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**PENSION REFORM, THE STOCK MARKET, CAPITAL FORMATION AND ECONOMIC
GROWTH: A CRITICAL COMMENTARY ON THE WORLD BANK'S PROPOSALS**

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Abstract

Proposing far-reaching reforms to the pension systems, the World Bank has recently suggested that the existing pay-as-you-go pension systems in many rich as well as poor countries, should be replaced by fully funded, mandatory, preferably private pensions, as the main pillars of the new system. It argues that these reforms will not only benefit the pensioners, but also enhance savings, promote capital formation and economic development. This paper provides a critical examination of the Bank's theses and concludes that it has adopted a one-sided view of the relationships between the key critical variables. The proposed reform may therefore neither protect the old nor achieve faster economic growth.

[JEL Classification: E2, I10, G1]

I. Introduction

The World Bank, in an important and influential document (World Bank, 1994; hereafter referred to as the Report), has proposed far-reaching reforms to the pension systems in both developing and developed economies. Essentially the Bank argues that the current pay-as-you-go pension schemes which exist in many rich as well as poor countries, are seriously flawed and no longer serve the objectives they were intended to promote. The Bank proposes instead fully funded, mandatory, preferably private pensions as the main pillar of its new system. It suggests that these proposed reforms will not only be beneficial to the retirees and pensioners, but at the same time enhance savings, promote capital formation and economic development.

The Bank's critique of the extant pension systems as well as its proposed new pension regime, have been challenged by a number of writers. These contributions have, however, concentrated on the social policy implications of the Bank's analysis and proposals. The present paper will briefly review the debate on these issues, but its main subject will be a critical examination of the Bank's theses concerning the relationship between funded private pensions, the development and expansion of the capital markets, savings, capital formation and economic growth. Although the Bank's recommendations are universal in their scope and cover both rich and poor countries, this paper will concentrate on the latter where these particular issues are more salient.

It is however important to note at the outset that there is a significant potential linkage between the proposed pension reforms for the two groups of countries. Recommendations similar to those of the World Bank have been made in the recent period for advanced countries by the Swedish Economic Commission chaired by Assar Lindbeck (Lindbeck et al, 1994) and the Mortensen Report (Mortensen, 1993). These documents also recommend that the state pensions in European countries be largely replaced by privately funded pension schemes. The broader context for these European initiatives is the conventional wisdom among orthodox economists that the welfare state is responsible for the slow economic growth in Europe and that it is necessary to reduce state spending on social security in order to revive growth.¹

Reisen (1994) has gone further and linked what he regards to be the impending crisis of public pension systems in Europe with the development of stock markets in the Third World. He notes: "...to safeguard public finances, jobs, and performance,

¹ **Feldstein (1995) is apocalyptic in his reflections on these issues for the US. He ascribes the decline in the net national saving rate in the US from 8 percent in the 1970s to only 4.5 percent in the 1980s in part to that country's system of social security retirement benefits. He goes on to say that this decline in the savings "may not only create lower real incomes and slower growth but may weaken capitalism itself. In the United States, a decade of slow growth has increased protectionist tendencies in international trade and led to a new interest in industrial policies that expand the role of government in guiding the direction of technology and of private investment. In these ways, the government policies that discourage saving might make the Schumpeterian vision of a shift from private capitalism to a government-dominated economy more likely." (pp.399-400)**

expert reports...recommend unanimously the same: funded pension schemes have to be phased in - now!" In an ingenious proposal, Reisen suggests that in order to maximize returns on these privately funded pensions in rich countries, their assets should be invested on stock markets in developing countries. The shift of pension money from the aging to the emerging markets he argues, is, to use the economist's jargon, Pareto optimal: it will benefit both the developing countries (through the growth of their stock markets as well as a greater inflow of foreign capital) and the retirees in the "greying" economies (through higher rates of return).

The paper is organized as follows. Sections II will outline the Bank's analysis of the pay-as-you-go pension schemes as well as its proposed new regime. The social policy critique of these proposals will be reviewed in section III. The Bank's propositions with respect to funded private pensions, the development of the capital markets and economic growth will be closely analyzed in the following five sections. It will be argued here that the Bank's theses in this area are at best of doubtful validity. The proposed reforms may not only be not conducive to economic growth, but carry a serious risk of undermining it. Consequently, the reforms may not even meet the primary objective of providing adequate pensions for the aged.

II. The World Bank's Analysis and Proposals on Pension Reform

The World Bank's Report has two central themes. The first is the stringent criticism of the existing pension systems in both developed and developing countries, particularly the latter. The second is the advocacy of the Bank's own preferred system. The criteria by which the Report assesses alternative schemes are explicitly set out:

...that old age security programs should be both an instrument of growth and a social safety net. (p.9)

Specifically, it is suggested that these programs should help the old by (a) facilitating savings during their active working years; (b) redistributing additional income to those who are lifetime poor but "avoiding perverse inter-generational and unintended intra-generational redistributions"; and (c) providing insurance against the many risks to the retirees' pensions. In addition, it is suggested that a useful pension scheme for the old should also help the economy as a whole by: (a) minimizing distortions in the labour and capital markets and "other hidden impediments" to economic growth; (b) being sustainable in the long term in the changing economic and demographic conditions; and (c) actively promoting overall economic expansion.

The existing pay-as-you-go systems are condemned on both efficiency and distributional grounds. It is argued that these systems often lead to political promises of generous post-retirement benefits to workers, leading to high contributions, or, as perceived by the workers, high taxes. This in turn leads to tax evasion and switches to informal activities,

various other labour market distortions resulting in lower overall employment, reduced output and lower labour supply. In addition, these pension schemes are also thought to reduce economic growth from what it otherwise could be by failing to increase national savings, if not by reducing it. In short, the Bank claims that the existing social security systems have:
too often produced costly labour and capital market distortions and perverse redistributions to high income groups² while failing to provide security to the old - outcomes that are neither efficient nor equitable nor sustainable." (p.14)

The pension program recommended by the World Bank's Report has a three-tiered structure. At its core is a defined contribution, fully funded, mandatory private pension plan for each worker. This is supplemented by a public pension scheme of modest size with the "limited object" of alleviating old age poverty and co-insuring against a multitude of risks. The third tier of this system is a voluntary occupational or personal savings plan for those who want more income or insurance in their old age.

In this scheme the savings function is performed by the first tier, the redistribution by the second, and the insurance jointly by all three ("since broad diversification is the best way to insure against a very uncertain world").

The Report recognizes that in principle the mandatory funded core of the scheme could be either publicly or privately managed.

However, private management is preferred on the grounds of much

² **This is in part because the rich receive larger lifetime benefits than the poor because they live longer.**

higher rates of return achieved by private schemes than the publicly managed "provident funds" which many developing countries have. However, the Report goes on to observe:
Higher returns to contributors aside, mandatory, privately managed funded schemes offer economy-wide advantages. They can be part of a national policy to develop new financial institutions and deepen capital markets by mobilizing long-term saving and allocating it to the most productive uses, including uses in the private sector. For these reasons, the report strongly recommends that the funded pillar be privately managed. (pp.17-18)

In general, the Report favours privately-managed portable savings plans to occupational pension plans established by employers on the grounds that the latter lead to labour market distortions and can have adverse distributional consequences. The Chilean pension reform initiated in the early 1980s with its privately managed mandatory personal saving scheme is commended by the Report.³ It is essentially put forward as a model for other countries to follow.

III. The Social Policy Critique of the World Bank's Pension Reform Plan

The reform proposals outlined above, as well as similar ones put forward in the advanced countries, have, as noted earlier, attracted a considerable critical literature.⁴ These writings

³ **There is a large and growing literature on the Chilean model. For an excellent exposition, see Gillion and Bonilla (1992). See also Uthoff (1993), Ghillarducci (1995), Vittas (1992).**

⁴ **See Atkinson (1995), Beattie (1994), Wolfe (1994), Ghillarducci (1995), Gillian and Bonilla (1992), Beattie and McGillivray (1995).**

have questioned the kind of analysis and conclusions embodied in the Report on a number of grounds. Very briefly, these criticisms may be summarized as follows:

1. Many of the shortcomings of the public schemes analyzed by the Bank are equally, if not with greater force, applicable to private schemes. Moreover, it is suggested that the positive merits of the pay-as-you-go pension schemes in many countries, particularly industrial countries (e.g. reducing old age poverty, administrative efficiency) have been ignored by the Report.
2. In a detailed analysis of the Chilean pension scheme (the Bank's model), Gillion and Bonilla (1992) bring out the risks involved for the individual pensioner in such a scheme. These risks include the risk of personal misfortune (e.g. sickness, invalidity) and the risks associated with volatility in the rates of return on investment funds.⁵ In the opinion of the two authors, the scheme falls short of the standards imposed by the ILO Conventions on Social Security (Minimum Standards) and that on Invalidity, Old Age and Survivor's Benefits.
3. It is shown that the Chilean scheme has very high transitional costs, particularly for the government. These have been

⁵ **Such financial market fluctuations, which can be quite enormous, will greatly effect the retirees' pensions under this scheme. This point is taken up further in the following sections.**

estimated to amount to almost 5 percent of GDP in recent years which most other poor countries would be able to ill afford (Uthoff, 1993).

4. Although the Chilean scheme has 86 percent of the labour force affiliated to it, the compliance rate has been poor. Those actually contributing to the scheme have never been more than 55 percent of the labour force.
5. The Chilean scheme has adverse distributional effects. Not only is the compliance rate of the rich much higher than that of low-paid workers, the rich also earn higher rates of return on their investment funds.⁶
6. The scheme has high administrative costs compared with publicly managed provident fund schemes. These costs in the Chilean case amounted in 1990 to 15 percent of the contributions and derive in large measure from the fund managers' expenses on advertising and sales. By contrast, the corresponding costs in the case of Singapore's state-managed provident fund were about half of one percent (0.53 percent) of the contributions (Vittas, 1993).
7. The scheme is not only inequitable within social groups of the same generation, but unlike the pay-as-you-go systems,

⁶ **Vittas and Iglesias (1991).**

it does not provide for any inter-generational solidarity.

Beattie (1994) rightly notes that in view of the risks to the pensioners and other shortcomings outlined above, "it would seem inconceivable that the Bank's pension strategy could be justified on social policy grounds." Thus, if there is a rationale for this strategy, it must lie in the additional claim that the proposed scheme will enhance economic growth. The main channel through which this is to be achieved is increased long-term savings and the expansion and the deepening of the financial markets.

As the Report notes:

The mandatory saving pillar can be important for increasing long-term saving, accelerating capital market development, boosting investment in productive capital, and monitoring corporate performance. For countries where the current rates of long-term saving and capital accumulation are below optimal levels, such changes have the potential to enhance economic growth. But the allocation and productivity of this capital depend on whether the funds are publicly or privately managed. (p.208)

The following sections will closely analyze the supposed links between the mandatory pension scheme, long-term national savings, the development of the capital market, and long-term economic growth.

IV. Pension Funds and Capital Market Development

Essentially the chain of causation implicit in the Bank's argument of the relationship between the variables mentioned above may be put as follows. The promotion of private pension funds

leads to the expansion and deepening of the equities and bond markets. These developments in turn raise economic growth through the following channels: (a) by increasing aggregate savings and investments ; (b) by increasing the productivity of these investments. The reasons for (a) and (b) will be explained in the next section. In the meantime we consider here the prior question, whether or not private pension funds lead to the development of the stock markets in poor countries.

As Table 1 shows, there has been an enormous expansion of developing country stock markets around the globe in the last decade or so. Between 1982 and 1992, the total combined capitalization of companies quoted on the emerging markets included in the Economist's list rose from less than a hundred billion to nearly a trillion U.S. dollars.⁷ The corresponding growth in the combined capitalization of industrial countries markets was a little more than three fold - from three trillion to ten trillion U.S. dollars. A number of leading individual emerging markets (e.g. Mexico, Korea, Thailand) recorded over this period a more than twenty fold increase in total market capitalization of companies quoted on the stock exchanges. By the early 1990s, the latter figure for many emerging markets, whether considered in absolute terms or as a proportion of GDP, was greater than that for the average medium-sized advanced country

⁷ See further Feldman and Kumar (1994). It may be noted that the Economist's list of emerging markets includes both Hong Kong and Singapore. However, the International Finance Corporation (IFC) in its classification regards both these countries as developed markets.

markets in Europe (e.g. Sweden, Denmark and Finland).

In the context of the present discussion, it will be appreciated that this huge development of stock markets has occurred in most countries without private pension schemes of the kind advocated by the Bank. Indeed, as Vittas (1992) observes, "it is fair to say that few, if any emerging equity markets owe their impressive performance in the 1980s to the presence or impact of contractual savings institutions."⁸

Nevertheless, it may be useful to reflect here on the specific case of Chile, the Bank's exemplar country. The Report credits the pension reform with the development, expansion and deepening of capital markets in that country. Tables 2 and 3 provide information on the growth of pension funds and the stock market in Chile since 1981. Table 2 shows that cumulated pension funds rose from less than one percent of GDP in 1981 to nearly 40 percent in 1992. Under the Chilean pension fund regime, the funds (AFPs) were allowed to invest in the stock market only after 1985. Consequently, as the table shows, there has been a marked change since then in the funds' portfolio composition - substitution of bonds and bank deposits by equity shares.

Table 3 indicates that there has been a big increase in the volume and value of stock market operations and pension fund equity

⁸ For a detailed discussion of the reasons for the vast expansion of stock markets in developing countries during the last decade or so, see Singh (1995a).

investments in Chile since the mid-1980s. However, as Uthoff (1993) notes, "due to the fact that this period has been accompanied by high and stable GDP growth rates, together with important incentives for arbitrage of international interest rates causing large capital inflows and currency appreciation, we are unable to draw any direct causal effect between pension funds and stock market developments." In support of Uthoff's conclusion, it may also be observed that the expansion of equity markets in Chile is not out of line with that of other fast expanding equity markets in developing countries. It is equally significant that on some other principal indicators of stock market development, Chile does not do as well as a number of other emerging markets.

Table 4 shows, for example, that the number of listed companies actually declined in Chile over the period 1980 to 1992 (from 265 to 245 respectively) while in India the number rose from below a thousand to nearly three thousand.

The important point here is that if the purpose of the exercise is to deepen the stock market, it can be done in many ways other than through the development of private pension funds as the experience of emerging markets during the last decade shows. In other words, although in Chile private pension funds may have helped to some degree in the expansion of the stock market, these are in general neither necessary nor sufficient for capital market development. To conclude, therefore, even in the case of Chile, the first link in the Bank's chain of causation is far from being as strong or robust as the Bank would like the reader to believe.

V. Capital Markets and Long Term Economic Growth: Analytical Considerations

Turning now to the second link in the Report's causal chain relating private pension schemes to long term economic growth, how does the development of stock markets, banks and other financial institutions help achieve that objective? Following the earlier historical contributions of Goldsmith, (1969), Cameron (1976) and Gerschenkron (1962), and the theoretical work of McKinnon (1973) and Shaw (1973), there has been in recent years a large and a growing amount of research on this subject. One strand of this literature, which draws its inspiration from the endogenous growth models of Roemer (1989) and Lucas (1988) argues that financial intermediation, as well as the stockmarket, helps economic growth by (a) increasing the rate of investment and (b) improving the productivity of investments⁹. The markets and the intermediaries carry out the functions of screening and monitoring investment projects, which individual investors on their own will find too uneconomic to undertake. These intermediary and market functions help diversify systemic risk and enable individuals to participate in investment projects which otherwise they may not have been willing to do. Thus the economy experiences a higher rate of investment than would otherwise have been the case.

⁹ For a recent overview of these contributions, see Pagano (1993a).

Further, to the extent that the financial intermediaries (eg. Banks) directly, and the financial markets (through for example the take-over mechanism) are actually successful in carrying out these monitoring and screening tasks, this should lead to an increase in the marginal efficiency of investment.

In this paradigm the effect of the growth of financial intermediaries and financial markets on private household savings is ambiguous. This is because as Pagano (1993a) notes one effect of financial intermediation is more efficient risk sharing, which depending on the individual's utility function can have a negative effect on his or her savings. Atje and Jovanovic (1993) provide a model in which financial markets have a greater stimulating effect on economic growth than financial intermediation by the banks. This is because it is assumed that stock markets are more conducive to the development of venture capital and hence technical progress than the banks. Their cross-country empirical analysis suggests that countries that finance their investments more with equities and less with debt tend to grow faster - by a large margin, as much as 2.5% per year. This leads them to enquire why "more countries are not developing their stock markets as quickly as they can as a means of speeding up their economic development".

This positive analysis of the effect of stock markets on economic growth stands in sharp contrast to the contributions of another very important school of thought, which stresses the

negative impact of these markets on the rate of investment, the time horizon of firms, on international competitiveness, and on economic development. Keynes may be regarded as the founder of this alternative view of the stock market. In a widely known passage from chapter 12 of The General Theory, he observed: "As the organisation of investment markets improves, the risk of the predominance of speculation does, however, increase. In one of the greatest investment markets in the world, namely, New York, the influence of speculation (in the above sense, i.e. 'the activity of forecasting the psychology of the market') is enormous...Speculators may do no harm as bubbles on a steady stream of enterprise. But the position is serious when enterprise becomes the bubble on a whirlpool of speculation. When the capital development of a country becomes the by-product of the activities of a casino, the job is likely to be ill-done."

It is ironic that the critical school is today increasingly influential in the US and the UK, countries with the most developed stock markets and where such markets play a critical role in the economy. In the contemporary setting, the basic thesis of the school is that even with well organised and complex stock markets such as those found in the Anglo Saxon countries, the market does not in practice perform at all well its monitoring, screening and disciplinary functions.

The ability of the stockmarket to carry out these tasks depends crucially on the efficiency of two mechanisms: (a) the

pricing process; and (b) the takeover mechanism (Singh 1992). With respect to (a), there is a growing amount of theoretical as well as empirical work which suggests that the real world share prices, although they may be reasonably efficient in Tobin's (1984) 'information arbitrage' sense (ie. any new information about a stock or the market in general percolates quickly and speedily to all players), do not reflect fundamental values. Research by this school suggests that the actual share prices generated even by the fully developed stock markets of London and New York are often dominated by speculators, the so called 'noise-traders', by whims and fads, and are therefore not efficient in Tobin's 'fundamental valuation' sense.¹⁰ There is also evidence that, as Keynes had suggested, investors give disproportionate attention to near-term events and therefore do not have long time horizons (Miles, 1993).

This 'short-termism' arising from the pricing mechanism is compounded by the failings of the take-over process. Empirical studies suggest that selection in the market for corporate control does not take place simply on the basis of efficiency (as measured for example by rates of return or by stockmarket valuation) but also very importantly on the basis of size.¹¹ Thus a large

¹⁰ **There is a large literature on this subject. See for example, Modigliani and Cohen (1979); Schleifer and Summers (1990); Schleifer and Vishny (1990); Nickell and Wadhvani (1987); Poterba and Summers (1988). For a survey of the theoretical literature, see Camerer (1989).**

¹¹ **Again there are a host of studies on the subject. See among others Singh (1971,1975); Meeks (1979); Ravenscraft & Scherer (1987); Scherer (1988). For an opposite point of view see Jensen (1988). For recent reviews see Singh (1992,1993b).**

relatively unprofitable corporation has, other things being equal, a much smaller chance of being taken over than a small, relatively much more profitable firm. A large firm can make itself further immune from take-overs by becoming bigger still through the process of take-over itself (Greer, 1979). Apart from this perverse outcome for the take-over disciplinary mechanism, there are both analytical arguments and empirical evidence which suggests that take-overs themselves contribute significantly to market myopia.¹²

The economists of the critical school further argue that these failures in the pricing and take-over mechanisms and the consequent short-termism, puts the stockmarket dominated US and UK economies at a competitive disadvantage with respect to countries like Japan and Germany. In the latter two countries, the stock markets, for historical reasons, have not been so significant in relation to industrial development. It is also notable that neither Japan nor Germany have a market for corporate control in the Anglo-Saxon sense of hostile take-overs, leveraged buy-outs, etc.¹³

To sum up, the above analysis suggests that even with well organised and complex stock markets, such as those existing in the US and the UK, the stock market is unable to perform well its disciplinary and allocative tasks. An important implication of

¹² Cosh, Hughes & Singh (1990); Froot, Scharfstein & Stein (1990); Stein (1989); Singh (1995a). For an alternative perspective see Marsh (1990).

¹³ See further Mullins and Wadhvani (1989); Odagiri and Hase (1989); Singh (1995b).

this view is that the stock markets in developing countries would fare even worse in these respects. This is because these countries do not yet have the accounting standards, or possess in sufficient numbers information gathering and disseminating private firms or public organisations of the kind found in developed countries. The share prices in these emerging markets are therefore likely to be dominated by noise and speculation. Moreover, there will be relatively few firms with a long enough track record and reputation for the stock markets to be able to evaluate their long term prospects sensibly. Hence, these markets are expected to exhibit much greater volatility than the advanced country markets.

It is suggested that in these circumstances the monitoring, screening and disciplining functions of the stock markets are better and more efficiently performed by financial intermediaries, i.e., the banks.¹⁴

A central analytical weakness of a stock market system with respect to the finance-industry relationship, industrialisation and long term economic growth is that it provides the individual investor with more or less ready liquidity. This is usually regarded as a virtue by the exponents of the stock market. As Mr. John Tagino, a former head of global equity trading at Merrill Lynch put it in relation to the global equities market for leading corporations: '(it) gives the customer the ability to have instant liquidity at any time of the day or night, he or she wants it'.¹⁵

¹⁴ **Tirole (1991) makes this argument most persuasively in relation to the transition economies of Eastern Europe.**

15. Quoted in Cosh, Hughes and Singh (1992).

However this 'liquidity' also means that the investor need have no commitment to the long term future of the firm. The bank-dominated financial systems are by contrast far better able to ensure such long term financial commitment to their client corporations. Moreover, unlike the small individual investor in a stock market system who has no incentive to gather the costly information to supervise and discipline managers in management controlled large corporations, the banks have both the incentive and capacity to subject corporate managers to much more stringent supervision. The German-Japanese types of banks are thus able to cope far better with the problems of asymmetric information, agency costs, transaction costs than the Anglo-Saxon stock market system.¹⁶

In the light of this important analysis of the critical school outlined above, the World Bank's assertion of an unequivocal positive relationship between capital market development and economic growth must be viewed with some scepticism.

VI. Stock Market Volatility and Economic Welfare

Stock market prices tend to fluctuate more than other economic variables even in fully developed markets. However, a high degree

¹⁶ **There is a huge literature on this subject. For a recent review see Allen and Gale (1995).**

of volatility is a negative feature of a stock market in that it can undermine the financial system as a whole; it also makes share prices much less useful as a guide to the allocation of resources. Moreover to the extent that they discourage risk-averse savers and investors, stock market fluctuations may raise the cost of capital to corporations. After the 1987 stock market crash, several enquiries were undertaken in the United States (e.g. the Brady Commission) to see whether as a result of financial liberalisation and global trading, or the introduction of new technology and devices such as programme trading, stock market volatility on the U.S. market has increased, and how in any case it can be reduced. Evidence however indicated that volatility on the US market in the 1980s was much in line with the long term historical record; it was in fact less in the last decade than in the 1930s (Schwert, 1989). Nevertheless it remains a cause for concern and several proposals were put forward to reduce share price fluctuations, e.g. suspension of share trading if the stock market index falls by more than a specific percentage in a trading period.

However, as predicted by the critical school, the capital markets of developing countries exhibit much greater volatility than those of advanced economies. Singh (1993a) provides evidence on this issue for the 1980s. His data showed, for example, that between 1984 to 89, the standard deviations of monthly percentage changes in share price on the emerging markets were considerably larger than those on the US, the UK or the Japanese stock markets.

Singh also reported that between 1982 and 1985, share prices on the Brazilian stock market rose five fold (in US dollars terms); two years later they dwindled to twenty eight per cent of their 1985 value. In the first nine months of 1987, share price on the Mexican stock market rose six-fold. However, following Black Monday in October 1987, prices fell to a tenth of their pre-crash level. In Taiwan, the largest Third World stock market, between 1987 and February 1990, the share price index rose by three hundred and thirty per cent to reach a peak of 12,600; the index then fell to a quarter of its value (3160) by September 1990.

To take a more recent case, the Financial Times reported on 18 September 1995 that

The Nigerian stock market All-Share index has doubled from 2,205 at [the] start of this year to 4,400 in early September.

In the first eight months equities increased in value by 105 per cent in dollar terms, helped by a steady exchange rate. Although the economy is in recession and previously sound companies are struggling to stay in business, the rise in share prices coincides with unprecedented interest from both domestic and offshore investors.

A partial devaluation of the naira at the start of the year, inflation of over 80 percent, negative interest rates and fears of bank failure have persuaded many Nigerians that the stock market is the best place for their savings.

In the circumstances, the Nigerian share price boom would appear to be a speculative bubble which is likely to be pricked sooner rather than later, and thereby contribute considerably to share price volatility on that market. Davis (1995) has provided quantitative information on comparative volatility of share prices in the mature and emerging markets for the period 1976-1991. He reports that during this timespan the monthly standard

deviation of share prices was over 30 percent in Argentina, 18 percent in Brazil, and 17 percent in Taiwan compared to 5 percent for the USA and Europe and 7 percent for Japan.

At an analytical level, the issue of stock market volatility is salient to the question of the welfare implications of the stock market versus bank-based financial systems. It of course bears directly on the question of the riskiness of the size of pensions the retirees may expect to receive under the private pension plans.

In formal economic models, Allen and Gale (1995) have demonstrated that the bank-based systems are much better than the stock market systems for intertemporal risk sharing; the latter on the other hand are superior with respect to cross-sectional risk sharing.

As Allen and Gale observe:

An illustration of the differences between the two financial systems in terms of their ability to smooth risk is provided by the experience of the 1970s and the 1980s. In the U.S., the real value of the stock market approximately halved after the oil shock of the early 1970s and stayed at this level for the rest of the decade. Households that had provided for retirement by investing in the stock market and needed to liquidate shares in order to pay for consumption were forced to reduce their standard of living substantially. By contrast, in the 1980s the stock market approximately doubled in real value and the process was reversed; households whose savings were invested in the stock market were able to increase their consumption substantially. The important point is that these U.S. households bore substantial consumption risk over the two decades.

The U.S. experience can be contrasted with that of Germany over the same period. German households save for retirement and other purposes primarily in bank accounts and other debt-like instruments. Although Germany also experienced an oil shock, the value of these savings was not halved. German investors were able to consume the amount they had planned as banks drew on reserves to maintain payouts. In the 1980s there was a sustained boom in Germany as in the U.S. During this

period the value of household's savings did not increase, since they were held in the form of fixed claims on the intermediaries. The intermediaries, however, were able to build up reserves. In contrast to the U.S. case, we could argue, households did not bear as much risk from their savings because of intertemporal smoothing by intermediaries. (p.190)

It may be argued that pension funds, because of their long term liabilities, are more likely to behave like banks rather than short term liquidity traders or speculators. In principle, it is true that institutional share ownership should lead to long term value maximization and to "patient capital". However in practice, analysis and evidence from both the US and UK suggest that because of the particular structural features of institutional fund management, the opposite situation prevails.

Fund management is a highly competitive industry and increasingly the performance of fund managers themselves is assessed on the basis of short term results. This leads to high share turnover, acceptance of takeover bids on the basis of short term financial gain rather than long term industrial logic.¹⁷ The latter behavioral pattern is also connected with the phenomenon of "asymmetric payoff". It is pointed out that there are sound reasons for fund managers to display a "herd" instinct: if a fund manager who decides not to follow the "herd" turns out to be wrong in his investment policies when the herd is right, he or she may be subject to severe penalties, e.g may lose his her job. On the other hand if the herd is wrong and the fund manager is right, the pay-off may not be as great - it will usually take the form

¹⁷ **For a fuller discussion of this argument, see Cosh, Hughes and Singh (1990). See also Singh (1995b).**

of a promotion or pay-rise. Thus faced with the prospect of an immediate stock market gain from a "takeover situation", the fund managers are more likely to accept it than not.

It may further be objected that despite the theoretical advantages of bank-based over the stock market-based financial systems, and the empirical evidence from rich countries in support of these propositions, the experience of developing countries, including Chile, with bank-based systems has not been a happy one.

It is certainly true that in many less developed countries, bank-based systems have functioned unsatisfactorily and have not promoted economic growth. In a number of countries experiencing a high degree of macroeconomic instability, bank-based finance has tended to degenerate into inflationary/inefficient finance.

Singh (1993a) calls attention to the following serious shortcomings of such systems in the developing country context:

(a) "crony capitalism", which leads to the diversion of financial resources to particular individuals and families with political connections, instead of such resources being used to promote long term industrial development;

(b) industry-finance links of the bank-based type can in principle, and sometimes in practice, lead to monopolistic positions in product markets and thwart entry by new firms, thereby hindering efficient industrial development;

(c) imprudent or inadequate government regulations of the banks has sometimes jeopardized the integrity of the financial system as a whole (for example Chile, following financial liberalization in the early 1980s).

Thus, although bank-based systems are much to be preferred in principle to the stock market-based systems, the developing countries should pay particular attention to questions of proper regulation and to the prevention of monopolistic abuse by the banks. After the debacle of the Chilean banking system in the early 1980s, what was required was prudential regulation of the bank-based system rather than the expansion of the stock market, because of the capacity of the former to foster finance-industry relationships which are conducive to long term investment and economic growth.

VII. The Capital Market, Corporate Finance, Savings and Investment

In the light of the foregoing discussion, we turn to the core issue in the World Bank's claim that their proposed pension system will not only "protect the old" but also "promote growth".

Does the development of the equities and bond markets lead to a rise in national savings and investments? For this purpose we shall first examine the relevant data on corporate finance for

developed as well as developing countries.

Table 5 gives figures on the financing of physical investment for non-financial corporations in Germany, Japan, UK and US for the period 1970-1989. In the context of the present discussion, the important point which emerges from the table is that the equity market's net contribution to investment needs of the non-financial corporate sectors both of the US and the UK was negative over this period. What this indicates is that corporate new issues in these two countries were more than matched by a net redemption of corporate shares (mainly because of takeovers). In Germany and Japan, although new issues made a net positive contribution to corporate investment over the period considered, it was extremely small and amounted to no more than 2 to 3 percent of the total.

Table 5 also indicates that in all four industrial countries in the sample, the main source for financing corporate growth was 'retained earnings'. To the extent that the companies use external funds to finance their investment needs, in almost all countries, except the US, bank finance was the most important source of outside funds.

At a theoretical level, it may be observed that this pattern of corporate financing for the advanced countries - in which the firms seem to prefer retained earnings to debt, and both of these to new share issues (the so-called "pecking order" pattern of finance) is compatible with rational profit maximisation by the

firm. Current models of corporate finance, based on theories of asymmetric information, agency costs, transactions costs, etc. can rationalise the observed "pecking order" in terms of normal profit maximisation by firms without invoking any managerial theories of the firm (Myers, 1984).

Singh and Hamid (1992) and Singh (1995a) have recently provided among the first systematic large-scale studies of corporate finance in developing countries. Table 6, extracted from Singh (1995a) gives information on the financing of corporate growth for the hundred largest listed corporations from ten industrialising countries during the 1980s. These data show that the top developing country corporations finance a very small proportion of the growth of their 'net assets' (i.e. long-term capital employed by the firm) from internal sources. The median Korean corporation in the top hundred financed only a little over 15 percent of such growth from internal sources during the 1980s (and the rest from external sources). The corresponding figure for the median top Thai corporation was a little less than 15 percent, for the Mexican 23 percent, for the Turkish 13.4 percent and for the Malaysian a little less than 30 percent. Compared with the internal financing proportions for advanced countries these would appear to be very low figures indeed.¹⁸

¹⁸ The information for advanced country corporations in table 5 is based mainly on flow-of-funds data. The results are not therefore strictly comparable with those for developing country corporations presented here. See further Singh (1995a).

Similarly, the data in column 4 show heavy use of equity finance by large developing country corporations to finance their growth of net assets. For all countries together, the median top developing country corporation financed more than 40 percent of its 'net assets' growth from new share issues. For six of the nine countries in the table, equity finance accounted for more than 35 percent of the growth of net assets of their biggest corporations. Even though, for data reasons, the equity financing proportion for some countries may be overstated (for example Turkey), these figures are orders of magnitude higher than those for the advanced country corporations (in table 5).

The extensive resort to the stock markets by developing country corporations is regarded by the exponents of the stock market as important evidence in support of the view that these markets benefit industrialisation and development. It is, indeed, true that unlike in the advanced countries, in the stock market boom of the 1980s and 1990s, the market has been a genuine source of new finance for corporate expansion in developing countries. However, the important question is whether the fast growth of the stock markets in these economies has led to an increase in **aggregate** savings. Or is it the case that what has happened is simply the substitution of one form of saving (say bank savings or government bonds) for another (purchase of corporate shares on the stock market). There is little or no evidence of an increase in aggregate savings for the sample developing countries as a result of the growth of the stock markets

or of greater new-issue activity on these markets. In some of the countries (e.g. Turkey, Malaysia), the aggregate savings actually fell during the 1980s. Moreover, it is worth noting that in the advanced countries, the aggregate savings ratio in the stock market dominated economies of the US and the UK is much lower than in Germany and Japan (where, as noted earlier, the stock market has only a peripheral role in relation to industrial development).

Similarly, there is little evidence that stock market development in the last decade or more in developing countries has led to an increase in aggregate investment. Evidence for India, for example, shows that despite the boom conditions in the stock market in the recent period and hence the reduction in the cost of capital, corporate investment in fixed assets actually declined (Nagaraj, 1994).

Private pension schemes can in principle lead to a rise in aggregate savings, not just through the development of the capital market, but also directly. The empirical evidence on this issue is mixed and is far from being robust (Atkinson, 1995). In this connection, it is useful to examine the specific case of Chile.

Table 7 provides the relevant data. The table shows a fall in total savings and investment over the period 1980-1991. There are, however, no clear trends and it is best to be agnostic. It would certainly not be valid to conclude from this evidence that pension reform has led to a rise in national saving and investment in that country.

VIII. Foreign Portfolio Investment

It was noted in the introduction that Reisen (1994) has proposed that to cope with the pension crisis arising from rapid aging, the old industrial countries should stimulate private funded pensions and seek maximum returns on pension assets. He suggests pension managers can reap big diversification benefits - a 'free lunch' in the form of a superior combination of risk and return - by investing in the emerging stock markets of the younger economies. He estimates that if OECD pension assets were invested according to world stock market capitalization, around \$655 billion dollars would have been held in 1992 in the emerging markets (rather than the estimated \$11.5 billion dollars). He therefore proposes that to attract these pension and other institutional funds developing countries should abolish exchange controls and other impediments to free capital flows. Similar advice has been given to developing countries by a WIDER Study Group (WIDER, 1990) under the chairmanship of Sir Kenneth Berrill.

The World Bank Report also favours foreign portfolio diversification by pension funds, although it recognizes some of its negative aspects. Nevertheless, it feels that its star pupil, Chile, was "too cautious" in not permitting AFPs to invest abroad until 1991.

It is indeed true that there is considerable scope for foreign

portfolio diversification in developing countries by pension funds in industrial countries. Singh (1993a) reported that the correlation between share price movements in the Third World and those in advanced countries were generally low; for some emerging markets the correlations were negative during the period 1984-1989.¹⁹ It is of course possible that as the world capital markets become more and more integrated, the share price movements in emerging and developed markets would become more highly correlated. This however, does not seem to have happened so far.²⁰

Nevertheless there is a serious negative side to the foreign portfolio diversification which does not seem to have been given sufficient attention. Briefly, first, the abolition of capital controls will make the national economy much more vulnerable both to international macroeconomic fluctuations as well as to capital flight. Further, in view of the destabilising feedbacks between the financial and the currency markets, it will make the task of exchange rate management, and hence of inflation, much more difficult. Secondly, stock market volatility could "ceteris paribus" also adversely affect aggregate investment in the economy. In addition, for reasons explained earlier, stock market development may damage industry-financial relationships and harm investment, competitiveness and the real economy. Thirdly, it is important to note that if the proposals are adopted, most of

¹⁹ See also Cosh, Hughes and Singh (1992).

²⁰ See Feldman and Kumar (1994) and Mullin (1993).

this portfolio investment is likely to go to a small number of the most developed Third World economies with large corporations and relatively well organised stock markets rather than to a majority of the poor countries.

The WIDER Study Group argued that fostering stock market development will among other things discourage capital flight and in fact bring flight capital back since the market gives wealth holders an attractive alternative vehicle for domestic investment.

This argument is plausible but deceptive. This is because capital flight is essentially a consequence of financial and macroeconomic instability; of course in turn it also exacerbates such instability. The existence of a stock market per se is unlikely to help in this respect. In unstable economic conditions, stock market volatility on the contrary could enhance financial instability and in fact lead to capital flight not least by foreign portfolio investors. The aforementioned negative consequences of portfolio investment in emerging markets are forcefully brought home by the debacle on the Mexican currency and stock markets at the end of 1994.

VIII. Conclusion

The analysis of the previous sections has shown that the World Bank's proposed pension plan is not only flawed in terms of social policy, but it is far from certain that it will enhance economic

growth. Each of the links in the chain of causation relating pension funds to capital market development, and the latter to economic growth can be seriously questioned on both theoretical and empirical grounds. The Bank has adopted a one-sided view, without much justification, of the relationships between these critical variables. Therefore, its proposed reform may neither protect the old nor achieve faster economic growth. On the contrary, the reform may contribute towards undermining growth while also exposing pensioners to greatly enhanced risks concerning the size and real value of their pensions.

None of this is to deny the serious difficulties faced by the existing pension systems in both rich and poor countries. However, the root and branch changes of the kind suggested by the Report are not the only way of reforming the system, let alone the best way. Serious consideration should be given to the more balanced plans of the kind suggested by the ILO, which realistically confront the problem of pension reform while also adhering to minimum social standards.²¹

²¹ See, for example, Gillion and Bonilla (1992).

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Table 1. Market Capitalisation of Traded Equities 1\
(Billions of US \$, and Percent of GDP)

GDP	1983		1992	
	US \$(bill.)	Percent of GDP	US \$ (bill.)	Percent of
Latin America				
Argentina	1.4	1.3	18.6	8.2
Barbados	na	na	0.3	16.4
Brazil	15.1	7.4	45.3	11.7
Chile	2.6	13.2	29.6	78.1
Costa Rica	0.1	3.8	0.5	7.7
Columbia	0.9	3.1	5.7	11.6
Jamaica	0.1	2.8	3.2	100.7
Mexico	3.0	2.0	139.1	43.0
Peru	0.5	2.6	2.6	5.6
Trinidad & Tobago	1.0	12.8	0.5	9.2
Venezuela	2.8	3.5	7.6	12.4
Uruguay	--	--	0.4	3.5
East Asia				
China	na	na	18.3	4.2
Honk kong	17.1	70.8	172.1	177.0
Korea	4.4	5.3	107.4	36.2
Philippines	1.4	4.3	13.8	26.2
Singapore	15.5	89.2	48.8	106.0
Taiwan	7.6	14.5	101.1	48.9
South Asia				
Bangladesh	0.05	0.4	0.3	1.3
India	7.2	3.5	65.1	26.7
Indonesia	0.1	0.1	12.0	9.3

Malaysia	22.8	76.1	94.0	163.3
Pakistan	1.1	3.7	8.0	15.8
Sri Lanka	na	na	1.4	14.5
Thailand	1.5	3.8	58.3	55.4
Europe/Mid.E ast/ Africa				
Cote d'Ivoire	0.3	4.4	0.3	na
Egypt	1.1	3.0	2.6	6.2
Greece	1.0	2.9	9.5	12.0
Iran	na	na	1.2	0.1
Jordan	2.7	56.7	3.4	73.9
Kenya	na	na	0.6	7.5
Mauritius	na	na	0.4	13.2
Morocco	0.3	2.1	1.9	6.6
Nigeria	3.0	3.7	1.2	4.5
Portugal	0.1	0.5	9.2	10.9
Tunisia	na	na	0.05	0.3
Turkey	1.0	2.0	9.9	8.9
Zimbabwe	0.3	4.8	0.6	8.2
Largest Industrialised Countries				
Canada	141.0	42.8	243.0	42.7
France	38.1	7.2	350.9	26.5
Germany	82.6	12.6	348.1	17.9
Italy	21.0	5.0	115.3	9.4
Japan	565.2	47.6	2399.0	65.4
UK	225.4	48.9	838.6	79.8
US	1898.1	55.7	4757.9	78.8

Source: Based on IFC Emerging Markets Data Bank and International Financial Statistics / Data are for end of period '--' indicates capitalisation less than US\$ 10 million; 'na' indicates data not available.

* table continued from previous page.

Table 2.
PORTFOLIO COMPOSITION OF PENSION FUNDS IN % (CHILE)

Funds	Year	Central & Treasury bonds	Bank deposits & bonds	Mortgage securities	Firm bonds &	Common stock %	Funds mill.US\$ debentures
219	1981	28	62	9	1	0	
	0.9						
1223	1983	44	3	51	2	0	
	6.4						
2228	1985	43	23	36	2	0	
	10.9						
3570	1987	42	28	21	3	6	
	15.5						
4370	1988	35	30	21	6	8	
	16.5						
5388	1989	42	21	18	9	10	
	19.7						
7316	1990	44	17	16	11	11	
	26.5						
10078	1991	38	12	13	13	24	
	34.4						
	1992(jun)	37	10	13	12	28	11922
	38.1						
				projection			
	2000	49-54					
	2010	77-87					
	2020	88-109					

Source Uthoff (1993).

Table 3.
STOCK MARKET AND PENSION FUND PORTFOLIO

stock millions)	Year	Common stock Price	Volume of traded	Market value (US \$ millions)	Pension Funds Common (US\$
		index	index		
	1981	105	592	5000	-
	1983	70	369	2783	-
	1985	100	100	2919	-
	1987	313	908	6852	223
	1988	425	1094	8438	354
	1989	581	1372	11375	545
	1990	750	1155	14564	806
	1991	1682	2651	27706	2406
	1992(jun)	2122	3177	34444	3347

Source Montt, Deigo 1992. *The Chilean Private Fund System*.

Superdencia de Administradoras de Fondas de Pensiones.

Workshop on "Emerging Markets,

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Current Issues", Bolsa de
Bunes Aires, 23-24 Nov. and Uthoff (1993).

Table 4.
Number of Listed Companies in Emerging Markets 1981-1992

Korea	343	334	328	336	342	355	389	502	626	669	686	688
Pakistan	311	326	327	347	362	361	379	404	440	487	542	628
Thailand	80	81	88	96	100	98	125	141	175	214	276	305
Jordan	72	86	95	103	104	103	101	106	106	105	101	103
Mexico	229	206	163	160	157	155	190	203	203	199	209	195
India	1031	1106	1151	1295	1529	1912	2095	2240	2407	2435	2556	2781
Turkey	--	--	--	373	--	40	50	50	50	110	134	145
Malaysia	187	194	204	217	222	223	232	238	251	282	321	366
Zimbabwe	62	62	60	56	55	53	53	53	54	57	60	62
Chile	242	212	214	208	228	231	209	205	213	215	221	245
Brazil	477	493	505	522	541	592	590	589	592	581	570	565

--" implies that data is not available.

Source International Finance Corporation, *Emerging Stock Markets Factbook*, 1990 and 1993.

Table 5.
 Net Sources of Finance- 1970-89: Germany, Japan, UK,
 (percentages)

US

	Germany	Japan	UK	US
Internal	80.6	69.3	97.3	91.3
Bank				
Finance	11.0	30.5	19.5	16.6
Bonds	-0.6	4.7	19.5	17.1
New Equity	0.9	3.7	-10.4	-8.8
Trade Credit	-1.9	-8.1	-1.4	-3.5
Capital				
Transfers	8.5	-	2.5	-
Other	1.5	-0.1	-2.9	-3.8
Statistical				
adj.	0.0	0.0	-8.0	-8.7

Source Corbett, J. & Jenkinson, T. (1994) "The

Industry 1970-89:

Financing of
 An International Comparison" Centre
 of Economic Policy Research Discussion Paper No. 948.

manufacturing
ratio(2),
values

Table 6.
All sample countries: top listed companies in
Financing of corporate growth(1): after tax retention
and internal and external financing of growth: median

Finance (%)	Country	Retention Ratio (%)	Internal Finance (%)	External Finance Equity (%)	External Debt
3.0	Korea	65.7	15.8		46.9
23.9	Pakistan	65.9	67.5		5.2
5.8	Jordan	48.0	54.8		25.5
n.a	Thailand	48.7	14.7		n.a
1.0	Mexico	n.a	23.1		64.7
38.9	India	68.0	38.1		16.3
38.9	Turkey	37.8	13.4		66.6
12.0	Malaysia	51.7	29.7		48.0
0.0	Zimbabwe	61.7	57.0		43.5
46.0		37.2	5.6	Brazil	98.3
16.0	All	62.9	32.0		41.1

(1)Growth is measured from the beginning to the end of the relevant period.

(2) Average values, normally for the period 1980-90.

Source Singh (1995a).

Table 7.
SAVINGS & INVESTMENT IN CHILE
(% of GDP)

Year	Pension Savings	Private Savings other	Total Private savings (1)	Public Savings (2)	National savings (3)=(1)+(2)	Foreign savings (4)	Total savings (5)=(3)+(4)
1980	0	2.8	2.8	2.8	11.0	13.8	7.1
1981	0.9	-1.8	-0.8	-0.8	8.6	7.8	14.3
1983	1.7	8.2	9.9	9.9	-4.5	5.4	5.7
1985	1.8	8.6	10.3	10.3	-0.8	9.5	7.8
1987	2.1	6.4	8.5	8.5	4.1	12.6	4.3
1988	2.7	6.0	8.7	8.7	7.6	16.3	0.8
1989	3.1	6.3	9.4	9.4	7.9	17.3	3.0
1990	3.3	8.5	11.8	11.8	5.5	17.3	3.0
1991	3.3	10.9	14.3	14.3	4.9	19.2	-0.3

Source Uthoff (1993).