim of policy should be to design insurance systems that are neutral for or promote labor supply. In the case of old age pension insurance the design of benefit rules may be such that they allow workers to exit the labor force earlier than what is socially desirable. From the point of view of society, however, it might be preferable if older workers remain in the workforce longer, producing goods or services, earning an income and paying taxes on this income.

In developed economies early exit from the labor force has been viewed as being a problem for some time now. The issue has come up on the table because many countries are facing the threat of declining labor forces in the not so distant future. For this reason policy has been focused on ways to retain older workers in the labor force. Defined benefit schemes with fixed full-benefit pension ages have the effect of setting – unnecessarily - a pension age norm. This is unnecessary because older workers are not homogenous in their needs, health and preferences. In addition, defined benefit old age pension schemes that do not reward additional contributions paid with an enhanced benefit encourage older workers to exit the labor force – by not rewarding participation with enhanced lifetime resources. This is a form of moral hazard. Of course, to avoid this effect, DB schemes can be designed so as to provide an actuarial deduction for retirement prior to a “full-benefit age” and an actuarial supplement for postponed retirement.

In Europe, the focus of policy has turned from the “life course model” – that emerged in social policy discussions after in the second half of the 20th century - with an aim of providing high benefits from low ages - to creating tax and benefit rules that facilitate gradual and flexible exit from the labor force for older workers. For this reason, defined contribution schemes have attracted the attention of policy makers, as has already been discussed above. DC individual account schemes

– both NDC and FDC – avoid setting a full-benefit age and in principle are neutral with regard to the retirement age – although some given minimum age for retirement with a public benefit must nevertheless be established. In DC schemes, since annuities are calculated with respect to life expectancy, workers obtain a higher yearly benefit by working longer. This is not only desirable from a system-finance point of view, it also performs the function of rewarding postponed retirement with an actuarial increment. Of course, DC schemes logically cannot have the extra tax deductions that sometimes accompany defined benefit schemes, and, more generally, the same tax rate should be applied to both earned income and pensions. This so that the source of income is neutral on labor supply.

In sum, DC schemes are attractive in terms of their labor market effects since they serve the purpose of facilitating gradual and flexible retirement. As many countries are facing the prospect of declining labor forces in the future, they are likely to find this feature increasingly more attractive.

V. Final remarks

This paper began by discussing the need for insurance and the rationale behind social insurance. It argues that risk averse individuals would choose insurance if they could, but that in a private market setting, for a number of reasons, coverage will be far from complete, both because of imperfect market supply and less than complete demand. For distributional reasons, the argument for social insurance is even greater in developing countries.

In the case of health care a universal mandate or universal public provision provide an opportunity to cover the whole population, including the very poor and persons with previous health conditions. This paper argues that public provision of national insurance with some mixture of private and public provision of services could serve the developing countries of Latin America best. The risk of corruption can not be ignored. Good governance requires the development of transparent ways of making decisions and disbursing money, including the use of DRGs, and the development of external audits and supervision.

In the case of pensions the case is equally strong for a universal mandate of private coverage or public provision, with careful consideration being given to the extent of coverage. Pay-as-you go systems that do not leave room at the top will do this at the expense of emerging private complementary schemes in the future. These can be important for occupations where different pension ages may be desirable. Generally, it is important to leave some room at the top for individual initiative. If this is not done in the initial stage of the introduction of a system, it can still be accomplished by letting the ceiling remain price adjusted (or unadjusted) while real wages increase.

Eventually portions of an increasing number of persons' earnings will be above the ceiling on covered earnings in the public system, gradually reducing the scale of the public system. On the contrary, if the goal is to maintain the scale of the public system or mandate, then the ceiling on covered earnings should be indexed to nominal wage growth, which includes both real increases and inflation.

Although the extended family might provide the safety net as an economy develops and makes the transition into a more full-fledged market economy, the need for the public sector to provide income support for the very poor will increase as family networks become geographically separated. The young might still send remittances to their parents, but their capacity to do this may nevertheless be limited by their own resources. For this reason, either a flat rate defined benefit or a

defined benefit guarantee pension level – which would top up a contributory system – seem to provide the logical basic support. For several reasons discussed in the paper, regarding the effects of technical construction on system finances and intergenerational fairness, labor supply and financial saving and financial market deepening, countries are moving in the direction of DC schemes. For various reasons, including entrenchment in previous DB pay-as-you-go commitments, but also an unwillingness to put all their eggs in one basket, countries in Europe are increasingly considering conversion to NDC schemes. Sweden was the leader and to date several countries have followed – beginning with Latvia and Poland in the 1990s.

Defined benefit financial account schemes are increasingly being replaced by DC schemes. Among other things they are technically difficult for actuaries to get right in a world with considerable improvements in the life expectancy and they are frequently designed so that employees become locked into jobs in a world where job mobility is important for both the individual and society.

Financial account schemes provide a complement to the pension portfolio, which should have a non-financial scheme as the base scheme, at the least the minimum guarantee. Financial account schemes are more-or-less neutral to declining domestic labor forces, whereas a declining labor force will provide a smaller contribution base in a non-financial, pay-as-you-go setting. All other things equal, this will be to the disadvantage of future pensioners.

On the other hand, financial account schemes involve financial market risk, and history has been marked by periods of poor financial market performance. For this reason, many would argue that it is important to diversify the public mandate between both earnings-related non-financial and financial schemes. In this case an NDC scheme has all of the labor supply features that make an FDC attractive, but, by definition, lacks the potential effects on financial market deepening and financial saving. In addition, whereas an FDC scheme creates a double payment burden, NDC schemes can be introduced through converting previous rights in pay-as-you-go DB schemes (Palmer 2006b).

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