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The imperfections of the capital market

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The classical theory of capital is based on an ideal functioning of markets and assumes that economies have a great capacity for adjustment, goods being easily substitutable, supplies relatively elastic, prices flexible and markets composed of a large number of individuals. Nevertheless, most underdeveloped economies exhibit traits far removed from such assumptions. Are these traits important enough to modify the results of the classical model and explain the imperfections of the capital market? The author answers this question on the basis of a number of central concepts and the experience of the Colombian economy.

The article consists of four parts. Part i identifies some outstanding elements which have not been explicitly incorporated into the analysis of the capital market. A detailed analysis is given of the complementarity between credit and the demand for goods, the supply of physical goods, the monopoly power of agents and the predominance of adaptive expectations. As these phenomena are irregular, their repercussions on the capital market cannot be analysed with traditional techniques. A large part of the section is devoted to an outline of a number of concepts and tools for dealing with this type of problem.

In part n the effects of the liberalization of the capital markets are examined, while part in discusses how far the information given in part n corroborates the assumptions of the capital market behaviour presented in part i. In addition, these elements are analysed simultaneously in order to synthesize the causes of the imperfections in the capital market and their relation to financial liberalization.

The final part outlines the features of the financial reforms required to achieve the reconciliation of efficiency with stability.

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1. *Credit and durable goods*

Some empirical studies suggest that the effects of credit vary with the characteristics of the goods. The evidence is particularly clear in the case of durable and non-durable goods, and agrees with the theory that distinguishes between flows and stocks. In general, it is recognized that flows are related to income and stocks to wealth and that each depends in the short run on different elements. The fluctuations of credit initially affect stocks and wealth and only later have an influence on durable goods. The processes associated with the two types of goods may fluctuate in the short term, interfering with the adjustment process.

These concepts can be illustrated by the identity: $W + C = P_K + P_D + F$. In which W = wealth, C = credit, K ~ capital goods, D = durable goods, P_K and P_D = the prices of capital goods and of durable consumer goods and F = financial assets.

According to this identity the sum of wealth and credit is equal to the total of physical and financial assets. If credit increases and production does not vary, the prices of durable investment and consumer goods will rise¹. The funds, after passing through the sellers of the goods, would return to the financial market in the form of financial assets, or would be employed to acquire physical assets. The effective wealth of the economy would be greater than the desired wealth. Equality would only be reached through a rise in the level of prices or a reduction of credit. This relationship also holds in the opposite direction. The rise in the prices of assets can only be made effective when the desired wealth is augmented or the credit expanded. Thus the demand for credit increases in the same direction as the prices of the assets.

¹The final impact of credit depends on the conditions of supply, which are not easily generalized. The adjustment process described in this section applies mainly to durable goods with an inelastic supply, such as assets which require a long production period: housing and investments subject to large indivisibilities such as those pertaining to large enterprises.

The expansion of credit, therefore, generates a rise in the prices of physical assets and then an expansion of financial assets. Both factors, taken together, determine an increase in the effective wealth of the economy in relation to the desired wealth. Individuals would respond to this situation by replacing physical assets by non-durable consumer goods, which would result in a rise in the general level of prices. The new equilibrium would be attained at the point where relative prices returned to their initial level.

This adjustment does not occur when the prices of non-durable goods are subject to controls, or are determined by external prices in an open economy. The correction of the imbalance would occur only if the prices of assets fell to their previous initial level and met the resistance of the owners. These would try to retain their holdings and would press for the maintenance of the initial increase in credit. Hence a widespread tendency to avoid the liquidation of assets at a lower price might be manifested in a high demand for credit, which would prevent a fall in interest rates.

It is usually assumed that the prices of assets are determined in a system in which all supplies and demands are satisfied. But in the real world economic agents have no data to let them know when a situation of this kind is reached. Thus in capital markets, which are exposed to serious imperfections, the prices obtained do not always reflect what is happening with actual transactions. In these markets it is common to find prices incorrectly set above market clearing levels, thus leading to lower sales. Such a possibility is quite possible if expectations are adaptive, where individuals fix their prices in accordance with past rather than current experience, so that prices remain higher than those which satisfy the wealth equation. It would be a typical situation in which the wealth obtained by individuals would be greater than the effective wealth. The attempt of individuals to maintain these prices would create a demand for credit higher than that which provoked the initial slack. Interest rates would be determined, therefore, by the structure of expectations of unreal prices which could place them at any level.

It is clear that physical assets and credit are closely interrelated; that is, they are complementary goods. Although this fact is not

openly rejected, it is not always recognized in practice. The influence of the neoclassical theory has led to the belief that all goods are substitutable. In these conditions the fluctuations of a market, although they may affect other markets, do not change its basic features. Formulations in which supply, demand and the interest rate of the financial market are independent of the rest of the economic system may be justified at times, but this simplification is mistaken when the goods are complementary. In this case the alteration of a market can destabilize other markets which operate satisfactorily by themselves. Thus, in the adjustment described, it is clear that credit affects the processes of assets and these affect the interest rates. This linkage between the credit market and the market for physical assets plays a central role in the interpretation of real phenomena. Further on it will be shown that many events that take place in the credit market originate in the market for physical assets, and vice-versa.

2. Liquidity and indivisibility

The possibility of acquiring a good and then selling it at another price is limited by the resources necessary to effect the transfer. Hence liquidity appears as one of the main requisites for carrying out any speculative operation and is clearly related to the characteristics of the goods. If these were perfectly divisible, speculative options would be scarce. Everyone could take part in them in accordance with their possibilities, as happens in the market of goods and services. The expected value of the speculative gains would correspond in the long run to the normal profitability of capital. Naturally, the greater the indivisibility of the goods, the smaller the number of individuals who can operate in these markets. The assumption of competition among speculators thus becomes invalid. Speculation in large-scale goods markets confers obvious monopoly powers on those who have access to liquidity. This is confirmed by the behaviour of economic groups in the transactions of large enterprises. Their technique consists in precipitating price movements to obtain enormous gains in buying and selling operations.

The Keynesian concept of speculation is

based on the maintenance of liquid resources by individuals in the expectation of opportunities which will give them a profit in the buying and selling of products. Large-scale indivisibilities modify this idea in the sense that liquidity is not only required to take advantage of the buying and selling opportunity, which is in a way fortuitous, but also to acquire a good to which others have no access. The gain does not derive so much from taking advantage of an immediate operation but rather from the administration of the activity by those who have the liquidity. The advantage comes from the profit resulting from obtaining existing enterprises at low cost.

Here it is important to distinguish between ownership without control and ownership with control: the former relates to small shareholders and the latter to the economic agents who administer and direct the enterprises. While the attitude of the former is influenced by short-term elements, that of the latter is determined by the possibilities of the enterprises and the effects on other activities. In this context, there is no validity in the hypothesis that large enterprises become divisible in the stock markets. Ownership with control is indivisible in the sense that the power to influence the decisions of enterprises is only attained with a certain minimum participation in the ownership of the assets.

In the standard formulations of economic theory it is generally assumed that the holding of goods and liquidity are substitutable. Individuals can increase their possession and consumption of goods to the extent that they sacrifice liquidity. The foregoing propositions constitute an argument against this hypothesis. Some goods tend to be complementary to liquidity and the ratio becomes narrower in proportion to their indivisibility. Their demand tends to be restricted by elements of a quantitative nature. Liquidity, therefore, introduces a constraint in the functioning of economies which prevents individuals from achieving their desired ends.

In economic theory it is generally assumed that the distortions that obstruct the automatic adjustment of markets occur in isolation and in very small amounts. However, this interpretation cannot easily be extended to the case of liquidity, which affects a wide variety of economic agents and of goods. The limitation imposed by the size of the goods results in a demand much smaller

than the economic agents' desire: a factor which has serious repercussions on the whole economic system.

Experience shows that the development of large enterprises takes a number of years. Their supply is inelastic in the medium term. Hence greater demand to acquire them is manifest at the outset in a rise in prices. As this effect is of short duration, the volume of these enterprises remains unchanged. The adjustment will be made mainly through the channel of quantities. The higher relative price of these assets creates an increase in wealth, which stimulates an expansion of expenditure and a rise in the general level of prices. Thus the initial rise in the prices of assets and the expansion of the nominal amount of money neutralize each other. The relative prices and the real quantity of money tend to return to the initial situation. Hence an obvious vicious circle is formed. Production does not expand because the rise in prices is temporary, and this rise is temporary because production does not expand.

3. Substitution between financial and physical assets and the stock market

Substitution between physical and financial assets has been the subject of a long debate (McKinnon, 1973; Levhary and Patink, 1968). Sarmiento (1984a, chapter vi) shows that it does not happen in global terms. The shift of wealth into financial assets results from an expansion of credit which enables the same volume of physical assets to be maintained with a smaller number of owners. The relation is of interest when it occurs between financial assets and entrepreneurial capital and depends on the method of channelling the credit generated in the expansion of financial resources. If this is used to finance the purchase of durable goods or to maintaining speculative balances, the two assets will appear as substitutes.

These concepts acquire more theoretical significance and more practical utility when they refer to specific economic agents. Thus the substitution between financial assets and entrepreneurial capital is very different for ordinary shareholders and for those who control the en-

terprises. It can be presumed that the former are willing to sell their shares for financial assets if they will thereby obtain more profit. In contrast, the profitability of the controlling shareholders is determined by the long-term prospects of the enterprises, which cannot readily be replaced by momentary financial returns. Besides, we have seen that the exercise of entrepreneurial control is contingent on liquidity. The buyer of an enterprise should be in a position not only to make a transfer of wealth, but also to maintain credit to cover the greater part of the assets. Consequently, the physical assets of the ordinary shareholders are highly substitutable with financial assets, whereas those of the controlling shareholders are relatively complementary.

The link between the financial market and the stock market is clearly seen in this context. Let us suppose that the interest rate of financial securities rises through the application of administrative or market mechanisms. The ordinary shareholders would shift towards the financial assets and the expansion of these would be reflected in an expansion of credit. There is no mechanism, however, to guarantee the channelling of these credit resources into the enterprises which have suffered a reduction in their ordinary shareholders. It all depends on the behaviour of capital markets. If the enterprises manage to attract the credit generated by the shift of their ordinary shareholders, a situation would arise in which the liabilities would be represented in a greater proportion by credit and in a lesser proportion by paid-up capital. In general terms, there would be an expansion of bonds and credit, a reduction in the number of shareholders in the enterprises and a strengthening of the economic power of the controlling shareholders.

The different motivations of the ordinary shareholders and the controlling shareholders have had a decisive influence on the conduct of the stock market and the financial market. Many of the defects observed in recent years originated in a failure to grasp this fact. The hypothesis that the two types of shareholders behave in the same way led to the assumption that the expansion of financial saving derived from a net increase in saving and that the weakening of the stock market was neutral as regards investment and economic power. These attitudes had a decisive influence on the passive position of the gov-

ernments in face of the strange phenomena taking place in the financial sector.

The evolution of the stock exchange in the last 25 years in Colombia provides valuable information on these behaviour patterns and empirical proof of some of the hypotheses. The figures are based on a survey of 30 enterprises carried out by the Comisión de Valores and published in a study by J.C. Restrepo and others (1983). The basic findings of the survey are summarized in tables 1 and 2.

In the appendix an approximate expression of the profitability of shares is worked out. If this profitability is equal to the interest rate of a financial security with the same risk, the financial market and the stock market will be related in conditions of equilibrium by the following equation:

$$r = \frac{B}{Pa} - \frac{D^*}{D} - \frac{P^*}{P} - \frac{\Delta P}{P}$$

where D = dividend, Pa = price of the share, P = level of prices, $\frac{\Delta P}{P}$ — rate of variation of the level of prices, $\frac{P^*}{P}$ = rate of exchange of the dividends and r = real interest rate.

The information on dividends and inflation given in table 2 was introduced into this equation to estimate the equivalent interest rate of the shares. The results of this exercise are summarized in table 3.

Tables 1 and 2 show respectively that the levels of participation of the paid-up capital of enterprises and the price of shares have been declining in the last twenty years. The trend has not been very even, however. The prices fall in some periods and rise less markedly in others. Similarly, it will be seen that the behaviour pattern differs in the two decades.

In the 1960s two periods can be distinguished. In the first (1960-1966) share prices went down, whereas in the second (1967-1970) they went up in real terms. In the last period the returns were higher and in most years grew at a higher rate than inflation. Thus the expected profitability was 4% in the period 1960-1966 and 11% in the period 1967-1970. The close relationship between real prices and returns shows that the stock market is highly sensitive to short-term returns. Undoubtedly this was influenced

Table 1
COLOMBIA: FINANCIAL STRUCTURE OF JOINT-STOCK COMPANIES, 1960-1981
(Percentages)

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	
<i>I. Assets</i>																							<i>r.</i>
Cash in hand	4.0	4.0	5.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	2.4	2.5	2.6	3.1	2.9	3.1	3-2	3.4	3.9	3.2	2.9	3.3	<i>h</i>
Debtors:																							<i>o</i>
Short term	20.0	20.0	21.0	23.0	24.0	25.0	26.0	24.0	24.0	25.0	23.7	23.7	24.3	25.3	23.8	25.1	26.8	28.3	26.3	27.5	29.5	27.6	<i>o</i>
Long term				1.0	1.0	1.0	2.0	2.0	2.0	3.0	3.1	2.7	2.9	3.1	3.4	4.4	4.3	3.9	4.3	5.7	4.0	3.1	<i>m</i>
Stock	31.0	20.0	27.0	26.0	26.0	25.0	28.0	26.0	24.0	27.0	26.4	27.2	26.1	25.5	30.3	30.2	30.9	30.5	30.1	29.7	30.0	24.1	<i>PC</i>
Installations and equipment	31.0	32.0	33.0	31.0	29.0	28.0	26.0	23.0	23.0	21.9	21.6	21.9	21.2	19.2	19.6	18.8	17.4	15.9	15.1	20.8	29.8		<i>Ci</i>
Others	14.0	15.0	14.0	15.0	16.0	17.0	15.0	17.0	19.0	14.0	22.5	22.3	22.6	21.8	20.4	17.5	16.0	16.5	19.5	18.8	11.8	12.1	<i>></i>
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	<i>r-</i>
<i>II. Liabilities</i>																							<i>></i>
Creditors:																							<i>%</i>
Short term	31.0	32.0	35.0	26.0	28.0	25.0	29.0	26.0	26.0	27.0	26.5	27.4	28.1	30.9	34.8	34.1	34.6	38.3	37.3	40.3	44.3	41.0	<i>fe</i>
Long term				8.0	10.0	13.0	12.0	14.0	14.0	15.0	10.1	12.2	14.3	13.6	13.0	16.0	15.0	12.3	14.1	14.8	16.7	22.2	<i>a.</i>
Other liabilities	6.0	5.0	5.0	6.0	5.0	5.0	4.0	4.0	4.0	4.0	7.8	7.8	7.4	9.2	9.7	10.4	12.5	11.0	9.6	10.0	8.6	8.5	<i>a.</i>
Total	37.0	37.0	40.0	40.0	43.0	43.0	45.0	44.0	44.0	46.0	43.9	47.4	49.8	53.7	57.0	60.5	62.1	61.6	61.0	65.1	69.6	71.7	<i>a.</i>
Paid-up capital	31.0	31.0	30.0	28.0	27.0	26.0	24.0	23.0	22.0	21.0	16.1	14.4	12.8	11.2	9.5	8.8	7.8	6.6	5.4	4.8	7.1	9.0	<i>a.</i>
Profits	6.0	5.0	6.0	6.0	5.0	4.0	5.0	4.0	3.0	5.0	6.6	6.0	6.1	6.3	6.8	5.4	6.3	6.5	7.8	6.1	5.3	3.9	<i>si</i>
Surplus	26.0	27.0	24.0	26.0	25.0	27.0	26.0	29.0	31.0	28.0	33.4	32.2	31.3	23.8	26.7	25.3	23.8	25.3	25.8	24.0	18.0	15.4	<i>5"</i>
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	<i>5"</i>

Source: ABC; (1973); Pieschacón (1982). Calculations of the Comisión Nacional de Valores (National Securities Commission). Market Development Division.

Table 2
COLOMBIA: DIVIDENDS,
PRICES AND EXPECTED PROFITABILITY
OF INDUSTRIAL SHARES, 1960 TO 1982
(Percentages)

Year	Dividends	Prices	Expected profitability
1960		178.0	
1961	14.5	163.0	
1962	12.0	160.5	-2.3
1963	11.7	131.7	-8.3
1964	112.5	125.8	11.1
1965	13.4	106.4	-0.6
1966	15.2	83.6	20.6
1967	15.2	83.3	20.7
1968	13.8	89.4	11.0
1969	10.9	97.8	3.1
1970	10.0	100.0	9.7
1971	14.7	75.5	14.3
1972	16.4	55.5	11.1
1973	17.1	46.1	3.0
1974	14.2	33.4	10.4
1975	22.0	23.6	8.5
1976	18.7	23.6	8.6
1977	17.8	26.4	19.9
1978	10.8	33.3	3.9
1979	9.6	33.9	9.9
1980	15.1	23.6	6.0
1981	16.0	23.0	-37.5
1982		22.8	

Source: Restrepo and others (1983).

by economic agents for whom stocks and financial instruments were highly substitutable.

The trend is less clear in the 1970s. The spectacular fall of real prices between 1970 and 1975 cannot be attributed to the expected profitability, the values of which in that period were not very different from those of the period 1966-1970. The same may be said of the price recovery that occurred in 1976-1979, when profitability was also very similar to that of the preceding years. All this suggests that the behaviour of the stock market during the 1970s cannot readily be attributed to conjunctural factors. The explanation must be sought in the structural changes of this market and in exogenous factors.

In table 3 it will be seen that the expected profitability was much higher in the 1970s than in the preceding decade. This is clearly related to the transformation of the capital market which took place in the course of that decade. The rise

in the interest rate of financial securities that occurred during that period created a competition that impelled the agents to demand higher returns in order to maintain the shares.

Table 3
COLOMBIA:
EQUIVALENT INTEREST RATES AND REAL PRICES,
1962-1966 TO 1980-1982
(Percentages)

Period	Annual equivalent interest rate	Average variation of real prices (annual)
1962-1966	4.02	-12.1
1967-1970	11.1	4.6
1971-1975	10.5	-24.9
1976-1979	10.6	10.0
1980-1982	-15.7	-10.9

Source: Calculations of the author.

The alterations observed during 1970-1980 reflect many of the phenomena accumulated during that period of transition. The continuing fall in prices and the shifts of ordinary shareholders to the financial market brought with them a reduction in the number of owners and in the percentage of paid-up capital in the assets of enterprises. The control of these could be obtained with less wealth and always redounded in more profit. Thus the market came to be increasingly influenced by the shareholders with power, and the substitution between shares and other financial assets was gradually reduced. The close relationship between prices and returns observed during the 1960s came to an end. Hence the rise in prices between 1976 and 1979 is not explained by a better return but by the competition between different agents to obtain control of enterprises. Consequently the variations in prices increased and were unrelated to the short-term profitability of financial assets.

The systematic weakening of the stock market cannot be attributed to inevitable structural causes. The high substitution between physical and financial assets for the ordinary shareholders and the low substitution for the controlling shareholders is probably the only factor that can

be regarded as inherent in the functioning of the economic system, but its presence alone could not generate the transformation. The fall in prices, the shift of the ordinary shareholders towards the financial market and the concentration of ownership are connected with a series of elements whose emergence and reinforcement can be identified through the course of the two decades. In the 1960s they are explained by the low returns on shares and in the following decade by the rise in the interest rate and the growing power of economic groups.

None of this was inevitable. The low returns of the 1960s could have been counteracted by a more open policy of profit distribution. The rise in the interest rate, caused by the same economic policy, could have been avoided by administrative measures. What is certainly true is that the enormous power of the groups was very difficult to counter at the end of the 1970s without provoking critical states of crisis. It is also true, however, that this situation would not have occurred had it not been for the conditions that facilitated the transformation that ended in the heavy concentration of economic power.

Another factor that has affected the stock market is tax legislation. The régime in force in recent years includes regulations of different types that discriminate against shares. The most important of these is that which authorizes enterprises to include interest payments as costs. As these payments have a high component of inflation, which corresponds rather to appreciation of liabilities, credit brings with it a substantial subsidy which increases with inflation and conceals real profits. This structure stimulates the replacement of shares by credit, facilitates an entrepreneurial management which aims at distributing only a small fraction of the profits, and has created a highly inequitable taxation system.

These results have practical and theoretical repercussions. There is no doubt that the economic groups possess monopoly powers which affect share prices. Thus, the policy of increasing nominal dividends at a lower rate than inflation impelled individuals to sell their shares, thereby provoking a fall in their prices, of course this behaviour was also encouraged by the rise in the interest rate of financial securities and by the lack of effective regulations.

4. *The economic groups*

Together with the rise of capitalism, large firms have come into being which require substantial financial resources for their creation and maintenance. This is a result of the general proposition that mass production can be carried out more favourably in large enterprises. The characteristics of the process have varied, however, from one place to another. Industrialization in England went ahead through a system of largely self-financed investments. In Germany, however, it was based on a close relationship between the banks and industrial firms. On the other hand, the rapid growth of the United States at the end of nineteenth century coincided with the emergence of large firms and cartels which led to a high concentration of ownership.

The industrial and financial growth of Latin America in recent decades has been associated with the so-called economic groups or conglomerates. These groups have something of the German and of the United States model. They consist of individuals who frequently have some family link and profess a strong loyalty to the organization. They tend to operate in the financial sector and in the industrial sector and generally seek to expand into a great variety of activities. The common aim is to obtain the greatest benefits for the organization, which in some cases may mean losses in certain activities in order to favour others.

The most outstanding feature of the economic groups is undoubtedly their enormous propensity for taking risks. Many of the financial phenomena that have occurred in recent years both in the economic and institutional sphere are the result of this attitude. Nevertheless, the current explanation that the groups are in a better position to diversify risks by acting in different activities is not sufficiently convincing. There are undoubtedly much more cogent reasons.

The chief of these has to do with the nature of the activities of the groups. Some have properties which are public goods and generate externalities for other activities. The best example is that of the financial institutions, whose failings cause losses of confidence that work against the stability of the financial system and that of the whole economy. Something similar occurs with

the large industrial firms, whose health is often regarded as an indicator of the state of the whole sector and as a responsibility of government. Their paralysis is reflected in sharp falls in employment, since the machines cannot be moved to other activities, and is often forestalled by government subsidies, which tend to correspond to only a small fraction of the fixed costs. In the short term the economic and, of course, the public costs of maintaining them in operation always seem too small to justify their closure. Hence in practice no government allows the bankruptcy of large enterprises during its term of office.

Moreover, the groups are so organized that the finances of the different activities are independent. This is why it is common practice to register the enterprises in the name of different persons and to generate losses in some activities in order to make profits in others. Naturally, the simultaneous action of the groups in activities of different types which have no solidary responsibility leads to forms of conduct out of keeping with the traditional concepts.

This institutional framework has conferred on the groups of power of administering a public good. They are in a position to take possession of the benefits of activities which affect a large part of the population. Naturally their aim is to seize and concentrate the profits of the good periods in the hands of the owners of the groups and to transfer the losses of the bad periods to the government and to shareholders who do not belong to the organization.

The best example of this is found in the economic crisis of recent years. The groups took action to obtain government subsidies to avoid bankruptcies among the large enterprises. The economic boom of the late 1970s ended in far-reaching State intervention in the principal banks and in the large enterprises to avoid their disappearance.

No less indicative has been the action of the groups to the detriment of the shareholders who do not belong to them. We saw earlier that the economic groups are in a position to distribute the profits which go specifically to the ordinary members, and even to influence the price of their shares. Moreover, there is evidence that the illegal operations which led to the penalizing of the groups were the result of practices designed to

transfer the losses to the small shareholders. The best-known of these practices consisted in causing brusque changes in share prices in favour of the members of the group, through speculative procedures supported by fictitious enterprises.

It is clear that the groups operate in a typical game of large positive elements.² The expected value of the gains is greater than zero, increases with the number of activities and constitutes an indefinite stimulus to expansion. The only limiting element to their activity is credit and liquidity and perhaps the administrative diseconomies which result from operating in a large number of different activities.

The expansive capacity of the groups led to the assumption that they had an enormous potential for making heavy investments of high risk. It was not noticed, however, that activities of this type were not the most attractive of the features and options of the capital market. If the profitability of existing firms were greater than that of new investments, it was only natural that the groups should direct their efforts to obtaining the most benefit from that situation. Hence their organizations ended by being particularly effective in taking rapid action with a substantial supply of liquidity in a large number of activities. Their profits derive from activities of speculation and transfer rather than from the creation of wealth.

Thus, the groups succeeded in setting up organizations which were highly efficient in the management of liquidity and in obtaining advantages in a game of large positive elements. It was difficult to conceive a framework more propitious for obtaining advantages from the distortions and imperfections of the capital market. Naturally, the benefits of a structure of this type did not stem from the efficiency attributable to the virtues of the market. On the contrary, they originated in its weaknesses.

²In all games there are winners and losers. The former reflect the positive elements and the latter the negative. In a zero sum game, which is usually the case in sports, the positive elements equal the negative. The groups participate in a zero sum game or in a slightly positive sum game and are highly likely to win in numerous activities. Thus, they operate in a game in which they obtain large positive elements.

5. *The heterogeneity of capital markets*

One of the weaknesses of economic theory is its assumption that all markets behave in the same way as the markets of homogeneous and perishable products. The adjustment of these markets takes place rapidly, and producers tend to assume that the rise in the relative prices of their articles is temporary, or at least that the profits resulting from storing them are slight. Supplies and demands would be in permanent equilibrium and expectations would be formed on the basis that interest rates tend to remain relatively constant. In contrast, because of imperfections and the delayed response of supply, asset markets exhibit sluggish adjustments. Investors, knowing that the prices of these goods are exposed to cycles that may last for several years, tend to interpret the variations in relative prices as a sign of something that will continue to happen in the future. A speculative demand thus arises which helps to amplify these fluctuations. Thus the rise in the prices of shares and property creates expectations which intensify it.

This error of appraisal is evident in the usual formulations of the financial market. As in the case of homogeneous products, it is assumed that the market is permanently in equilibrium and that the interest rate reflects the scarcity of funds. We have seen, however, that assets are highly complementary to credit and that the alterations in the markets of physical assets are inevitably transferred to the financial market. The adjustment problems of one market are manifested in the rest. Thus, the tendency of individuals to assume that price rises lead to greater increases in the future causes an expansion of the demand for goods and credit which leads in the end to a rise in interest rates. Hence a result is obtained which is contrary to the orthodox theory. The prices of physical assets and the rate of interest move in the same direction.

The presence of economic groups has also helped to change the characteristics of adjustment. These groups operate within a game of large positive elements which enable them to withstand losses in some activities for certain peri-

ods. Profits are generated over long periods and are sometimes realized at the moment of the transactions. Consequently, the decisions of the groups are not very sensitive to temporary price changes and their general attitude is to finance temporary losses by the expansion of credit. It may be that the rise in the prices of assets and the increase in interest rates will end in a greater demand for credit. This behaviour has been facilitated and intensified by the link between the financial institutions and industry. The financing of enterprises is not subject to the provision of guarantees and to bank filters capable of making it conditional on a general situation which will guarantee the amortization of the debt. The groups, on the whole, are ready to carry out these operations with their banks as long as the enterprises generate income which will enable them to maintain their loans indefinitely.

It is evident that the characteristics of the financial institutions and industry. The financing of enterprises is not subject to the provision different from those of the competitive markets described in textbooks. In the latter, forces of different kinds are assumed to be present which tend to regulate and stabilize the market. In contrast, the monopoly markets can be exposed to permanent pressure, both in periods of expansion and those of contraction, to maintain and expand their indebtedness. The demand for credit would be infinite, or at least far greater than the supply, and this would lead to high real interest rates and, what is worse, would introduce great instability into the system. There is nothing to prevent and regularize the increase in the prices of assets and interest rates. The process may be prolonged and lead to a total collapse of the system.

The infinite demand for credit is a short-term phenomenon. The rise in the prices of assets and interest rates gradually leads to a state of insolvency. The power of expansion of the groups may prolong the process for several years, but it does not prevent collapse, which generally results in the failure of the banks and industrial firms and in heavy losses for savers. Asset prices and interest rates fall abruptly.

II

The Colombian experience

The Colombian economy developed during the 1960s with a highly regulated financial system. Credit was directed by the government into activities regarded as productive; interest rates and the characteristics of securities were fixed by the economic authorities; and private external indebtedness was limited to certain projects. Financial liberalization was based on two types of policies. On the one hand, the banks were authorized to negotiate the interest rates on loans and to fix the returns and characteristics of financial securities. On the other hand, part of banks' portfolios was given freedom of action, the field for development funds was reduced and the mechanisms of bank supervision were weakened.

The liberalization of the Colombian economy cannot be compared with that which took place in other Latin American countries. For example, Argentina and Chile went much further, above all in relation to credit. In both countries the banks were authorized to distribute their portfolio as they chose and the restraints on procuring foreign credit were lifted. In Colombia, in contrast, the liberalization of credit was only partial and external credit remained under central government control.

1. *The liberalization of credit and of financial assets*

Prior to the liberalization, the economy operated with a system of regulated interest rates and directed credit. Resources were primarily assigned to entrepreneurial investment. Credit for the remaining activities, such as durable goods and speculative activities, was rationed, and it was therefore necessary to pay a higher rate than that fixed by the monetary authorities.

Naturally, the financial liberalization resulted in the movement of funds into restricted activities. This process was clearly visible in the financing of durable goods, for which there was a notable increase in demand. The price of housing reached record heights and there was a striking

rise in expenditure on cars and electrical household appliances. Moreover, in this latter area there was a gradual rise in interest rates, as a result of the practice of paying and accepting exaggerated interest rates for credit.

The most interesting case was connected with the large enterprises. The traditional constraint on the mobilization of credit for the acquisition of existing activities together with quantity restrictions kept down the price of these enterprises for a long time. This behaviour was a simple sequel to the complementarity between liquidity and the control of large enterprises. The liberalization of credit opened the way to their purchase at prices below their real value. But this option was confined to the groups which had access to financial resources and possessed the organization necessary for managing the enterprises. The practice of acquiring enterprises with credit granted to them by financial institutions appeared attractive and soon became widespread.

This development created a strong link between industry and the financial sector. The groups acquired firms in most cases with credits in their favour. The indexes of indebtedness rose markedly, their prices went up progressively and the financial sector became more vulnerable.

The figures given in table 4 show the evolution of share prices before and after the financial liberalization. An exact cross-section cannot be established because the process was developing for several years. Nonetheless, the chief measures on the subject were adopted during the period 1973-1975 and were followed by a time-lag, which it is not easy to identify, because of a marked change in the real prices of shares. These increased appreciably between 1976 and 1979.

The evolution of share prices shows clearly that the adjustments were not in accordance with the traditional criteria of competition. The drastic fall in prices and the subsequent recovery suggest that the enterprises were initially undervalued and later overvalued. This behaviour can only be understood in the context of the

Table 4
COLOMBIA:
INDEX OF REAL PRICES OF SHARES AND HOUSING
AND REAL INTEREST RATE, 1971 TO 1982

Year	Real share prices	Real hous prices
1971	76.1	
1972	57.8	
1973	52.0	
1974	41.9	
1975	30.2	
1976	30.8	
1977	33.3	
1978	45.6	64.5
1979	50.4	81.9
1980	22.8	100.0
1981	39.8	111.6
1982	25.1	108.6

Source: Share prices (including all shares traded on the Bogota Stock Exchange): Bogotá Stock Exchange; housing prices: National Centre of Construction Studies (CKNAC); interest rate: Bank of the Republic.

optimistic expectations which accompanied the financial liberalization.

The rapid rise in the prices of the enterprises seemed in some degree to confirm the initial assumption that they were undervalued and to give grounds for assuming that there would be additional increases, which ended in an increasing acceleration of prices.

No less important was the liberalization of financial assets. Sarmiento (1984a, chapter vm) shows that in the 1960s financial options in Colombia were limited to the shares of joint-stock companies, the certificates of the Banco Central Hipotecario and a few transferable assets, whose returns were, in general regulated. The financial liberalization modified this structure by authorizing financial intermediaries to issue bonds of any type and to be free to fix the returns. Its defenders considered that the discretionality of the financial intermediaries would be very efficiently regulated by the market, which would operate as a filter to select the socially, most beneficial alternatives. In such conditions the returns on bonds would be fixed according to their liquidity and the predominant maturity period would correspond to that which made the capital market most efficient.

The weakness of these hypotheses lies in their disregard for the role of liquidity. In the Colombian economy there is ample evidence of its importance. The estimates of the elasticity of substitution suggest that individuals require an enormous reward in order to move from a short-term asset to one of long duration. Apparently the maturity period is not determined by the profitability of funds in productive activities but by that of those in speculative opportunities. The validity of this appraisal is confirmed in the light of what took place when the capital market was liberalized in Colombia. Sarmiento (1984a, chapter vu) shows that the appearance of short-term bonds created a competition that could not be sustained by long-term bonds. Through their market preference for liquidity, individuals were only ready to maintain long-term bonds with enormous differences in interest rates. Moreover, the economic groups did not make much effort to avoid this. On the contrary, they followed a policy of restricted distribution of profits which accelerated the fall in share prices and caused the withdrawal of ordinary shareholders.

The presence of these factors had a marked effect on the financial structure of firms. These took aggressive action to replace the resources obtained through shares with loans from the banking system. But this action did not depend only on them. The short-term resources supplied by savers could not be directly transferred to enterprises which need loans of a certain duration in order to undertake long-term activities. The connection had to be made through financial intermediation. As the banks are open to deposits and withdrawals which, by the law of probabilities, do not take place simultaneously, they are in a position to receive short-term resources and issue them as long-term loans. Thanks to this, enterprises have access to loans with longer time-periods than deposits and to the frequent renewal of their short-term credits.

The dependence on credit created a powerful link between the industrial sector and the financial sector. The stability of the enterprises remained dependent, to some extent, on the willingness of the financial institutions to transform short-term resources into long-term ones. Moreover, the shifts of financial assets affected the structure of economic power. The control of firms is easier when liabilities are represented

mainly by credit, because the real assets can be obtained with a smaller holding. Credit, then, is seen to be a determining factor in the administrative organization of the capital market and access to it results in monopoly powers.

2. The financial-industrial link

The financial liberalization created opportunities of huge profits in the use of credit to acquire goods and raised the profitability of the interrelated operations of industry and the financial sector. These opportunities were confined to organizations which had the capacity to manage large enterprises or to operate simultaneously in several activities. Hence the financial liberalization coincided with the strengthening and expansion of the economic groups.

Unfortunately this strengthening originated in the main in the monopoly powers obtained through access to credit and the advantages obtained from the link between industry and the Financial sector. The most visible activities of the groups were in transfer operations, which required rapid decisions and liquidity, and in the acquisition of existing enterprises. Hence their expansion was reflected more in the price of the enterprises than in the volume of new investments. Nor did it result in more efficient activities. The balance sheets show that the profits of the ten largest enterprises in Colombia declined in the last five years and that several of them are now operating at a loss. Something similar occurred with the financial system. Ortega and Hommes (1984) disclosed in a detailed study that the profitability of the banks declined between 1979 and 1984. The closer linkage between the financial system and industrial activities did not create more efficient enterprises or financial intermediaries. The large profits that it apparently brought with it were more the result of transfers than of the creation of new wealth.

The strong link between the enterprises and the banks robbed the economic system of room for manoeuvre. This was clearly seen in the period 1980-1983. The traditional procedure for absorbing the losses of enterprises brought on by a fall in sales consisted in reducing dividends. This adjustment mechanism lost its efficacy when the enterprises of the groups became de-

pendent on credit obtained from their banks, and was replaced by the system of simply not honouring financial liabilities. The covert form of doing this in practice consisted in increasing the indebtedness by an amount equal to the interest on the previous debt. Thus the entrepreneurial weakening which took place, instead of resulting in a fall in the demand for credit (which in the long run would force down interest rates), led to increasing indebtedness.

The most serious result of this structure has been instability. On the one hand, the dependence on short-term indebtedness has reduced enterprises to a permanent state of insolvency, which has interfered with their programming and jeopardized the position of the banks. The increase in indebtedness coincided with a rise in the portfolio of bad debts which has reduced the banks' capacity to take risks. Bank failures have increased and the State has had to create substantial subsidized credit lines to avoid the disappearance of large enterprises. On the other hand, the concentration of portfolios in the holdings of the groups is contrary to the principle of diversification of risks and made the economy more vulnerable. A defect in one small part of the structure is enough to cause the fall of the group and create chain reactions in economic activity.

It is evident that financial liberalization did not stimulate competition among multiple economic agents. In practice what was created was rather a monopoly competition which did not even result in an increase in the number of groups, because the bigger the conglomerate, the bigger were its opportunities. The larger groups proceeded to acquire multiple activities and to expand to an extent never before conceived. The concentration of ownership was greatly intensified, and just a few conglomerates managed to gain control of a large part of the economy.

3. Interest rates

One of the most noteworthy aspects of the liberalization process was the rise in interest rates. It was natural that financial liberalization, in making resources accessible to a larger number of activities, should provoke an expansion of demand for funds and end by raising interest

rates. The levels observed in practice, however, were much higher than might have been predicted for systems of perfect competition, and real interest rates settled at levels well above the estimates of the marginal productivity of capital. Nor did the assumption of competitive models prove correct, according to which such rates could be regulated through the expansion of credit.

The rise in the prices of property caused by financial liberalization created an atmosphere of optimistic expectations. There was clear corroboration of the hypothesis that in these conditions markets fail to behave in accordance with the dictates of equilibrium models. For individuals interpreted the variation in the relative prices of property as something that would continue in the future. A speculative demand for goods and credit was generated which drove up these prices. Hence the price of shares, the price of housing and interest rates all rose during 1975-1979 (see table 4).

The assumption that, just as speculation had at the outset caused a rise in interest rates, so it would finally produce the opposite effect, was not borne out. During the financial collapse which began between 1980 and 1981 the fall in property prices was not accompanied by a drop in interest rates. This behaviour may be interpreted in terms of the concepts expounded in the first part. At the end of the speculative period it is found that the prices of assets have risen to a level above normal, and their maintenance at that level requires great liquidity on the part of the debtors. Indebtedness is incurred to finance both past loans and the prevailing interest rates. The reluctance to liquidate assets at lower prices results in a demand for credit similar to or even greater than that observed at the beginning of the boom. To put it simply, the credit which produced the rise in the prices of existing assets turns later into a demand for more credit to prevent their fall. Thus, the tendency of real interest rates to remain above the marginal productivity of capital both in periods of expansion and of contraction is a powerful argument in favour of the hypothesis that such rates are determined by speculative factors. The demand for liquidity results from the efforts both to obtain profits and to avoid losses.

Let us now consider the relationship between the high interest rates and the strengthening of the financial groups observed during recent years. The origin of the two phenomena is similar. We have seen that the groups which owned banks found that the most profitable option was to employ the funds received by the banks to acquire existing and related enterprises. At the same time, the groups which had no financial property moved to obtain bank resources and acquire financial institutions. In this process, credit appeared as a central element for the development of operations of high profitability.

The demand for credit increased and put pressure on interest rates. We saw above that, as long as the stock market was dominated by ordinary shareholders, share prices were very sensitive to the interest rate. However, this relationship tends to weaken as groups acquire the assets of the ordinary shareholders and intensify their control over the firms. Decisions cease to be sensitive to temporary changes and become more dependent on long-term profitability and on the monopoly powers of the enterprises. Adjustment is not governed by current returns and prices but by the play of large positive elements. In these conditions, the reduction of the profits of enterprises does not lead to a process of liquidation, resulting in a reduced demand for credit. Consequently the decisions of the groups in relation to credit are not very sensitive to the current interest rate.

On this point it is not difficult to synthesize the effects of the financial changes on interest rates. The high levels cannot be attributed merely to the elimination of administrative restrictions. They are mainly explained by the phenomena generated by the liberalization of a market exposed to serious rigidities and distortions. Credit was mobilized to acquire firms which were clearly in a state of disequilibrium, in the sense that the limitations imposed by liquidity had suited their market values below their real values. The greater demand, in conjunction with the presence of adaptive expectations in the stock markets, provoked a rise in the prices of assets which was interpreted as a sign of similar increases in the future, thus causing the demand for credit to expand even further and disassociating access to credit from the situation of the enterprises. In this context, interest rates could

stand at any level and would not be very sensitive to variations in credit. Not even financial collapses succeeded in lowering them to reasonable levels.

4. Efficiency, saving and investment

The liberalization of the financial sector was justified in terms of efficiency (McKinnon, 1973). On the one hand, it was assumed that high rates of interest would cause an increase in saving. On the other hand, it was hoped that freedom to mobilize funds and interest rates would create a favourable framework for directing resources into the most profitable activities. It was also assumed that the organization of the economic groups was very effective for channelling resources into activities of high risk and large scale. With this frame of reference it was taken for granted that the greater saving resulting from the rise in interest rates would be shifted into the most productive activities. All this led to predictions of an increase in amount and improvement in the quality of investment and an acceleration of growth.

The supporters of financial liberalization took a very optimistic view of the relationship between saving and interest rates. This link has been the subject of a long and inconclusive debate, which need not be revived in this article. Part of the analytical difficulty lies in the fact that the variations in interest rates, since they were relatively small in practice, did not have an appreciable effect on saving. It was known that a change of two points in the interest rate did not affect the consumption habits of families, but the impact of variations of 6 or 7 percentage points was unknown. Thus, the magnitude of the rise in interest rates which occurred during the financial liberalization process provided something approaching a laboratory setting for elucidating the question.

Sarmiento (1984a, chap, vi) shows that the influence of interest rates on saving in Colombia is very slight. The variations in saving are mainly explained by the fluctuations of the external sector and by fiscal policy. Ramos (1984) found a similar behaviour pattern in Argentina and Chile. Table 5 shows that the rate of saving did not increase in these countries in 1975-1982, when interest rates reached their highest levels.

Table 5
ARGENTINA, COLOMBIA AND CHILE:
NATIONAL SAVING AND INTEREST RATES

	<u>Argentina</u>		<u>Colombia</u>		<u>Chile</u>	
	Saving	Interest rate	Saving	Interest rate	Saving	Interest rate
1970	20.4		17.8		15.7	
1971	21.5	-15.4	16.6		13.1	
1972	21.6	-23.5	16.9		6.5	
1973	21.4	-14.8	18.2		7.9	
1974	19.8	-12.4	19.5		16.8	-40.8
1975	18.5	-67.6	16.6	6.8	7.6	127.1
1976	22.8	-62.0	18.1	8.2	11.7	17.7
1977	26.2	15.4	20.1	-0.4	8.4	34.1
1978	23.9	0.4	19.5	7.6	8.1	35.1
1979	21.2	-2.2	19.0	11.9	11.6	16.6
1980	18.7	5.7	18.8	11.8	14.1	12.0
1981	15.0	19.3	18.3	13.4	7.8	38.7
1982	15.4	11.4	17.0	13.7	0.5	35.1
1983	12.8		17.6	19.0	5.9	

Source: Saving: ECLAC; Interest rates: Argentina and Chile, J. Ramos (1984); Colombia: Bank of the Republic.

These findings contrast with the trend as regards financial securities. In table 6 it will be seen that the rise in real interest rates was accompanied by an increase in savings deposits.

Table 6
COLOMBIA: RATIO BETWEEN FINANCIAL
SECURITIES AND THE GDP

v Year	Annual balances	Annual increments
	GDP	GDP
1971	6.5	0.7
1972	6.4	0.4
1973	8.7	2.6
1974	8.8	0.7
1975	9.7	1.5
1976	13.0	3.6
1977	19.3	2.0
1978	15.2	1.7
1979	15.2	0.5
1980	19.1	4.8
1981	21.9	4.8
1982	22.3	0.0

Source: Bank of the Republic and author's estimates. Financial securities include all savings deposits and bonds, but not shares.

How can this behaviour of time deposits be reconciled with that of global saving? The first explanation is that part of the increase in time deposits originated in shifts from other holdings. Thus, in Colombia financial securities displaced direct investments in enterprises and securities sold in informal markets. Furthermore, much of the expansion of financial saving derived from the income generated by the high interest rates, which constitutes a transfer from the enterprises. This outgoing signifies lower share prices or smaller profits.

These adjustments affected the behaviour patterns and relationships of the economic agents. Heretofore, the decision to acquire shares or to engage in direct participation in firms virtually implied a like decision to invest, and so the profits of the enterprises were largely converted into physical capital. Financial liberalization, however, in stimulating the move to short-term securities, naturally favoured financial intermediation, thus weakening the direct link between saving and investment. The resources which previously went directly into investment came to depend on the discretion of the financial intermediaries, who in many cases found it expedient to divert them into other activities. During the financial liberalization there was an increase in credit destined for the acquisition of durable goods and speculative activities such as the purchase of existing enterprises. It might be thought, however that since the resources employed in these speculative operations, were simple transfers, they need finally end up in new activities. This observation would be correct if the adjustments occurred in a short space of time. But what has happened in practice is that the resources pass from one set of speculative activities to another, and in this process the interest

rates remain at high levels which prevent the transfer of resources to productive activities.

None of this rules out the possibility that the rise in interest rates may have helped to increase the saving of some economic agents. But this increase, assuming that it occurred, was more than offset by the shift of credit to consumer durables and speculative activities. In reality, the effect of the financial reform was not to increase saving but to expand financial intermediation. The error of interpretation lay precisely in the assumption that the two concepts are equivalent.

The greater scope for mobilizing saving did not direct it into productive activities. In the first place, it favoured a shift of resources into durable goods and speculative activities which had been restricted by the systems of directed credit. Secondly, the greater access to credit did not result in greater competition among the economic agents to mobilize it, but in greater flexibility for the economic groups. These employed their banks to direct it to the acquisition of enterprises whose prices were depressed by the shortage of liquidity and to interrelated enterprises which enabled them to strengthen their monopoly powers. Nor was it the case that the groups, because they had less fear of taking risks, would undertake large-scale investment. On the contrary, they showed a clear preference for activities of transfer and speculation.

Finally, the high interest rates generated by the liberalization were not the reflection of the high profitability and efficiency of the enterprises which obtained the credit. On the contrary, they were the result of the marked preference for liquidity, for the purpose of obtaining speculative gains or preventing losses due to falls in the prices of assets.

III

Conclusions

The theoretical arguments put forward in Part I sought to identify certain outstanding features of the economic system which differ from the neo-classical conception of the capitalist market. Some of these elements were observed during the Financial liberalization process and later during the recent crisis. The following section presents a summary and practical assessment of their general repercussions on the functioning of the economy, along with the information which gives them empirical support.

The complementarity between physical goods and liquidity runs counter to many simplified versions of the orthodox view. Neoclassical theory is based on the assumption that different goods are highly substitutable. It is considered that individuals are in a position to obtain a certain good in so far as they sacrifice others. In the formal conclusions of economic theory it is shown that, in such conditions, changes in one market affect the others without modifying their particular features. Hence there is a tendency to treat the processes of supply and demand in the capital market and the determination of interest rates in isolation from the rest of the economic system. This is not so when the goods are complementary, however. In this case, changes in one market can destabilize the functioning of another which operates satisfactorily when left to itself. It is not difficult to show that complementarity between large enterprises and liquidity introduces a linkage of similar type. The limitations imposed by liquidity are transferred to the market of the large enterprises and the inelasticity of the latter's supply is passed on to the credit market. Both markets tend to operate in disequilibrium in the sense that the desired demand is greater than the supply.

The complementarity of liquidity and large enterprises is confirmed by factors of various types. To begin with, the greater access of individuals to credit made existing enterprises more marketable. The increase in indebtedness recorded in the period 1976-1980 coincided with a larger number of transactions and a rise in their prices. The direct relationship between the

prices of durable goods and the interest rate is a further proof of complementarity. This behaviour would not be observed in conditions of equilibrium. On the contrary, it is the result of situations of imbalance created by complementarity, the low supply elasticity of large enterprises and of some durable goods, and the prevalence of adaptive expectations.

The presence of economic groups invalidates the classic hypothesis that the capital market is the result of competition between a large number of individuals. The action of these groups in a game of large positive elements unleashes a monopolistic competition to maintain and expand credit resources. In addition, the traditional role of the banking system in regulating and rationing out this demand is diminished in an interdependent structure of creditors and debtors. The financial market is deprived of mechanisms to orient the funds, interest rates reach excessively high levels, and the system tends to be highly unstable. There is nothing to prevent an indefinite increase in the prices of physical assets and in interest rates.

The way the groups act in a game of large positive elements was clearly corroborated when the financial crisis arose. The losses of the banks and of the enterprises of the groups were not covered by the profits obtained in the past or in other activities. The State had to capitalize the banking system to compensate for the overdue portfolio, which in many cases was made up of loans to subsidiary enterprises, and to grant lines of credit with subsidized interest rates to industrial enterprises. At the same time, small savers suffered heavy losses through the incapacity of the financial institutions to return their deposits and through the spectacular fall in the prices of shares. There are also indications that this game leads to a competition in which not many survive. The groups took possession of a large part of the economy and the portfolios of the financial system were concentrated in a few hands.

There was no corroboration of the general assumption that the financial market is stable and

achieves gradual adjustment. The rise in the prices of shares and durable goods and interest rates recorded in the period 1976-1979 suggests the contrary. The system can operate in disequilibrium for long periods thanks to the complementarity between credit and physical assets and to the inelasticity of the supply of large enterprises and of some durable consumer goods. Moreover, the system can be highly unstable through the presence of monopolies and the prevalence of adaptive expectations.

The facts did not substantiate the hypothesis that liberalization of the Financial sector results in an expansion of saving and investment which subsequently leads to greater economic growth. As it was assumed that the administrative regulation of interest rates had depressed saving and this had reduced investment, it was regarded as certain that the lifting of restraints would radically modify these conditions. The main error of this reasoning lay in assuming a high elasticity between saving and the interest rate. Another serious error was to imagine that the constraint on saving had affected entrepreneurial investment. In general it was observed that the elimination of the restriction facilitated the transfer of funds to durable consumer goods and speculative activities.

•Nor is it true that saving is automatically channelled into the most efficient investments. The characteristics of the financial markets tend to stimulate the movement of funds into durable consumer goods and the acquisition of existing enterprises. The best evidence of this is found in the expansion of external saving that occurred in

the 1960s and 1970s. The inflow of external resources in those years was mainly destined for consumption and the financing of physical infrastructure (Sarmiento, 1984b, chap. III).

The simultaneous presence of these elements gives rise to a financial structure which is very different from the traditional concepts. The complementarity between large enterprises and credit, the activity of the economic groups in a game with large positive elements and the predominance of adaptive expectations create a capital market which is highly unstable and unable to generate the signals for mobilizing resources into the most appropriate activities. The system is exposed to increases in the prices of physical assets and in interest rates and to a concentration of financial portfolios. Private profitability is not achieved by the more efficient conduct of activities but by the exploitation of the imperfections of the market and of opportunities for speculation. Moreover, the inelasticity of saving with respect to interest rates, the fact that the elasticity of entrepreneurial investment in relation to interest rates is greater than that of durable consumer goods, and the high profitability of existing enterprises all combine to deter the preferential movement of funds into productive investment. The free movement of funds and the high interest rates do not guarantee the most efficient allocation of resources, as orthodox theory maintains.

In this context there is an evident need for State intervention in order to guarantee the stability of the financial market and to mobilize resources towards more appropriate activities.

IV

Policy repercussions and reforms

The imperfections of the financial market originate in the characteristics of the economy and in institutional factors. The former are inherent in the system and are associated with complementarities, low supply elasticities and the delay in market adjustments. In general, little can be done to modify them. In practice, the options

are reduced to measures designed to moderate their undesirable effects. On the other hand, the institutional factors, which are particularly related to the economic groups, offer more room for manoeuvre, and several of them are susceptible of being radically changed.

The imbalance created by the com-

plementarity between liquidity and physical assets cannot be corrected by a general expansion of credit. As we have seen, this expedient does not modify relative prices or the real quantity of money, and ultimately it does not alter the effective demand for durable goods. It is a distortion which can only be lessened through State intervention in resource allocation. But this is not possible without a strengthening of the traditional mechanisms of directed credit. The systems of development credit would have to be improved in order to favour the movement of resources into new investments. Moreover, bank loans would have to be subject to strict control and supervision to prevent their diversion into the purchase of existing properties or the acquisition of durable consumer goods.

We cannot ignore the institutional difficulties of carrying out a policy of this type. It is possible that the instruments will be used in accordance with the political priorities of each government or in response to the pressures of the economic groups. For this very reason the viability and desirability of a system of directed credit are dependent on the existence of development banks which maintain some degree of continuity and are not subject to political conditions and pressures. This is by no means an impossible proposal, however. There are several examples of institutions which have succeeded in liberating their activities from political considerations. A good example is found in the activities of the energy and mining sector in Colombia, where there has been marked continuity during the last ten years without much political interference. There are also more general examples. Thus, the development banking system in Mexico has achieved suitable orientation of resources by adhering to relatively stable programmes established in the development plans. Perhaps the first step in obtaining an autonomous credit structure would be to establish a general body responsible for the mobilization of development funds and to give it a series of specific functions which would limit the possibilities of political or group pressure. It is not the purpose of this paper to analyse the institutional framework required for the functioning of such a body. It may be assumed, however, that it would not be very different from certain bodies which, through boards composed of offi-

cial of the Executive and independent experts, have achieved some autonomy in the performance of their functions.

State intervention should also be extended to interest rates. Experience shows that high interest rates do not materially alter saving, but they do discourage investment and raise the operational costs of enterprises. Naturally, market solutions have little chance of orienting a variable determined by economic distortions and speculative conditions. The effective control of interest rates calls for the application of administrative mechanisms. The experience of the 1960s, however, shows that negative interest rates created enormous deviations of loans and stimulated a demand for credit which seriously hampered the control of the money supply. The maintenance of this structure seems much more difficult in the present conditions of openness of the world economy and with the returns prevailing in external markets. In these conditions, the interest rates must be positive, but not by more than one or two points.

There should be a change in the conditions which give advantages and monopoly powers to the groups. The privilege of administering public goods should be eliminated. A clear definition is needed of the activities which ultimately require State intervention, and they should be subject to a treatment similar to that envisaged in bank legislation. The State should have the faculty to intervene in these activities when it considers that they are being administered in a way which does not benefit society or the shareholders.

The composition and organization of the groups should also be a matter for open decision. Recent experience shows that the existing legislation has facilitated their expansion by ignoring them. The correct course would rather be to define a series of presumptions and conditions which would force the groups to reveal themselves as such and to respond in a solidary manner with regard to the different activities administered and controlled by them. In this way the losses suffered in some activities would have to be covered by profits obtained in others. The game of large positive elements would thus become a fairer type of competition.

The regulation of associations among economic agents is the field which calls for the

most innovative reforms. The development and consolidation of economic groups originated in the desire of governments to facilitate the establishment of organizations capable of undertaking projects of high risk and large size, which has been one of the most serious constraints on economic growth. The link between the financial and industrial sectors, however, resulted in organizations which were very skilful in speculative operations. Their prohibition would not prejudice the capacity of the economy to undertake large investment projects. On the contrary, it would stimulate the creation of self-sufficient organizations with a greater capacity for devoting themselves exclusively to productive activities. It would be a decisive step towards achieving the development of a stable financial sector that would favour investment.

We cannot overlook the fact that the enterprises succeeded in replacing the long-term financing of shares by short-term credit thanks to their control of the banks. If that link disappeared, the enterprises would not have the same guarantees for prolonging short-term loans. They would find themselves under pressure to follow a realistic policy of dividends in order to attract small shareholders and thus achieve a better structure of liabilities. The development of the stock market would be facilitated by a structure in which the two sectors are independent. The same would also occur in the opposite sense; the formation of an independent structure would be facilitated within the framework of an advanced stock market.

The feasibility of a structure in which the financial and industrial sectors are independent is conditional, therefore, on the formation of a capital market based on securities with a longer period of maturation. The issue of securities cannot be left to the entire discretion of the financial institutions. Some administrative and economic action is required to encourage them to offer bonds with longer maturation periods. Moreover, it is essential to reorganize the stock market.

Dividend policy should be regulated and supervised so that the dividends reflect the real situation of the enterprises. Taxes which discriminate against shares should be eliminated and perhaps replaced by incentives. The necessary institutional conditions should be created for the development of secondary markets.

The desirability of associations in the financial sector is much less clear. Experience shows that thanks to these some entities were acquired with loans granted by others, ending in a crossed and highly concentrated system that enabled the limits on capitalization to be evaded. The solution, however, does not lie in a structure based on totally independent institutions. The universal trend is in the direction of the joint supply of bank services, and in some studies it is indicated that this has brought with it appreciable economies of scale (Bernai and Herrera, 1983). The most practical solution would be rather to establish norms setting out the solidarity between different institutions and prohibiting the granting of credit to acquire the properties of the group. This measure would eliminate the factors of instability, while preserving the advantages of the provision of bank services on a large scale.

The linkages in the industrial sector are largely determined by natural reasons. The dynamics of industrialization generate processes of learning and experience which can be exploited by investments in allied activities. Any attempt to interfere in this natural process would delay the possibilities of technological diffusion and transfer. Even so, the practice of acquiring activities simultaneously in the industrial sector cannot be left to the discretion of the private sector. As in the financial sector, these associations must be declared and must involve legal solidarity. Moreover, they should only be authorized in those cases that are clearly desirable for society as a whole and they should be subject to strict supervision to prevent their use for monopoly purposes.

Appendix

The expected profitability of shares

The profitability of a share is equal to the dividends paid, plus the real appreciation of the price. This appreciation is unknown and introduces great uncertainty into the market. The means employed by individuals to infer it can be analysed with the help of elementary mathematics.

The profitability expected by individuals is equal, as we said, to the dividends plus the anticipated appreciation:

$$P_a \cdot \left(\frac{D}{P_a} + \frac{\Delta P}{P} \right)$$

Where D = dividend, P_a = price of the share, P = level of prices, $\frac{\Delta P}{P}$ = percentage of price variation, and $\frac{D}{P_a}$ = variation of the level of prices.

Let us suppose that the interest rate on fixed-income bonds, adjusted for risk, is r . In conditions of equilibrium this would be expressed as follows:

$$r = \frac{D}{P_a} + \frac{\Delta P}{P}$$

If the term on the left is greater than that on the right, individuals would sell their shares, thus provoking a fall in their real prices. If, on the other hand, it is less, the prices of the shares will rise. The alteration in the price of the shares will in its turn alter the dividend and the expectations of appreciation. Each variable will be cause and effect of the rest.

This process can be simplified by the introduction of some practical elements. Let us suppose that the share market is operating in conditions of equilibrium with a given dividend. If this dividend increases less than inflation, the return will tend to fall in the following period. If the conditions and possibilities of investment in other options do not vary, the individuals will try to sell their shares until their real depreciation is equal to that of the dividend.

This interpretation of the behaviour of the market is relatively simple and is known by most of the agents operating in the stock exchange. It is, in fact, possible to assume that individuals formulate their forecasts on the assumption that the depreciation of returns is accompanied by an equal depreciation of the price. In algebraical terms:

$$\frac{D}{P_a} - \frac{R}{D}$$

In equilibrium the following approximation would occur:

$$r = \frac{D}{P_a} + \frac{D}{D} - \frac{R}{P}$$

The term on the right of this expression can be calculated on the basis of historical figures of returns and inflation.

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