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Pension Funds in Central Europe and Russia

Their Prospects and Potential Role in Corporate Governance

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The severe financial pressures on the social pension systems of transitional countries in Central Europe and Russia could be alleviated by downsizing and restructuring the public pillar of the system and by creating private pension funds. Private pension funds could help modernize capital markets and also help improve corporate governance.

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Summary findings

Social pension systems in most countries in Eastern Europe and the former Soviet Union face severe financial pressure. Aging populations are increasing that pressure, which stems mainly from design flaws and incompatible incentives in the systems.

Vittas and Michelitsch describe the features of the pension systems that have led to the current dire predicament: a big discrepancy between system and demographic dependency ratios, unsustainable targeted replacement rates, the high contribution rates needed, growing evasion, and growing deficits.

Radical basic reform is inevitable, they say, but may not be politically feasible or even advisable in the short run.

After reviewing experience in other countries, they conclude that restructuring and downsizing the social pension system will leave adequate but affordable (thus sustainable) benefits and will allow for the creation and growth of private pension funds.

The shortcomings of company-based defined benefit plans (limited portability, restricted vesting, inadequate funding) suggest that transitional economies should opt in the longer run for nonemployer, defined contribution plans based on individual capitalization accounts with full immediate vesting, full portability, and full funding.

To cope with the need for a targeted replacement rate, such schemes could operate with variable contribution rates, reset each year in accord with the salary growth of each worker, the cumulative investment return on his/her account, and the targeted pension benefit.

Once private pension funds are established, long-term financial resources should accumulate rapidly. They can then play a major role in modernizing securities markets, stimulating innovation, fostering better accounting and auditing standards, and promoting more disclosure of information.

They could also greatly help improve corporate governance and the monitoring of corporate performance. Their "voice" in corporate affairs could be exercised more effectively through collective bodies. They could thus help create more robust structures of corporate governance, lower monitoring costs, and avoid the problems caused by "free riding."

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PENSION FUNDS IN CENTRAL EUROPE AND RUSSIA

THEIR PROSPECTS AND POTENTIAL ROLE IN CORPORATE GOVERNANCE

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I. INTRODUCTION AND SUMMARY

A. Pension Funds and Enterprise Restructuring

Writing about the role of pension funds in corporate governance in Central European countries (the Czech Republic, Hungary, and Poland) and Russia is faced with two major difficulties. First, at the time of writing this paper, large funded pension plans are conspicuous by their absence in all these countries (as well as in all other Eastern European countries and former Soviet republics). Second, even in countries that have long had funded pension plans and where pension funds have long become major institutional investors, their role in corporate governance has been renowned for its passivity. Pension fund managers have traditionally been expected to vote with company management or sell their shares if they were unhappy with their performance. It is only in recent years that pension funds have started to be forcefully involved in corporate affairs. But there is considerable uncertainty about the direction, form and impact of their involvement and there are also many unresolved policy and regulatory issues.

The most pressing and challenging task facing transitional economies today is enterprise restructuring. Clearly, or perhaps hopefully, the major part of the first phase of such restructuring will have been completed before pension funds can become large enough to deserve to play a part in the process. Thus, in the short to medium term the burden of enterprise restructuring and the leading role in corporate governance is likely to fall on the state, the banks, the investment funds, the managers and the workers (and in some cases foreign companies and individual investors) who are likely to be the major owners of large corporations.

The social security and pension systems of all four countries are in deep trouble and in need of fundamental reform. This reform should involve the restructuring and downsizing of public pension systems and the establishment of supplementary private pension funds. But even if pension reform were to be implemented immediately, pension funds commanding large financial resources and therefore able to become substantial company shareholders would take several years to develop. Large pension funds with a key role in enterprise restructuring and corporate governance would emerge in the immediate future only in the unlikely event of a massive transfer of equity stakes in privatized enterprises to newly created pension funds. Such a transfer would be inadvisable given the lack of financial expertise and the weakness of capital market institutions, but it appears to be discussed in some countries.

Although pension funds are unlikely to play a major part in enterprise restructuring in the short to medium term, actions that will be taken over the next few years will shape their future role in corporate governance and will also affect the financial health of both the corporate sector and the pension systems of each country. This paper discusses the prospects for pension reform in these four countries and the factors that could influence the behavior of pension funds in the financial system and their role in corporate governance.

The paper is structured as follows. The remainder of this section summarizes the main findings and conclusions of the paper. Section II examines the issues and prospects of pension reform in the four countries under review. Section III offers a brief overview of the role of pension funds in capital markets. Section IV focuses on the factors that determine the role of pension funds in corporate governance and the recent changes that have been taking place in this area, especially in the US and the UK. The last section draws together potential lessons and policy implications for transitional economies.

B. Main Findings and Conclusions

Public Pensions in Central Europe and Russia. The pension systems of the countries of Eastern Europe and Central Asia have many features in common. Perhaps the most important are both their growing financial crisis and their inability to provide adequate incomes to most of their pensioners.

The main factor behind these failures is their very high system dependency ratios, caused by low retirement ages and lax certification of disability pensions. Combined with near universal coverage, this has resulted in high levels of pension expenditures as a fraction of national income. Growing evasion and arrears are compounding the financial problems of public pension systems, which are saved from financial insolvency only by the partial indexation of pensions to inflation. However, in Poland pensions have been indexed to wages and the pension system is suffering from a large and growing deficit.

The pension systems are unable to maintain the high targeted replacement rates promised by the schemes, but even so they require high contribution rates. As a result, the scope for supplementary private pension funds is currently rather limited. As the public pension systems are run on a pay-as-you-go basis, they make no contribution to the accumulation of long-term financial assets.

Supplementary Non-State Pension Funds. The Czech Republic and Hungary have enacted legislation that promotes the creation of supplementary private pension funds. These laws favor the creation of defined contribution schemes, although defined benefit plans are not precluded. In the Czech Republic a tax credit is paid by the state, up to a limit of 120 crowns for a 500 crown contribution. This credit is used in lieu of tax deductibility of contributions and is therefore a less regressive tax incentive. In Hungary, the law allows for the tax deductibility of both employer and employee contributions and also exempts such contributions from social security taxes. In both Hungary and the Czech Republic the law provides for prudential controls on investments to avoid overconcentration of risks and for adequate information disclosure to members. Some pension funds have been created in these two countries but their size is still very small.

No private pension laws have been enacted in Poland and Russia, although a draft act has been prepared in the latter. Very few pension funds have been created in Poland, but Russia has over 300 non-state pension funds. The vast majority of these are little more than savings clubs. Russian pension funds operate in a regulatory vacuum, with little standardization in services and products, charges or investment

practices, but some of these pension funds have the potential to acquire large memberships and become important institutional investors.

The Role of Pension Funds in Capital Markets. Large private pension funds are not likely to emerge and play a big part in the capital market unless the public pension systems of the four countries are restructured and downsized. Lower contribution rates will leave greater scope for the development of private pension funds.

The experience of OECD countries shows that large pension funds that play an important role as financial intermediaries and institutional investors have emerged over the years only in a small number of Anglo-American and Continental European countries, where social security pensions have been rather modest and social security contributions rather low.

Until the creation of nonemployer-based private pension funds in Chile in the early 1980s, most private pension funds were employer-based. They were originally created to further personnel management objectives, such as attracting skilled workers, rewarding loyalty, and facilitating the retirement of older, less productive workers. Their role as pension institutions providing retirement income insurance evolved over time in response to the rise of large corporations and the spread of collective bargaining.

In line with their retirement income insurance function, the majority of private pension funds were set up as defined benefit plans, but in recent years there has been a clear trend toward defined contribution plans. This change has been caused less by outright conversion of plans and more by the underlying change in industrial structure, especially the decline of large manufacturing firms and the growth of smaller firms in the service sector. Tighter regulations on pension funds and the growing instability of employment patterns are likely to increase further the costs of defined benefit plans and reduce their attractiveness for both employers and employees.

Pension funds have accumulated large financial assets (in relation to GNP) in Switzerland and the Netherlands, where they have a wider coverage than pension funds in Anglo-American countries and they also offer inflation indexed pensions. But their role as institutional investors in corporate equities has been limited by their preference for bonds and other debt instruments.

In contrast, pension funds in Anglo-American countries, and especially in South Africa, the UK and the US, have invested heavily in corporate equities. But except for South Africa, pension funds in Anglo-American countries have tended to acquire small, diversified holdings that have limited their role in corporate governance.

The Role of Pension Funds in Corporate Governance. Pension fund regulations and the incentives facing pension fund managers shaped their passive role in corporate governance. Traditionally,

pension funds were expected to vote with management. They were constrained in their criticism of corporate governance by the threat of retaliation and loss of future business in the case of independent fund managers and by their accountability to senior corporate executives in the case of self-administered pension funds. If they were unhappy with corporate performance, they were supposed to exit by selling in the market.

Corporate discipline was exerted by the threat of hostile takeovers, which have been used extensively over the past 30 years to acquire poorly performing companies. But hostile takeovers have also been used to acquire successful firms, strip valuable assets, "greenmail" corporate managements, and "raid" the surplus assets of company pension schemes.

Antitakeover legislation and more effective corporate defenses have weakened the threat of hostile takeovers and therefore created a need for other forms of corporate control. "Exit" by pension funds has also become more difficult. The cost of exit has also increased by the growing domination of equity markets by large institutional investors and the increasing inability of pension funds to sell without disrupting the market and suffering big falls in prices.

Use of the exit option has been further restricted by the growing trend toward passive indexation of equity portfolios, which hinders the disposal of underperforming equities. These developments have underscored the importance of exercising "voice" in corporate affairs.

Public pension funds, which are independent of corporate managers, have been less reticent in their criticisms of underperforming companies. Although they are accountable to politicians and government bureaucrats and are often subject to political pressures, they have been able to attract public attention to the power vacuum that has emerged in corporate affairs. In contrast, private pension funds have continued to be dependent on corporate managers and to be heavily constrained in their ability to take individual action against underperforming companies.

Recent Initiatives in Corporate Governance. New solutions have emerged to fill the power vacuum in corporate affairs and to increase the accountability of corporate managers:

* first, existing collective bodies have been encouraged, and new ones have been created, to voice public criticism of underperforming corporations, free from the fear of retaliation that has inhibited individual pension fund managers;

* second, various initiatives have been promoted to strengthen corporate governance structures and increase the effectiveness of corporate boards in supervising executive managers;

* third, specialized agencies have emerged that scrutinize the governance structures and practices of different corporations and advise pension funds on how to exercise their voting rights; and

* fourth, various specialized monitors of corporate performance have appeared. Some of these take nonnegotiated stakes in underperforming companies and adopt aggressive tactics with a view to changing corporate policy, improving performance and enhancing value. Others adopt a more patient approach and acquire friendly stakes that provide support and commitment to incumbent managers with a view to achieving long-term growth.

Unresolved Issues. All these initiatives have a very recent origin. Although they were instrumental in changing the top management of some heavily and persistently underperforming corporations, their long-term impact still remains to be seen. The risks of excessive concentration and abuse of economic power and of the potential conflicts of interest between pension funds and their collective agents on the one hand and other shareholders on the other have yet to be properly addressed. Moreover, the new approaches are exposed to capture by corporate managers and their long-term effectiveness has yet to be fully tested. Finally, the question of "who monitors the monitors" and the creation of appropriate checks and balances remain to be answered.

Lessons and Policy Implications. Whatever the unresolved policy issues, the above initiatives represent a forceful response to the power vacuum and lack of managerial accountability that has characterized corporate affairs in the US and the UK following the rise of pension funds and other institutional investors. Whether they are appropriate for the transitional economies of Central Europe and Russia will depend on the model of corporate governance and ownership that will be adopted in these countries. If pension funds are to play an important role as institutional investors and large holders of corporate equities, then some or all of the above measures would appear not only appropriate but also very likely to emerge.

Although radical and fundamental pension reform may not be politically feasible in the short-run and may even be inadvisable in the interest of sustaining broad political support for privatization and enterprise restructuring, there can be little doubt that in the longer run a fundamental pension reform would be unavoidable. The experience of more advanced OECD countries (and some innovating developing countries) suggests that the public pension system should be restructured, its benefits rationalized, and its size significantly reduced both in order to offer adequate but affordable and therefore sustainable benefits and in order to leave greater room for the creation and growth of private pension funds.

Private pension funds could be organized in many different ways, but nonemployer defined contribution plans, based on individual capitalization accounts with full and immediate vesting, full portability, and full funding, would appear to be preferable in the longer run. To cope with the need to achieve a reasonable targeted replacement rate, such schemes could operate with variable contribution rates, that are reset each year in accordance with the salary growth of each worker, the cumulative investment return on his or her individual capitalization account, and the targeted pension benefit.

To maximize their modernizing impact on securities markets, pension funds should be free to select their investments subject to reasonable prudential and diversification norms. They will be more effective in exercising "voice" in corporate affairs if they operate within robust structures of corporate governance and exert their influence through collective bodies and specialized monitors, although experience with this approach is relatively recent and its long-term effectiveness remains to be seen.

II. THE PROSPECTS OF PENSION REFORM

A. Public Pensions Systems

Common Features. The countries of Eastern Europe and the former Soviet Union have inherited social pension systems that have several features in common[1]. Perhaps, the most common feature is that the social pension systems of all these countries are simultaneously faced with a growing financial crisis and a failure to provide adequate incomes to the vast majority of their pensioners. Other common features include: a largely monopillar "pay-as-you-go" structure (but with special regimes that benefit privileged workers); near universal coverage; high levels of expenditure as a fraction of GDP; very high system dependency ratios (caused by low retirement ages and lax certification of disability pensions); high contribution rates; high targeted but unrealized replacement rates; deficient benefit formulas (including actuarially unfair provisions, short assessment periods and falling accrual rates); imperfect inflation indexation; considerable scope for strategic manipulation; limited but growing evasion; and growing arrears.

Demographic Aging. Attention is frequently drawn to the demographic aging, not only of Central and Eastern European countries but also of advanced OECD countries, and the problems that this will create for social security systems. Yet the financial problem of aging is not current but rather a looming one thirty or more years from now if no action is taken to avert a financial crisis. In fact, no country in the world can today be described as old since nowhere do the old, defined as those over 65, account for much more than 20% of the total population. And no country has a demographic old age dependency ratio (as distinct from a system dependency ratio) that is much higher than 35%.

Progressive demographic aging, caused by falling birth and death rates and thus an increase in longevity but without an increase in the normal retirement age, will of course intensify the financial strains of pension systems. But demographic aging will affect funded schemes as much as PAYG ones since what matters more is the proportion of output that will be consumed by retired people and less how this will be financed (Barr 1992, Vittas 1993b).

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[1] Fox (1994) discusses some of these common features. See also Holzmann (1994).

System and Demographic Dependency Ratios. The more pressing problems confronting the social pension systems of Central and Eastern European countries stem from faulty design issues and structural factors that are independent of the progressive demographic aging. All four countries have much higher system than demographic old age dependency ratios[2]. In 1992 the system dependency ratios were 46% in Russia, 49% in the Czech Republic and Poland, and 59% in Hungary. In contrast, the respective demographic old age dependency ratios were 31%, 32%, 28% and 36%. Thus, the gap between the two ratios was 15% in Russia, 17% in the Czech Republic, 21% in Poland and 23% in Hungary[3].

Table 1
System and Demographic Old Age Dependency Ratios, 1992

	SDR	DDR	Gap
Czech Republic	49	32	17
Hungary	59	36	23
Poland	49	28	21
Russia	46	31	15
USA	31	30	1
Switzerland	43	34	9

SDR: System Dependency Ratio (given by the number of pensioners, including widows, orphans and disability pensioners, divided by the number of contributors).

DDR: Demographic Old Age Dependency Ratio (given by the number of people 60 years and over divided by people aged between 20 and 59 years).

Source: World Bank Staff Estimates

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[2] Summary data on dependency ratios, contribution and replacement rates, future demographic structures and other aspects of the public pension systems of the four countries reviewed in this paper are set out in Table 4.

[3] It should be noted that the reported ratios are estimates and are not based on very hard data because the pension systems of the four countries have rather weak record systems. There are also some conceptual and definitional problems with the data, such as the proper treatment of survivors' and disability pensions. Including widows, orphans and disability pensioners in the total number of beneficiaries inflates the system dependency ratio but lowers the average replacement rate. A rise in unemployment and evasion may also increase the system dependency ratio. In fact, system dependency ratios may vary significantly from year to year.

This high discrepancy between the two ratios is caused by the inclusion of surviving spouses and orphans among the beneficiaries, by early retirement provisions for selected occupations or industries (miners, heavy industry, etc.), by special provisions for working women, by lax certification of disability pensions, by unemployment and by evasion. Disability pensions accounted for 32% of the total in Poland and 27% In Hungary. Poland has a normal retirement age of 65 for men and 60 for women, yet the average retirement age is 57.5 years. Argentina and other Latin American countries (e.g. Brazil) also suffer from large discrepancies between their system and demographic dependency ratios.

In some of the more advanced OECD countries, where social security systems are better designed and less exposed to strategic manipulation, the difference between system and demographic dependency ratios is much smaller. Thus, the difference between the two ratios is only 1 percentage point in the US and 9% percentage points in Switzerland. However, the figures for the demographic dependency ratios for the USA and Switzerland are slightly misleading because the normal retirement age in these two countries is higher than 60. The somewhat high discrepancy in Switzerland is caused by the apparent use of disability pensions as a way to tackle unemployment. Disability pensions represent 27% of total pensions, while in the US they are less than 11% of the total. It should also be noted that Austria and Germany, two advanced OECD countries with quite large social pension systems, have a discrepancy between system and demographic dependency ratios that is closer to that observed for Hungary and Poland, though exact figures cannot be easily calculated because of the multitude of programs.

Targeted and Average Replacement Rates. The four systems have very high targeted replacement rates. The statutory rate for workers who contribute for the minimum number of years[4] varied from 50% in the Czech Republic to 55% in Poland and Russia, and 63% in Hungary. In addition, the maximum replacement rates for workers with longer contribution periods was 75% in Hungary, Poland and Russia, and 78% in the Czech Republic. In practice, however, the average replacement rate, i.e. the average pension as a percentage of the average wage, was much lower, ranging from 34% in Russia to 49% in the Czech Republic and Hungary. Poland had a surprisingly high average replacement rate of 74%[5].

The lower average replacement rate is caused by early retirement and dependent pensions as well as by the failure to index fully pensions to inflation. In Poland, the high replacement rate is attributed to the large upward adjustment of pensions effected in 1991 and the subsequent indexation of pensions

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[4] 25 years for men and women except for Poland and Russia where the minimum contribution period for women is 20 years.

[5] These are nominal replacement rates (i.e., they relate the average pension to the average nominal wage). They can be misleading in the same way as nominal contribution rates. Expressing the average pension as a percentage of the average net wage (i.e., net of the pension contribution) shows that while the average net replacement rate remains at 74% in Poland and 34% in Russia, it rises to 52% in Hungary and 53% in the Czech Republic.

to average wages. The average replacement rate is also expected to increase in Hungary in the future, following the recent indexation of pensions to (net) wages. Switzerland and the US report average replacement rates of 27% and 31% respectively.

Nominal and Effective Contribution Rates. Nominal contribution rates for pensions are also very high in all four countries. In 1992 they ranged from 27.2% of nominal wages in the Czech Republic to 30% in Poland, 30.5% in Hungary and 32.6% in Russia. However, the effective contribution rates were much lower because the lion's share of contributions was paid by employers. Employers paid 20.4% of nominal wages in the Czech Republic, 24.5% in Hungary, 30% in Poland (i.e., 100% of pension contributions) and 31.6% in Russia. In the US and Switzerland, the nominal contribution rates, which are divided equally between employers and employees, are 12.4% and 9.6% respectively. In Switzerland, the federal government and the cantons are jointly contributing 3.3% of payroll for the old age and disability pensions, while employers and employees share equally in contributing 8.4% of payroll for old age pensions and another 1.2% for disability pensions. As a matter of policy and system design, 20% of old age pensions and 50% of disability pensions are financed by the state.

Effective contribution rates, which are obtained by dividing total pension contributions by the nominal wage augmented by the employers' contributions, ranged from 23% in the Czech Republic and Poland to 24% in Hungary and 25% in Russia. These are very high by international standards. In the more advanced OECD countries, effective contribution rates are well below 20%.

Required Contribution Rates and Financial Balance. Taking into account the system dependency ratios and average replacement rates, the required nominal contribution rates for break-even amounted in 1992 to 24% in the Czech Republic, 29% in Hungary[6], 36% in Poland, and to only 16% in Russia. These compare with nominal contribution rates of 27.2% in the Czech Republic, 30.5% in Hungary, 30% in Poland and 32.6% in Russia. On the basis of these numbers, the pension systems of the Czech Republic and Hungary should be breaking even (after allowing for administrative costs and some evasion), that of Poland should be running a large deficit, and that of Russia should be accumulating a large surplus. The US system is currently accumulating a surplus that will be used to finance the pensions of the "baby boom" generation. The Swiss system runs a small surplus but this is wholly due to the state's contribution.

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[6] In Hungary, further deterioration in the finances of the public pension system over the past couple years has implied an increase in the required contribution rate for financial balance to 34%. This has been caused by an increase in the system dependency ratio to 66% and a rise in the average replacement rate to 52%. However, because of a fall in the share of covered wages in GDP (itself caused by the growing evasion that has contributed to the deteriorating dependency ratio), total pension spending has not risen as a proportion of GDP. Nevertheless, the public pension system is now suffering from a growing financial deficit.

The financial position of different systems in transitional economies is affected by the growing problems of evasion and arrears. Evasion is increasing because of the high contribution rates and the growing role of the private sector, especially the emergence of small firms in the service sector. Arrears are caused by the financial difficulties confronting many large enterprises, especially in the state sector. Growing evasion and arrears imply that all four systems are probably suffering from large and growing deficits. In fact, the Polish system runs a large deficit amounting to over 6% of GDP, which is a major drain on fiscal resources. The deficit of the Hungarian system is hidden by opaque accounting and reporting practices, while the Russian system suffers from a growing failure to collect contributions.

Table 2
Required and Nominal Contribution Rates, 1992

	SDR	ARR	RCR	NCR
Czech Republic	49	49	24	27.2
Hungary	59	49	29	30.5
Poland	49	74	36	30
Russia	46	34	16	32.6
USA	31	31	9.6	12.4
Switzerland	43	27	11.6	9.6

SDR: System Dependency Ratio
ARR: Average Replacement Rate
RCR: Required Contribution Rate (for break even)
NCR: Nominal Contribution Rate

Source: World Bank Staff Estimates

High Pension Expenditures and Near Universal Coverage. The financial burden of public pension systems is exacerbated by their largely mono-pillar structure and near universal coverage[7]. These translate into a high share of covered wages as a proportion of GDP and may explain why pension expenditures correspond to a much higher percentage of GDP in Central and Eastern Europe than is generally the case in Latin America and other low income countries. Two of the four countries surveyed in this paper had in 1992 pension expenditure to GDP ratios of slightly over 10%, Poland reached almost 15%, while Russia had a much lower level at 5%. In contrast, most Latin American countries have pension expenditures that are well below the 5% level. In Poland, total pension spending rose from 6.9%

[7] The coverage of pension systems was historically very high in former socialist economies. But growing evasion is causing a decline in coverage.

of GDP in 1988 to 14.8% in 1992. In the US and Switzerland pension spending amounted respectively to 4.8% and 7.3% of GDP. It should be noted that pension spending absorbs 14.8% of GDP in Austria and 10.8% in Germany.

A comparison between Hungary and Argentina shows that the two countries (prior to the recent Argentine reform) had broadly similar system dependency ratios and average replacement rates, thus implying similar required contribution rates for financial equilibrium of their respective systems (Vittas 1993c). The much higher pension expenditure to GDP ratio in Hungary implies that covered wages are a much higher fraction of GDP in Hungary than in Argentina. This is a result of the wider pension coverage and perhaps also of the smaller relative importance of profits and other nonlabor income in Hungary. Covered wages amounted to 42% of GDP in the Czech Republic, 37% in Hungary, 41% in Poland, and 29% in Russia. In Argentina, the corresponding ratio was estimated at 20% in 1990. In Chile, covered wages in the new reformed pension system amounted to 34% of GDP in the same year. One consequence of this feature is the potentially much higher transition cost of pension reform in Hungary and other Eastern European countries.

Table 3
Pension Expenditures, 1992

	RCR	CWGDP	PEGDP
Czech Republic	24	42	10.2
Hungary	29	37	10.6
Poland	36	41	14.8
Russia	16	29	4.6
USA	9.6	50	4.8
Switzerland	11.6	63	7.3

RCR: Required Contribution Rate
CWGDP: Share of Covered Wages in GDP
PEGDP: Share of Pension Expenditures in GDP

Source: World Bank Staff Estimates

Strategic Manipulation and Dispersion of Pensions. The pension systems of the four countries also suffer from strategic manipulation and growing dispersion of pensions. Strategic manipulation is encouraged by using shorter than lifetime career earnings for determining initial pensions. In the Czech Republic pensions are based on the best 5 years of the last 10 years of employment, in Poland on the best

3 of the last 12, and in Russia on the last 2 years of employment. In Hungary pensions used to be based on the best 4 of the last 5 years but they are now based on all years since 1988.

A short assessment period weakens considerably the link between contributions and pensions and may give rise to capricious and even perverse redistributions. Use of the best few last years has also given rise to an increasing dispersion of pensions as a result of the growing decompression of earnings following the change of economic regime and transition to a market economy. This development benefits unfairly high income workers who receive large pensions that bear little relationship to the contributions that were made when wages were more compressed.

Inflation Indexation. Failure to index properly to inflation also causes perverse effects, though such failure acts effectively as a safety valve for the financial viability of these systems. No country appears to have indexed properly the calculation of the reference or base salary for determining initial pensions, although Hungary is moving toward using indexed career earnings. In Hungary, earnings since 1988 are now taken into account and these are indexed to wages up to 2 years before retirement. A current proposal considers indexing past earnings up to 1 year before retirement.

The Czech Republic is the only country of the four that does not use indexation for adjusting pensions in payment. Hungary used to adjust pensions in payment on an ad hoc basis. The adjustments favored lower pensions, and thus partially offset the effect on the dispersion of initial pensions that resulted from the decompression of wages. More recently, Hungary introduced indexation of pensions to net wages. This move has put an end to the narrowing of pensions caused by the policy of differential underindexation but has also exposed the pension system to high future costs.

In Russia, pensions in payment are automatically indexed but because the adjustment is effected on a quarterly basis and Russia has suffered from prolonged hyperinflation, the real value of pensions is substantially eroded before it is restored at the end of each quarter. Poland has readjusted pensions in 1991 and has indexed the readjusted pensions to average wages. This has boosted the real value of pensions and has kept them in line with rising real wages. Attempts to link pensions to average prices have met with political resistance and have been put off repeatedly.

B. The Case for Pension Reform

Although the public pension systems of Eastern European countries are in urgent need of reform, there does not seem be a strong political appetite for radical and fundamental reform. Even piecemeal reform that pushes the system in the right direction, such as gradually raising the normal retirement age, increasing the assessment period for the calculation of initial pensions, and tightening eligibility conditions for early retirement and especially for disability pensions, is faced with strong political resistance. A decision to increase the retirement age of women in Hungary had to be suspended in early 1994. In fact, the only measures that have received support and have been implemented have included the automatic or

ad hoc indexation of pensions to inflation and the use of early retirement to facilitate the restructuring process. Both of these measures have caused a sharp deterioration in the finances of the public systems.

In this context, a forceful argument can be made for deferring a fundamental reform of the systems until privatization and other more basic economic reforms are completed. Under this view, using the pension system to encourage workers to seek early retirement and thus ease the restructuring process may make more political sense than making people redundant and paying them unemployment benefit. Even though pensioners may continue to work in the informal sector, the same could be true of workers receiving unemployment benefit. The financial cost of early retirement and unemployment could be broadly the same for the public budget, but the political cost of redundancy and unemployment could be much greater and could result in a substantial weakening of electoral support for continuing economic reform and restructuring.

There can be little doubt, however, that in the longer run radical pension reform is unavoidable. Such reform should encompass both a downsizing of the public system and the creation of fully funded private pension funds. The reformed public system should include raising the normal retirement age to 65 or even higher so as to lower substantially the system dependency ratio and also prevent the progressive aging of the population from swamping the system. It should also include strong safeguards against strategic manipulation, such as tightening the eligibility conditions for early and disability pensions, using indexed lifetime career earnings for determining initial pensions, applying linear accrual rates and providing for proportional pensions for workers with shorter careers (and thus eliminating minimum contribution periods that tend to penalize workers with less than full careers), lowering target replacement rates to no more that 40% of average wages and even preferably to no more than 40% of net average wages, and lowering contribution rates.

The reformed public pension system could be based on flat pensions irrespective of career earnings. These could be subject to narrow or broad means tests (under a narrow means test only retired workers with incomes and assets below a certain low level would be eligible for a state pension, while under a broad means test only retired workers with more than a certain high level of income and wealth would be excluded - the broad means test would be less expensive to administer, would be less stigmatizing recipients of state pensions and would avoid subjecting low income retirees to a poverty trap, but it would have a higher fiscal cost and would thus require higher contribution rates).

Alternatively, the reformed public pension systems could be based on a two-part structure, involving a flat minimum pension for every year of contribution and an earnings related component based on indexed lifetime earnings, with the combined pension being subject to clearly stipulated limits. Such a system would be less progressive than a simple flat minimum pension but it would involve a lower fiscal cost (for a given total level of state pensions) and would entail a fairer treatment of middle income workers.

C. Supplementary Non-State Pension Funds

The choice of structure for the reformed public pension systems will clearly depend on local economic and political conditions. Whatever the chosen structure, the reformed public pension system should involve substantially lower contribution rates in order to allow room for the creation and expansion of private pension funds. In addition, the successful promotion of private pension funds will require the enactment of enabling legislation, the development of a strong regulatory framework, and the modernization of financial markets. Considerable initiatives are under way in all four countries. Two countries have passed laws authorizing the establishment of private pension funds, while in the other two pension funds have started to emerge under other acts.

Private Pension Funds in the Czech Republic. The Czech Republic introduced legislation permitting the establishment of supplementary pension funds (SPFs) in February 1994[8]. The act became effective in May 1994. These funds are set up as joint stock companies and are clearly separated from the powerful (voucher) investment funds (IFs) in the Czech Republic. Members of the bodies of a SPF (i.e. management or supervisory board) may not at the same time be members of the bodies of an IF. The same restriction applies for persons who are involved in securities trading or members of the custodian institution that acts as depositary for the securities owned by the funds. As in Germany, funds can grant a proxy to the custodian institution -- normally a bank -- to vote their shares. This could potentially make banks very powerful in corporate governance. The regulations are clearly aimed at restricting conflicts of interest. Employees of the SPF may not be members of its supervisory board to insure independence of the latter even though supervisory boards in the Czech Republic are less powerful than for example in Germany (which also has a two-tier board system). Unlike in Germany, the supervisory boards in the Czech Republic do not elect and dismiss the management board. Other regulations (such as for example against self-dealing of SPF-employees) are also intended to limit fraud and conflicts of interest.

The SPFs are required to disclose to participants their general investment strategy as well as their economic results by sending them annual statements and by publishing semi-annual results and the results of their last three business years. SPFs may invest in securities traded on a public stock exchange. They may invest up to 5% of their assets in shares of a single company and may buy up to 20% of an equity issue (the same limits apply for investment funds). SPFs could therefore potentially acquire sizeable stakes in companies, if not individually, then collectively as institutional investors. However, SPFs are required to invest in a 'prudent manner' and to ensure a 'steady yield' on their investments. Whether or not these regulations will limit the equity investments of SPFs more than the limits mentioned above will depend on the interpretation of the law.

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[8] This section is based on an unofficial translation by Arthur Andersen, Prague of the Czech Act on Supplementary Pension Insurance with State Contributions and Amendments Associated with its Introduction.

The voluntary pension schemes are set up as defined-contribution plans, i.e. the contributions are defined and the actual pension payments depend on the yield of the pension fund's portfolio, although defined benefit plans may also be established. SPFs also administer life insurance, survivor pensions ("inheritable pension") and disability pensions. As their name implies, participation in the system is voluntary. The government subsidizes the system to some extent. Depending on the amount a participant contributes, the government adds up to 40% or 120 crowns, on the basis of a specified declining schedule[9]. Participants can transfer their contributions (with their share of the investment income) to another SPF and also terminate the contract at any time. These regulations are very important, could potentially increase competition among funds and serve as a tool for the participants to exert pressure on the funds to perform well. A potential drawback may be high administrative costs, although restricting the possibility to switch between funds to -- for example -- once a year, could mitigate this problem. The portability of pensions is also much better in this system, which will make labor mobility easier -- an important feature in transitional economies with great need for restructuring.

The Czech law on private pension funds contains a number of interesting features. First, it is a voluntary system but uses tax credits (rather than tax exemptions) for encouraging workers to participate. These amount to 24% for a monthly contribution of 500 crowns. As 500 crowns is about 8% of average monthly salary, the system clearly favors low income workers and thus avoids the regressive effect of tax exemptions. However, the tax credits do not appear to be dependent on workers contributing a minimum proportion (say 10%) of their monthly income. Thus, high income workers may subscribe for a contribution of no more than 500 crowns. This will hold back the total size of the funds. Second, the law allows workers to have one account with one pension fund. In this it follows the pattern established in Chile. The main motivation for this restriction in both countries is to increase the transparency of the scheme and facilitate compliance. Third, the law allows workers not only to change funds but also to cancel their contracts and withdraw from the scheme. The law does not seem to prevent workers from cashing in the government tax credits together with their own contributions and the investment income credited to their accounts. Thus, the funds may help provide relief to unemployed workers. But again a large tax expenditure in the form of tax credits may fail to generate funds that would be adequate for reasonably high supplementary pensions. So far 4 groups have applied for authorization under the new law. These include the Harvard investment group, Agrobanka, the Ministry of Defense, and a large insurance company.

Private Pension Funds in Hungary. Hungary has introduced an act on voluntary mutual benefit funds, which came into force in January 1994. There are three types of funds, namely pension funds,

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[9] The maximum state contribution is 120 Czech Crowns (KC). The following schedule applies:

Participant:	State contribution:	Participant:	State contribution:
100-199	40 + 32% of amount above 100	300-399	96 + 16% of amount above 300
200-299	72 + 24% of amount above 200	400-499	112 + 8% of amount above 400

mutual aid funds and health care funds, which shall supplement the public social security system. The mutual aid funds cover risks such as sickness, child raising, unemployment and death and are organized on a pay-as-you-go (PAYG) basis. The health care funds also operate on a PAYG basis and provide health insurance supplementing the public health care system. Pension funds are organized as fully funded defined-contribution plans based on individual capitalization accounts, although defined-benefit plans may also be established.

Funds are to be based on a common employer or on a professional, sectoral or regional basis. Membership fees have to be a uniform amount or a certain proportion of income for all fund members. Employers can also contribute (either in fixed amounts per employee or income-proportionate), in which case they have some control rights in the fund. They have voice, but no voting rights in the general meeting, but if their contributions are 50% or more of the sum of contributions, they also have voting rights in the control committee. Contributions are tax deductible (subject to limits) as is the investment income of the fund. Contributions are also free from the very high social security taxes. Benefits, both in the form of an annuity and as a lump sum payment, are subject to income tax. Contributions are collected in individual accounts. The minimum waiting period to withdraw the accumulated contributions and the investment yield is ten years, unless a member reaches the retirement age earlier.

Every fund member is an owner of the fund and has the right to inspect the books. The bodies of the fund are the General Meeting (GM), the Board of Directors (BD) and the Control Committee (CC). The GM is the supreme decision-making body of the fund and each fund member has one vote. It meets at least once a year[10] and elects both the BD and the CC. No employees of the fund may be elected to the BD and neither employees nor members of the BD may be elected to the CC. The BD is the managing body of the fund but may hire a manager for day-to-day activities. It meets at least once every three months. The CC is chosen from among the members of the fund and supervises the activities of the BD. A further control institution is the Fund Supervision Agency, which is established by the Ministry of Finance and is responsible for licensing and supervision of funds.

The fund's property is to be invested in the sole interest of its members and funds are only allowed to invest their own assets to avoid conflicts of interest. Investments have to be divided among different forms to reduce the risk for the fund and its members. Funds may not acquire more than 10% of an undertaking and may not invest more than 10% of their own assets in an enterprise which is affiliated with an employer member. At most 20% of fund assets may be invested with the same issuer (except for government bonds) and at most 20% of fund deposits may be held in the same financial institution. At most 20% of fund assets may be invested in shares and bonds quoted on a stock exchange and at most 10% may be invested in unlisted shares and bonds, which are not quoted. Furthermore, at least 10% of fund assets must be in liquid instruments. The fund may delegate its asset management to

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[10] The CC or 10% of the fund members also have a right to call the GM.

investor organizations, but not more than 45% of its assets may be with one organization. Before funds reach a certain size[11], they may not invest in securities (other than government bonds and state guaranteed securities) at all.

What does not appear to be regulated in the law is the transfer of accounts from one pension fund to another and can therefore apparently be restricted by the fund. The funds appear also to have substantial freedom in establishing rules for the termination of membership[12]. The possibility for fund members to move their account to another fund might help increase competition among funds and lack of regulation could be seen as a serious shortcoming of the new law.

The tax deductibility of contributions and especially their exemption from the very high social security taxes provide a strong financial incentive for the creation and growth of private pension funds. However, because contributions are locked into long-term savings, the funds will be attractive only to workers above a certain level of income who can more easily afford to save for the long term. Their effect will be highly regressive and will also undermine further the financial position of the public pension system. So far there have been more than 40 applications for the creation of mostly employer-based pension funds. 8 have already been approved at the time of writing this paper, including one for the employees of MATAV, the Hungarian telecoms, and one for employees of the National Bank of Hungary, the central bank.

Private Pension Funds in Poland. To date, Poland has not introduced regulations for the private provision of pensions, although the need for a supplementary pension pillar has been the subject of extensive debate[13]. Such a pillar could be mandatory or optional, the former case would support a faster development of supplementary pensions, the latter would be more in line with a market-economy approach. Another question is who should oversee the supplementary pension funds. Traditionally, any second tier in Poland had been provided by employers in the form of company, sector and occupation-specific retirement pensions. Whether this should also be the form of the supplementary pension system in the future remains the subject of debate. It is also still not decided whether tax incentives should support the development of an optional system. And, finally, whether the government should mandate benefit and/or contribution levels of an optional system remains an open question.

Despite the lack of specific legislation, a private pension fund under the name the Polish Pension Fund (PFE) Kapital Rodzinny was created in 1993 under the law for cooperatives that has been in force

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[11] 10, 15, and 20 million HUF for pension funds, mutual aid funds and health care funds, respectively.

[12] § 15 (2): "The legal consequences of the cessation of membership as well as the procedures to be followed are to be regulated in the statutes."

[13] This section draws primarily from a draft paper by Jean de Fougerolles (1994).

for more than ten years. The operations of the PFE were challenged by both the General Inspectorate of Banking Supervision of the National Bank of Poland (the central bank) and by the Insurance Department of the Ministry of Finance. The two regulatory agencies claimed that the PFE was engaged without license in banking and insurance activities. In response to these challenges the PFE restricted its activities. However, the prosecution authorities were forced to drop their investigations because cooperatives are not subject to supervision by either agency. This underscores the need for enacting a proper pension fund legislation and for clarifying which government agency should have responsibility for licensing and supervising them.

Private Pension Funds in Russia. Following the Presidential Decree No. 1077 of 16 September 1992, it is estimated that about 300 so-called non-state pension funds have been established in Russia[14]. Most have been created in 1994 and their number seems to be growing quite rapidly. They are generally very small and operate more like savings banks than long-term pension funds. There appear, however, to be some exceptions involving funds that intend to operate as proper pension funds.

A draft law has been prepared for the authorization and regulation of nonstate pension funds, but it is not clear how soon this law will be enacted. In the meantime, pension funds operate in a regulatory vacuum, which not only allows their founders to engage in misleading advertising campaigns, but also leaves considerable room for variations in practice. The situation is pretty chaotic with little standardization in services and products, charges, or investment practices. Most funds are based on defined contribution plans with individual capitalization accounts for their members, but some offer additional benefits and are more akin to defined benefit plans. Some funds also have rules that allow withdrawals during unemployment spells. Most funds direct their selling efforts toward employers. Even though some funds engage in advertising oriented toward individual workers, the main emphasis is placed on signing up firms.

The small pension funds invest their assets in bank deposits and promise a guaranteed return to members that is no less than the rate offered on SBER savings deposits. Other pension funds diversify their investments into bonds and some equities and adopt internal rules based on international practice, with regard to investment diversification, information disclosure and operating commissions.

Membership in most funds is small, rarely exceeding several thousand. However, some funds (e.g the fund for electric power workers) have tremendous expansion potential. Assets are generally also quite small, mostly less than 1 billion rubles (half a million dollars), though one of the funds already has 17 billion rubles. Most pension funds invest their assets locally, unless their management company has a foreign currency license in which case they may also invest in overseas assets.

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[14] This section draws on the findings of a World Bank mission to Russia in July 1994 and interviews with representatives of several pension funds.

There is considerable debate regarding the need and scope of regulation and supervision. Pension fund promoters urge enactment of a law in order to obtain tax benefits, especially removal of the triple taxation of pension saving (contributions are not deductible, investment income is taxed and pensions are taxed). However, there is little agreement on other possible legal provisions. Some officials favor the separation of pension funds and managing companies but others want to allow pension funds to have their own boards of directors and their own investment management capabilities. There is also less consensus regarding the nature of pension schemes, some favoring defined contribution and others defined benefit plans. The questions of vesting and portability are not properly addressed, while information disclosure is supported if it is limited to an annual statement with the right for members to ask for more frequent statements.

On investment policies, some officials favor diversified portfolios based on the prudent man concept, others prefer freedom to invest in the projects and securities of sponsoring companies. There is support for the enactment of legislation to clarify the status of pension funds but less for the creation of an inspectorate with supervisory responsibilities. There is concern that any investment regulations imposed by government will favor inefficient industries and social projects and will use the resources of pension funds as captive sources for financing the budget deficit. The concept of maximum limits to ensure diversification, but no minimum requirements (to avoid direction of funds) is not yet fully grasped. However, some pension funds want to see restrictions on advertising to curb misleading claims.

The regulatory vacuum is likely to continue, even after the passing of a pension law. An inspectorate for pension funds has been created at the Ministry of Social Protection, but it will be a long time before it is properly staffed and develops an effective system of supervision. In the meantime, there may be greater hope in encouraging a process of self-regulation with the association of pension funds acting as a sponsor of respectable institutions. This could develop a code of ethical conduct and business behavior that would encourage the adoption of sound and prudent practices and instill greater confidence in the pension fund industry.

Despite the problems, pension funds are likely to grow very fast in the future, especially if fiscal incentives are offered, inflation is brought under control, the privatization program is successful, and the financial situation of industrial companies improves. They could play a big part in the development of capital markets and in corporate governance.

III. THE ROLE OF PENSION FUNDS IN THE CAPITAL MARKETS

If private pension funds are authorized in Eastern European countries, should they be established as defined-benefit, employer-based schemes or as defined-contribution, nonemployer-based plans? Whichever form they take, what factors would determine their future growth and their role in the capital markets?

The experience of OECD countries and several developing countries suggests that, whatever their contribution in the past, defined-benefit, employer-based schemes are faced with growing problems of financial sustainability and fair treatment and require for their equitable operation strict and complex regulations that will lower their attractiveness for both employers and employees. Defined contribution plans based on individual capitalization accounts also require robust regulatory frameworks but are less affected by sustainability and equity problems.

The experience of OECD countries and several developing countries also suggests that a major determinant of the size and growth of private pension funds is the size of the public pension systems. Other factors contributing to pension fund growth are their coverage, the nature of their liabilities, and their investment returns. Clearly pension funds can accumulate substantial financial resources in a relatively short period of time but their impact on the capital markets will depend on both regulation and the investment attitudes to risk taking that are likely to emerge. In many European countries investment traditions have been more powerful than binding regulations in shaping the investment portfolios of pension funds. The investment policies of pension funds will also have important policy implications for investment returns, the rate of national saving, the financing of small firms and new ventures and corporate governance.

A. Pension Funds as Pension Institutions.

Historically, company pension schemes tended to take the form of defined benefit plans. This was because such schemes were initially conceived as personnel management tools with the triple objective of attracting skilled workers, rewarding loyalty, and facilitating the retirement of older workers (Hannah 1986, Williamson 1992). Defined benefit plans involved restrictions on vesting and portability that penalized early leavers and discouraged labor mobility. Moreover, by basing pensions on final salaries, they favored management workers (who receive larger salary increases late in their career) against rank and file workers. Defined benefit company pension schemes absorbed the investment risk of accumulated assets, which also covered the inflation risk prior to retirement, and thus provided an insurance for achieving a targeted replacement rate at the time of retirement (Bodie 1990b). But this insurance depended on a worker staying with the sponsoring company until retirement, while it failed to cover pensions in payment. The realization of the pension promises made by employers depended heavily on their integrity and solvency.

To discourage abuse of pension schemes by unscrupulous employers, various countries have enacted legislation that stipulates minimum standards for vesting and portability as well as for more equitable treatment of all types of workers, including early leavers, and for protecting pensioners from the vagaries of inflation. These have increased the costs of pension schemes for sponsoring employers and have stimulated a trend away from defined benefit and toward defined contribution plans. The latter have traditionally been used by smaller firms in industries with more labor mobility and less stable employment patterns. Defined contribution schemes can deal more effectively with the vesting and portability issues

but they transfer to workers the investment, replacement and inflation risks. One way to overcome this problem is to encourage use of variable contribution rates during the active life of workers, linking them to the investment performance of the funds and the targeted replacement rate, and to use indexed annuities when workers retire.

Although defined benefit occupational pension schemes have made a considerable contribution to the retirement income of a substantial minority of privileged workers, the growing instability of employment patterns, the increasing cost of pension regulations, and the increasing robustness of financial and insurance markets suggest that the relative disadvantages of defined contribution schemes will decline further in the future. The arguments for fully-portable and non-employer-based pensions are even stronger in Eastern Europe. The need for substantial restructuring will lead to major changes and large mobility in the labor market, which will in turn create a need for fully portable pensions. Insolvencies will be quite common in Eastern Europe for some time to come, rather than occur at the margin as in mature market economies, and employer-based pensions would have potentially adverse financial effects on displaced workers. The clear implication is that reforming Eastern European countries should veer their private pension funds toward defined contribution plans based on individual capitalization accounts and using variable contribution rates. At the very least, they should allow workers to opt out of company schemes and join non-employment-linked personal pension plans, while any tax benefits should be made equally available to company and noncompany schemes.

B. Pension Funds and Asset Accumulation

Relative Importance of Pension Funds. The organization of the pension system has become a major determinant of differences in the institutional structure of national financial systems. In those countries where unfunded social security systems pay generous pensions to retired workers, both funded pension schemes and to a lesser extent life insurance companies have been slow to develop. In contrast, countries where social security pensions have been more modest or where companies have been allowed to contract out of a major component of state pension systems (as is the case in the UK), employer-sponsored funded pension schemes have accumulated large financial savings. Because the pension schemes of smaller companies are often insured and administered by insurance companies, both pension funds and life insurance companies have experienced considerable growth in these countries. The first group of countries includes Germany, Austria, France, Italy and, to a lesser extent, Japan. The second group comprises all Anglo-American countries (e.g., the US, the UK, Canada, Australia, New Zealand and South Africa) as well as several continental European countries, such as the Netherlands, Switzerland, Sweden, Denmark and Norway.

It is worth noting that, unlike the traditional distinction between bank-based and market-based systems, the dividing line between countries with developed and underdeveloped pension funds (and insurance companies) is no longer a simple one between continental European and Anglo-American

countries. In fact, pension funds in Switzerland and the Netherlands have wider coverage and larger assets (relative to GNP) than most Anglo-American countries.

Switzerland has long had an employer-based second pillar. This became mandatory in 1985, expanding coverage among employees of small firms and reaching over 90% of all workers. In the Netherlands, occupational pension schemes are arranged by collective bargaining and are quasi-mandatory, achieving coverage in excess of 80%. In contrast, most Anglo-American countries have coverage in the region of 45 to 60%. In addition, Switzerland and the Netherlands effectively offer inflation indexed pensions. Inflation indexing implies higher required funding levels, which may explain why pension fund assets in these two countries exceed 70% of GNP. Adding the assets of life insurance companies, which often manage the pension schemes of smaller firms, brings the total assets of contractual savings institutions to well over 100% of GNP (Table 5).

Among Anglo-American countries, only the UK has pension fund and life insurance assets reaching similar levels. Although coverage is smaller in the UK and inflation-indexed pensions are less widespread, the total assets of pension funds are large because companies are allowed to contract out of the state earnings-related pension system. This imposes a greater liability on UK company pension schemes and thus a greater need for accumulating assets than, for instance, in the US where company pensions are generally integrated with social security pensions.

Among developing countries, large funded pension systems exist in a few countries, notably Singapore, Malaysia and Chile, where they are based on defined contribution plans with individual capitalization accounts. The systems of Singapore and Malaysia are centrally managed by national provident funds, while in Chile the government mandated system is privately managed by decentralized competitive firms subject to draconian regulations and supervision. South Africa, Cyprus, Zimbabwe and to a lesser extent Brazil, India and Indonesia, also have funded pension schemes that are mostly based on company plans. There are also some developing countries with partially funded public systems such as Egypt, Jordan, Tunisia and the Philippines[15]. In contrast, most countries in Latin America (at least until the recent wave of pension reform), Eastern Europe, Francophone Africa, the Middle East, and East Asia have pay-as-you-go social pension systems that make no or little contribution to the accumulation of financial assets.

Determinants of Pension Fund Growth. The size of pension funds depends on the coverage of the schemes, their length of existence and maturity, and the nature of their pension liability. Schemes that promise a pension based on final salary and indexed to subsequent inflation and have been in operation for a longer time and thus cover a more aged labor force will tend to have higher assets compared to younger schemes that operate defined contribution plans and cover a younger labor force.

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[15] Some public pension systems in OECD countries are partially funded (e.g., Canada, Japan, Sweden and the US).