# Funded and Private Pensions for Eastern European Countries in Transition?

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**Abstract**

All reform countries in Central and Eastern Europe require a rapid and comprehensive restructuring of their public pension schemes for macro- and microeconomic reasons. The paper argues that pension reform, economic restructuring, and the growth options for these countries are closely related, and that by pursuing a reform which is at least partially directed towards private and funded pensions, the economic course of these reform economies may importantly be changed. The shift towards funded pensions could help to develop the financial sector and thus may bring the reform countries more rapidly towards a higher growth path. Recent developments in endogenous growth modelling support these conjectures. Yet for the time being, the financial sector in the reform economies may not be sufficiently developed to allow the introduction of funded pensions on a large scale. What these minimum conditions for the financial sector are, and how they can be introduced rapidly, is very much open for discussion.

**Zusammenfassung**

Alle Reformländer Mittel- und Osteuropas benötigen aus mikro- und makroökonomischen Gründen eine schnelle und umfassende Umstrukturierung ihrer Rentenversicherungssysteme. In der vorliegenden Studie wird argumentiert, daß die Reform des Rentenversicherungssystems, die ökonomische Umstrukturierung und die Wachstumsmöglichkeiten dieser Länder eng miteinander verknüpft sind und daß sich durch das Verfolgen einer Reform, die sich zumindest teilweise hin zu einem privaten und kapitalgedeckten Rentenversicherungssystem richtet, die ökonomischen Entwicklungschancen dieser Reformstaaten entscheidend verändern könnte. Die Umstellung auf ein kapitalgedecktes Rentenversicherungssystem könnte dazu beitragen, die Finanzmärkte zu entwickeln und könnte so die Reformstaaten schneller auf einen höheren Wachstumspfad führen. Neuere Entwicklungen im Bereich endogener Wachstumsmodelle unterstützen diese Vermutung. Im Moment sind jedoch die Finanzmärkte der Reformländer für die Einführung eines umfassenden kapitalgedeckten Rentenversicherungssystems nicht ausreichend entwickelt. Welches die Minimalanforderungen an die Finanzmärkte sind und wie sie schnellstmöglich erzielt werden können, ist strittig.

**Résumée**

Pour des raisons micro- et macro-économiques, tous les pays de réforme de l'Europe Centrale et Orientale ont besoin d'une restructuration de leurs systèmes de retraite. L'article presente l'argumentation que la réformation du système de retraite, la restructuration économique et la croissance de ces pays sont étroitement liées. Il présume que la voie économique suivie par les économies de réforme pourra être influencée par l'installation au moins partielle d'un système de retraite à capitalisation privé. L'installation d'un système de retraite à capitalisation pourra contribuer au développement des marchés financiers et pourra ainsi rapidement mener les pays de réforme sur une voie de croissance plus elevée. Les modèles de croissance endogène récemment développés soutiennent cette hypothèse. Pour le moment, les marchés financiers des pays de réforme ne sont pourtant pas assez développés pour permettre l'installation d'un système a capitalisation complet. Lesquels sont les exigeances essentielles que doivent remplir les marchés financiers et comment ces exigeances pourront être réalisées reste à être discuté.

## 1. Introduction*

In view of the well-known reform agenda in Central and Eastern European countries moving from plan to market, and comprising, inter alia, macroeconomic stabilisation, large-scale privatisation, and institution building, the linking of economic restructuring with the introduction of funded pensions seems far-fetched.[1] However, the paper argues that pension reform, economic restructuring, and the growth options for these countries are closely related, and that by pursuing a reform which is at least partially directed towards private and funded pensions, the economic course of these reform economies may importantly be changed.

In contrast to the often repeated call for a social safety net in the countries in transition, suggesting a barely developed system of social benefits, almost the contrary is true (Holzmann 1992). The former centrally-planned economies have inherited a rather comprehensive system of social benefits (except for unemployment) and already spend an important and often rising share of GDP on their behalf, with pensions taking the lion's share. But the way those pension benefits are provided is grossly inefficient and considerably distorts individual decisions. The benefit level is low, but the number of beneficiaries elevated and rising. Hence, a pension reform is required for fiscal, social and efficiency reasons.

On the other hand, the financial sector is hardly developed at all. The banking system is underdeveloped and financial markets are largely in an embryonic stage. Privatisation of almost all productive assets in the economy proves difficult, also because of the well-known stock-flow mismatch. In such a situation it appears natural to link a pension reform with the introduction of funded schemes, and various proposals in this direction were made in recent years.[2]

Until recently, my assessment of these proposals was rather sceptical (see Holzmann 1993). The change in my stance is due to polit-economic considerations and is a reaction to the deadlock in public pension reform in the transition economies. Perhaps more importantly, the change is a result of advances in endogenous growth theory and of the increasing empirical evidence of a close link between financial market

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liberalisation and economic growth. Yet, both considerations are necessary, but not sufficient to press for private and funded pensions in these economies. There are still numerous theoretical, empirical and institutional questions to be resolved, before a more affirmative answer can be given. On the other hand, the issue is not an academic question any longer, since a few reform countries are exploring in this direction.

The structure of the paper is as follows: Section 2 provides a very short survey of the necessities to reform the current public pension scheme, before highlighting main arguments for introducing private and funded pensions as part of the reform process.[3] The following sections investigate three crucial areas for a (partial) shifting from a public and unfunded to a private and funded retirement scheme: Section 3 highlights the theoretical foundations for a Pareto-efficient transition and the importance of positive externalities, section 4 inquires into major conceptual and institutional questions on the way to funded pensions, inter alia, the minimum financial market conditions, while section 5 surveys the current attempts and problems of introducing funded pensions. Tentative conclusions are summarised in section 6.

## 2. Reforming the public scheme: Necessity, constraints and options

In all Central and Eastern European reform economies, the public pension systems are in severe financial difficulties. This situation is little linked to past and current demographic developments, but is essentially the result of past policy decisions reflecting central plan thinking and the ignoring of incentive structures, which is exacerbated by the transition to market structures. As a consequence, the expenditure level is mostly high, requiring partly extremely elevated contribution rates, in addition to budgetary transfers. More moderate expenditure levels in a few countries (Estonia and Lithuania) reflect transitory capping measures in view of budgetary restrictions, and thus constitute a repressed disequilibrium.

The required comprehensive reform of the public pension system raises the issue of sizing the chance and giving from the very outset private and funded provisions an important role. Such an approach could not only contribute to reducing the size of the public sector but may also provide some of the required savings to finance the huge investment needs of these economies. The prospects of such an approach

appear to be even better if it is linked to the initiated privatisation process and to the allocation of some of the shares of socialised enterprises for pension fund use.

This section in the first part presents central macro- and microeconomic reasons, why a rapid and comprehensive reform of the pension scheme is required if the overall reform program should not be jeopardised. The second part outlines main arguments why a move towards funded pensions could support the economic reform process.

## 2.1 Necessity of the overall economic reform process

### (i) Obstacle for economic stability and growth

The operation of public pension schemes in Central and Eastern Europe - their expenditure share in GDP, financing requirements and benefit structure - constitute a major obstacle for stability and growth in the reform countries. Stylised features of their current pension scheme are summarised in Table 1.

Like in most Western industrialised countries, the share of pension expenditure in GDP has also been increasing in the former centrally-planned economies in recent decades, albeit with moderate pace. With the initiation of economic and political reform, starting between 1988-1990, however, the rise in the expenditure share has substantially accelerated, reaching, on average, well above 10 percent of GDP in 1992 for the most advanced reform countries, with estimated further increases in 1993 (Figure 1). Such a level is likely to be above the average expenditure share of OECD countries for which the latest reported average share is 9.3 percent (1986), prior to major and minor reforms becoming effective around 1990. The developments in other reform countries (the Baltics, the CIS countries, and the former Yugoslavia) appear similar, albeit with somewhat lower levels and more data uncertainty. The rising proportion of economic resources which is transferred from the active to the retired population has important implications for stability and growth prospects of these countries.

The former centrally-planned economies were characterised by a very high level of budgetary intermediation of economic resources, reaching more than 50 percent of GDP. With the reform process, an important reduction is taking place, but the pressure on cutting budgetary expenditure proves as difficult to implement as raising revenue, making the control of the overall fiscal deficit a main issue of macroeconomic stability. Social expenditure are, in principal, financed by social security contributions, reaching high levels in the reform countries, of which some 50 to 70 percent are devoted to financing pension expenditure.[4] Despite those high rates, an important and often rising portion of pension expenditure has to be financed through state budget resources, thus widening the general government fiscal deficit. Yet, in the reform countries, the possibility of non-monetary financing of a fiscal deficit is still very much

restricted in view of only rudimentary financial markets. Consequently, a high pension expenditure level threatens macroeconomic stability unless other public expenditure are curtailed or revenue increased.[5]

Using the latter options is likely to jeopardise the growth prospects. High and sustainable economic growth in these economies requires, as elsewhere, efficient allocation of resources, technical progress, and also the accumulation of productive resources, i.e. investment. The new relative price structure in the reform countries, however, renders the inherited capital stock largely obsolete, if measured in efficiency units, thus enhancing the need for elevated capital accumulation if Western income levels are to be approached within a reasonable time span. Yet, high benefit expenditure levels risk to crowd out educational and infrastructure investment, as already experienced in these countries. High levels of social security contributions are likely to reduce household savings, with negative impacts on the financing of investments of the emerging private sector.

**(ii) Impediment for achieving the social function**

Paradoxically, despite of the already high level of expenditure on public pensions, they cannot fulfil the central functions of a retirement scheme: poverty alleviation and income replacement.

As a result of an extremely high number of retirees, the benefit levels are very low, providing mostly an income support around the poverty level. The share of elderly living in poverty is still a largely unresolved issue in view of questionable official poverty lines, important regional price differences, the large, but varying share of elderly living with their children, important home production of food and ongoing (official and unofficial) labour market participation of elderly. However, there is general consensus that the share of elderly poor has increased during the reform process, only the extent is open for discussion. Yet, financial constraints and the already high expenditure level prevent an untargeted increase in the minimum benefit level. More targeted provisions through social assistance programs are under elaboration, but progress, so far, is impeded by political, technical and administrative problems resulting from the recreation of local governments.

Budgetary constraints have also limited the scope for indexation, but annual inflation rates are still in the two-digit range, even in the most successful reform countries. Since benefit indexation has mostly been performed in a graduated manner, raising lower benefits by a higher amount, the benefit distribution is very much compressed, providing the majority of retirees in essentially all countries (except Poland) with minimum benefits only. Some countries (Estonia and Latvia) have temporarily provided flat-rate benefits only, and the recently re-introduced graduation by past work record is modest. Consequently, public pension benefits provide only a very low replacement of earnings, even if compared with the compressed wage distribution of current workers. Since in the past, for households the acquisition of other assets to support retirement consumption has been limited (mainly housing, saving deposits, and cash), and the latter two exposed to an important inflation tax, retirees essentially have to rely on low public benefits, further labour market participation, and intra-family transfers.

Unless the pension scheme is reformed and economic growth takes place, it will not be able to fulfil its main objectives. High and sustainable economic growth, however, may be conditioned on a prior reform of the current scheme.

### (iii) Main reasons for expenditure surge and deficiencies

The reform requirements of the public pension scheme, centred around high and surging expenditure levels and microeconomic deficiencies, are a heritage of the past central planning and of the current transformation process.

Under central planning, the pension scheme was part and parcel of the overall distribution concept, displaying the following central characteristics:

(1) The regulations paid little attention to incentives, and deviations from envisaged individual behaviour could, in principle, easily be controlled via all-encompassing socialised enterprises. The regulations served to implement planning objectives, with differentiation by sectors and branches, and low standard retirement ages (mostly 55 for women, 60 for men), further reduced for priority sectors.

(2) The female labour force participation was extremely high, being at and above the highest level experienced in Western industrialised countries (Sweden), and resulting in almost universal coverage.

(3) The government provided essential goods and services free of charge or heavily subsidised, financed from cash flows from socialised enterprises, giving the cash labour income almost a residual character and resulting in a low labour income share.

(4) Important social services, goods and social transfer provisions were directly covered by the socialised enterprises, giving those enterprises social welfare-type functions.

As a result of the transformation process, comprising, inter alia, price and trade liberalisation, subsidy reduction and privatisation, and implying, inter alia, adjustment inflation, a decline in output and the emergence of (open) unemployment, main characteristics of the inherited scheme became striking, exacerbated by structural changes and the decline in economic activity.

(1) The stark reduction in budgetary (consumer and producer) subsidies-in the past amounting up to 15 percent of GDP (Holzmann 1991b)-required adjustments in the nominal benefit level, and the higher pension expenditure thus reflect the shift from indirect (lower price level) to direct income support.

(2) This development is fostered by the privatisation of enterprises and the imposition of a hard budget constraint on socialised enterprises, reducing their social policy role and shifting corresponding expenditure to the budget.

(3) Government's loosing grip on enterprises (and individuals) induces them to exploit the existing deficiencies of the regulations and lacking administrative structures, resulting in rising benefit take-up and lower contribution payments (from socialised enterprises and the emerging class of private farmers and self-employed).

(4) Expenditure implications are exacerbated by various policy actions as a result of emerging unemployment and government restructuring. In various countries early retirement windows are introduced to cope with rising labour market disequilibria, and disability pensions are rising, too. Lacking an elaborate social assistance scheme and means testing procedures, governments are pressed to provide less targeted minimum pension benefits.

(5) The shift towards private sector production, paying productivity-oriented wages, leads to a rise of the national wage share (gross wages as a percent of national income/GDP). Under an earnings-related pension scheme, such a development is bound to raise pension expenditure as a percentage of GDP.

(6) Last but not least, the decline in real GDP added to the rising pension burden. In view of the already low benefit level and the political need for social safety provisions for the elderly, real benefits could not be downward-adjusted by the same degree as it happened with real wages.

### (iv) Prospect for the future

The strong impact of the current output fall raises, of course, the question to what extent the existing financial problems of the public pension schemes are largely temporary and will be reversed once high and sustainable growth sets in. Various considerations and scenario projections, however, oppose such an assumption, suggesting a further and important increase of the cost-covering contribution rate of an unreformed pension scheme, inter alia:

(1) The basic imbalance results from the high retiree/contributor ratio as a consequence of low retirement ages. Currently, some 50 percent of the population are active, paying for some 25 percent of the population being retired. Future lower unemployment and higher wages may reduce incentives for early retirement, but as experienced in Western industrialised countries, the impact is likely to be small.

(2) The share of wages in national income/GDP will eventually approach Western levels, resulting in a steady state expenditure level (pension expenditure as a percent of GDP) which may be some 20 to 40 percent above the current level.

(3) The ageing of the population will also hit the countries in transition. Currently, in comparison with Western Europe, their age structure is, in general, younger as a result of past higher fertility rates and lower life expectancy. Yet, fertility is falling in these countries, too, and likely to approach Western levels; life expectancy is going to rise in parallel to the introduction of Western production technology and healthier life styles. In addition, the likely migration of younger age groups to the much richer West will further deteriorate the population structure.

## 2.2 Reforming the current scheme: Constraints and options

Given the current financial situation and prospects of the public pension scheme, and the need to evict main microeconomic deficiencies and perverse incentive structures, the traditional reform options for public and unfunded schemes and their applications in Western market economies are well documented (Holzmann 1988). The reform direction depends on the main social policy objectives - poverty alleviation and income replacement -, but also on the inherited system in view of the technically and politically tedious transitional problems as well as the economic situation, both likely to limit the set of possible reform options.

Given the need for a total revamping of the current pension scheme, some tendencies in OECD countries to give private and funded pensions more importance, and strong tendencies in Latin American countries to shift from public and unfunded to private and funded schemes, the legitimate question about the usefulness and feasibility of such a shift arises for transition countries as well. Yet, it is important to stress that a change in the funding mechanism does not substitute a necessary reform in the benefit structure, retirement age or indexation procedure; those changes have to take place independently of the choice of the financing mechanism. This section concentrates on general reform issues and highlights central arguments advanced to support such a shift.

### (i) Getting out of the deadlock of pension reform

With the initiation of economic reform, the transition countries became readily aware of the unsustainability of the inherited pension scheme and the need for reform. In view of the close link between the pension scheme and economic reform, important pressure has been exerted, but also technical assistance provided by the IMF, World Bank and other international organisations for a restructuring of their current schemes; so far with limited success. Minor and sometimes major adjustments of the pension scheme have been undertaken, doing, however, little to correct the long-term financial prospects, and addressing efficiency issues only marginally. This reform inertia does

no longer reflect the lack of knowledge of reform need and possible reform options among the political leaders and ministerial staff. It is essentially a political problem of consensus-finding and economic reform constraints.[6]

All of these countries represent new democracies with often fragile parliamentary support of Government and lacking mechanisms of consensus-finding between social groups. Given the starting conditions of these countries, in which any traditional reform necessarily means a cutback of "acquired rights" for important segments of the population, neither a consensus nor a majority solution could be achieved so far.

The difficulty of achieving a consensus may also reflect the hitherto limited reform proposals, allowing easily to identify likely individual gains and losses and the forming of opposition groups, while providing limited prospects of a general improvement. Furthermore, it may be argued that the proposals have not been time-consistent, since they did not address the medium and long-term financial problems, making further and future changes very likely.

The political constraints are closely linked with economic conditions. Currently, essentially only flat-rate pensions can be financed. The introduction of a reformed earnings-related (single or two-tier) scheme can only make promises for the future, but can do little for the current generation of retirees and elderly workers. Paying earnings-related contributions now in order to get unfunded earnings-related benefits in the future, however, may not be credible in view of past experience and uncertain economic prospects. Furthermore, any enhanced public generosity requires an increase in the retirement age which needs to be phased in, taking at least 10 years.

Against this background and suggested by the recent Latin American experience, the partial (or full) shifting of pension provisions from public and unfunded to private and funded schemes, linked with a total revamping of eligibility criteria (retirement age!) and the benefit structure, could provide a solution of the political deadlock of reform. Moving to private and funded contribution-related schemes may prove more credible since the future benefit is considered to be dependent on the individual contribution effort and not on political distributional considerations. Such a breakthrough would be even more likely if convincing arguments about the contribution of a pension reform to economic restructuring and growth could be supplied. A potentially higher growth path under a funded scheme eases the distributional conflict,

and shifts the discussion from simple distributional concerns to efficiency and growth considerations.

### (ii) Promoting financial market developments

The monetary system in the former centrally-planned economies revolved around a monolithic state bank which combined the function of a central bank and of commercial financial institutions. Its main target was to assist enterprises in meeting targets for output and investment, laid down in the annual economic plan (EBRD 1993). Enterprises were not free to use their cash-flow, but it had to remain on their accounts to be used for planning purposes. Households operated in a separate monetary circuit. A National Savings Bank would cater for their needs, accepting deposits and redepositing surplus funds in the national bank; in some countries, they provided generous housing credits. Besides cash, those deposits were the only financial assets households could acquire. As a result, tradable financial assets between surplus and deficit economic units did not exist.

With the initiation of economic reform, the transition economies transformed their monobanking to a two-tier banking system, moving all lending and deposit-taking operations to new commercial banks. However, the state-owned commercial banks inherited a loan portfolio essentially consisting of credits to socialised enterprises, while the extension of new credits to the emerging sector is hampered by the banks' lack of experience with credit evaluation, the absence of collateral laws, cross-ownership between socialised enterprises and banks, poorly developed accounting rules and weak enforcement of prudential regulations and various incentives for banks to stick to traditional customers. As a result, the current banking system cannot perform the role of an efficient financial intermediary.

The alternative system of financial intermediation via financial markets is impaired because of the time it requires for its development and the need of government to finance the budget deficit. Treasury bills have mostly been the first financial assets to be issued and in view of much higher risks of alternative assets gladly been taken into the portfolio of banks, enterprises and households. With the initiation of privatisation, stock markets have been established in the reform countries, but the number of

quoted stocks remains low and serves essentially as a secondary market, with little additional cash flowing to enterprises.

In such a situation of an ailing banking system and an embryonic financial market, the suggestion of introducing private and funded pensions as a central device to assist financial market developments is of great appeal. What is less clear is, what kind of financial institutions should be in charge of operating private pension funds, how they can avoid perverse incentives and traps of the existing institutions, and what kind of portfolio they can acquire in a, perhaps, long period of transition (discussed below).

### (iii) Facilitating privatisation

The reform countries inherited an economic structure in which essentially all capital goods were owned by the state. Trying to sell those assets during the privatisation process would lead to very low prices as a result of the underlying stock/flow mismatch. This mismatch is accentuated by the virtual absence of financial assets of private households. Selling the assets to foreigners would relieve the mismatch (and balance of payments constraints), but meets political resistance in addition to raising questions of short-term feasibility and long-term effects. For this reason various reform countries have started to freely distribute important shares of government assets via voucher systems to the population. Such an approach leads to rapid private ownership, but not necessarily to an efficient exercise of ownership rights and hence efficient allocation of resources.

Giving away government assets for free seems illogical in view of the high government debt implicit in the acquired social security rights. For this reason, various reform countries envisage or have started to transfer a share of socialised enterprises to the social security fund: Partly as a liquidity reserve, partly as revenue-yielding asset, and partly as a buffer against the predictable ageing of the population. While the approach makes sense in macroeconomic terms, it raises various questions at the microeconomic level. Some of the pertinent issues of transfer of ownership and privatisation may be better addressed in a private and funded scheme.

### (iv) Supporting existing growth options

A central objective of the economic and political reform in Central and Eastern Europe was and is the rapid reduction of differences in income and well-being to the West. As throughout the world, growth requires improvements in efficiency and the accumulation of physical and human capital. Despite the high investment rates which characterised the former planned economies, in view of past wasteful investments and of the new relative prices, the effective capital stock is considered to be low; somewhat more optimism exists with regard to the human capital stock, in particular in technical skills and sciences. Hence, important capital accumulations is required if the welfare gap to the West is to be reduced in a reasonable time span. Both of the available main growth options - import-led growth based on capital transfers during the period of transition, and export-led growth, based on open markets for Eastern European products -, however, require an important contribution of national saving to the growth effort as well as important efficiency gains and technical progress (Holzmann et al. 1993).

Both growth options are not mutually exclusive but can be self-enforcing. An initial export-led growth is likely to attract more foreign investments, easing further the balance of payments constraints and the import of Western technology. In addition, capital transfers via direct investments (instead of credits and loans) are more stable and have less distortionary effects on money supply, as suggested by comparing Latin American and south-east Asian experiences (Calvo et al. 1993). Direct investments may also react very positively to the existence of a functioning banking system and established financial markets, to which funded pensions may importantly contribute.

## 3. From unfunded to funded schemes: Pareto-efficient transition and the importance of externalities

The arguments of the prior section may motivate a move towards funded pensions in the reform economies. However, they do not demonstrate that a Pareto-efficient transition is feasible, or - in a weaker version and requiring explicit intergenerational distributional considerations -, that the potential gains for all future generations resulting from a move towards fully funded pensions are very high and may thus justify some sacrifice of the transitional generation.

Distributional and not only allocative considerations are particularly important for economies moving from plan to market. The current generation of retirees and elderly workers will have spent most of their lives under conditions of central planning and modest income levels. The adjustment costs of transition have further reduced their welfare position. Only the younger part of the working generation can expect an increase in their income levels once growth sets in. In consequence, a transition from an unfunded to a funded scheme, which puts an additional burden on the current generation (active and retired) may violate distributional considerations and is unlikely to meet a political consensus.

This section outlines the basic analytics under which a move from an unfunded to a funded scheme (UF-FF) in the reform economies is possible, while making at least on generation to be better-off (i.e. is being Pareto-efficient).

### Rate of return differences - the necessary condition

A necessary, but not sufficient, condition for an UF-FF shift is that the rate of return of a fully funded scheme is higher than that under an unfunded one (the natural growth rate). According to neo-classic theory, in the steady state, the real interest rate, hence the marginal productivity of capital, has to be at least as high as the natural growth rate; only then is the growth path dynamically efficient. For transition economies, with currently low levels of efficient capital (since capital accumulated in the past is largely worthless) it is generally assumed that marginal capital productivity is likely to be very high for many years. The resulting considerable gap between marginal

capital productivity and natural growth rate seemingly strengthens the argument for switching from an unfunded to a funded pension scheme.

Nevertheless, from the existence of a positive gap between real interest and natural growth rate, it cannot be concluded that an UF-FF shift would be Pareto-efficient. If the public pension program is non-distortionary and the intertemporal budget constraint taken as exogenous, then a change from an unfunded to a funded system would not improve the welfare of at least one generation how ever high the (finite) gap between interest rate and growth rate is. Under those assumptions, a shift to a funded scheme has, at best, no welfare effect at all, or can only take place at the expense of a transitional generation.[7] Arguments for a Pareto-efficient transition require assumptions about either less-distortionary effects of the funded scheme compared to the unfunded to be replaced, or have to show that the new scheme results in an outward twist of the intertemporal budget constraint, i.e. they have to present arguments of positive externalities (such as special growth effects).

**Pareto-efficiency of the funded scheme - the assumption of lower negative externalities**

Lower negative externalities can be motivated by the many distortions an unfunded scheme may exert on intertemporal consumption or on labour supply decisions, resulting in an excess burden. Through the UF-FF shift, the reduction in the excess-burden may be used to repay the implicit debt of an unfunded scheme within finite time (Homburg 1990). Since public pension schemes and the way they are financed, quite definitely entail numerous distortions, a change in the funding mechanism may thus actually improve welfare, and, further on, may diminish the impact of population ageing.

The conclusion rests, however, on the assumption that the funded scheme is less distortionary than the unfunded one, a result which is not necessarily linked with the funding procedure but is related to the benefit structure and the benefit/contribution link. Public and earnings-related pension schemes traditionally have a distributional and annuity component, and it is the mingling of both components and the lack of a clear contribution/benefit link which is claimed to be responsible for the

distortions (see e.g. Schmidt-Hebbel, 1993). Distortionary effects resulting from informal sector activities (Corsatti and Schmidt-Hebbel, 1994) in view of a lacking contribution-benefit link also appear important for the transition economies. However, those distortions can be reduced in an unfunded scheme, too, by separating both components more clearly as, for example, in a two-tier scheme with a basic tax-financed flat-rate scheme (of universal or assistance type) taking care of distributional and poverty considerations, and a fully earnings-related one, financed by contributions only.[8] The basic component will exist in any alternative concept and the incurred distortions are the inevitable consequence of introducing distributional activities. Then the remaining, potentially avoidable distortions are reduced to the effects of an alternative funding mechanism. Here, the valid point can be made that a non-distortionary pension scheme requires actuarial neutrality which can be achieved in an unfunded scheme only if the implicit rate of return (the natural rate of growth) equals the rate of interest (i.e. the golden rule of growth holds; see Breyer-Straub 1993).

Even if the funded scheme is non-distortionary, compared to the unfunded one, new distortions are likely to be introduced through the transition and the financing of the now explicit social security debt (SSD). The interest payments on this debt have to be financed via taxes which introduces a new excess-burden, unless financed via lump-sum taxation.[9] Hence the scope of the now explicit debt, the level of interest rate and the type of additional tax-financing determine the level of the new excess burden to be compared with the one existing under an unfunded scheme. Calculating for the transition economies a SSD of twice the GDP (see section 4.2) and assuming a (low) nominal interest rate of 5 percent results in an interest-rate burden of 10 percent of GDP, roughly equivalent to the level of social security contributions under the current unfunded scheme in many reform countries. In fully developed market economies, this would require a comparison of the excess-burden of additional taxes (say income tax or value-added tax) and social security contributions (equivalent to a labour tax in case of no contribution-benefit link). In the reform economies, other distortions resulting from the additional tax have to be taken into account, due to a badly developed tax administration, compared to social security contributions which are levied at the source.

**Pareto-efficiency of the funded scheme - the assumption of positive externalities**

The other avenue to argue for funded pensions requires an outward twist in the intertemporal budget constraints resulting from the introduction of a funded, instead of an unfunded scheme, or perhaps more difficult, from the replacement of an unfunded by a funded one. Such results, however, cannot be achieved under traditional neo-classic growth considerations, but may be derived from recent developments in endogenous growth modelling. The broad range of recently developed models provides hints and some empirical evidence of how different financing mechanisms of pensions may twist the intertemporal budget constraint, i.e. result in a higher growth path than otherwise.

Models of endogenous growth (e.g. Romer 1990) of the form $\dot{K} = \Theta(A) * K - C$ may not do the trick (with K the capital stock and C consumption). The technical progress variable Θ(A) depends on externalities, such as educational expenditure, which are not influenced by a UF-FF shift, and higher growth rates are determined by a higher initial capital stock. However, the equation may be given a different interpretation in which Θ(A), exactly A, is assumed to be related to the level of financial market developments, affecting positively the productivity of capital (i.e. Θ '(A) > 0). Such an interpretation is given by Roubini and Sala-i-Martin (1992), developing a model of financial repression in which A is the higher the less financial markets are repressed. Estimates based on Barro (1991) data and specification, and applying alternative measures for financial market repression suggest non-negligible and statistically significant effects on the transitional growth rate of 0.5 to 3.1 percent p.a. (and tending to make the regional dummy for Latin American countries insignificant).

The elimination of financial market repression is, of course, not fully equivalent to the development of financial markets, but the latter has received high attention in the recent discussion on economic growth (e.g. World Bank 1989). The contribution of financial markets to economic efficiency and growth is stressed by recent papers, but the discussion itself has a long tradition. There are three, partly interrelated avenues by which improved financial intermediation may enhance transitory and steady state growth rates of an economy:

(i) A positive impact on resource allocation, making technological progress (a least partly) endogenous. For example, Benvicenga and Smith (1991) stress that financial intermediation can shift saving from liquid (but unproductive) towards less liquid (but productive) capital, causing intermediation to be growth promoting, or Saint-Paul (1992) demonstrates that financial markets allow the selection of more specialised and productive technologies, resulting in an extensive division of labour and a higher growth path.

(ii) A higher savings rate generated by financial intermediation is not necessary for endogenous growth developments, but can be self-enforcing.[10] In principle, the impact of financial intermediation (i.e. absence of liquidity constraints) on saving and growth rate is ambiguous (see De Gregorio 1993).

(iii) Empirical evidence of non-automatic growth conversion of economies and models of multiple-growth equilibria raise the question of take-off conditions and of the contribution of financial intermediation. In general, "bad equilibrium" economies are characterised by a low level of income, financial intermediation, and of the savings rate. On the other hand, the strong variation of saving rates of countries with roughly equivalent high income levels (and a high degree of financial intermediation) raises the issue of path dependence ("savings culture", see Asilis and Ghosh, 1992) and the form of financial intermediation.

These considerations suggest that an outward twist of the intertemporal budget constraint is possible through financial market developments. Although a twist in the intertemporal budget constraint increases the present value output for all generations, two more elements are required to justify a shift from an unfunded to a funded scheme:

Firstly, a Pareto-efficient transition is feasible, i.e. a transfer scheme can be established which allows to fully compensate the transition generation. Such a possibility is suggested by the model sketched in the notes, yet the proof, taking account of reduced and increased excess-burden, has still to be modelled.

Secondly, the transition to a funded scheme can importantly contribute to the development of the financial sector. Such an impact is suggested by the Chilean experience but a watertight proof is still missing, and even if it existed, the question of transferability to the countries in Eastern Europe would emerge.[11] On the other hand,

various avenues of a positive contribution can be imagined, given the current restrictions in the reform countries:

(a) For example, banks in central and eastern Europe lack long-term deposits, and they are currently unable and unwilling to bear the transformation risk, resulting in short-term lending and investment behaviour. Funded pensions could provide the long-term liability side for the banking sector.

(b) The bond market is little-if at all-developed, and besides (short-term) government treasury bills, hardly accessible for the enterprise sector and their longer-term needs. Again, financial resources from funded schemes could help.

(c) After reprivatisation of socialised enterprises (through sales or vouchers), there are few financial resources to supply fresh money (increase in equity capital) or just to keep the share prices from collapsing. Stock market rallies, such as in Warsaw, are an exception and restricted to a limited number of quoted shares. Funded pension money, with an appropriate institutional setting and safeguards, may help.

Nevertheless, the diverse impacts of funded pensions are far from clear and certain, and overall net advantages from an UF-FF shift are likely to depend on various other factors, discussed next.

## 4. Central Questions on the Road: Benefit structure, scope of government assets, and financial sector requirements

The experience with funded pensions throughout the world and the special background in the reform countries suggest that a careful design of the final scheme and the transition path are required if the potential advantages of a UF-FF shift are to be realised. In principle, there is a long list of stumbling blocks on the road. In the following, attempts are made to identify some of the perceived central questions which have to be addressed, dealing with (i) issues of the benefit structure and its links to labour mobility during the reform process; (ii) the scope of swapping government assets for social security debt; (iii) resulting issues of portfolio and corporate governance; and (iv) issues of the direction of financial sector development and its minimum level required prior to the UF-FF shift.

## 4.1 Benefit structure: Income risk and labour mobility

The issue of benefit structure raises many interrelated questions, such as single or multi-tier structure, voluntary or mandatory participation, the treatment of self-employed and small business, tax treatment of contribution and benefits, and indexation provisions. However, it is claimed that the most important issue for the reform economies is the decision about the benefit type of the funded scheme: defined benefit or defined contribution plans (DBP and DCP, respectively).

It appears little contested that for a large set of conditions of the world, DBP are more in line with the objectives of income maintenance of retirement provisions than DCP. Defining the benefit level as a function of the (final) earnings level and service record is likely to fit the individual workers' interest best. Also the employer has an interest in this benefit type if he can use pension provisions as an instrument of human resource management (i.e. attracting and keeping some employees, while facilitating the dismissal of others). However, if social and economic policy considerations impede such a use, international evidence suggests that the employer drastically looses interest in this scheme, in particular if he fully bears the residual income risk (i.e. the contribution burden). Yet, leaving the design of DBP to the employer is likely to fail in social and economic policy terms, leading to public regulations with regard to vesting requirements, labour mobility, indexation of accrued pension rights, or funding standards and requirements.

These well-known problems in developed Western market economies are compounded in the Eastern reform countries on their way from plan to market. Generally, there is a great tendency to favour enterprise-sponsored DBP, which is linked to the past (and partially still existing) tradition of socialised enterprises to provide employees with various benefits (such as kindergarten, holiday resort, and access to scarce consumption goods). Introducing DBP, perhaps even organised occupationally and differentiated, however, is likely to impinge greatly on the economic reform processes, specifically by:

(i) Impeding labour mobility and the efficient re-allocation of labour resources. A successful economic reform requires a major shift of resources (human and capital) from declining into expanding industries. So far, the re-allocation was much

less pronounced than initially envisaged and probably desirable. Introducing additional impediments for labour mobility may further slow down the process; and trying to overcome the pitfalls of DBP via regulations is likely to prove costly for the employer and may hurt particularly vulnerable groups of the active population (the elderly workers).

(ii) Hindering privatisation. Socialised enterprises in the reform countries are not yet fully subject to a hard budget constraint, making management very receptive to generous benefit provisions. Yet, additional and, perhaps, largely unknown liabilities resulting from DBP reduce their selling chances to domestic and foreign buyers, and employees' vested interests in pension rights may increase their resistance to become privatised.

(iii) Exacerbating instability on financial markets and of the saving rate. In DBP, the contribution requirement is co-determined by price developments on financial markets, reducing the required contribution payment by the plan sponsor if asset prices increase. In the reform countries, because of higher uncertainty and thin financial markets, the asset prices are likely to be very volatile for some time and this tendency may be enhanced by DBP-funding mechanisms. Additionally, the savings rate of the real economy may become highly volatile too, since contributions to the funded scheme are part of private savings.

Furthermore, the technical requirements for DBP (such as a large number of actuaries, auditors, and trustees) are likely to be very high with little chance to be met by the reform countries for some time.

For those and other reasons, DCP have been advocated as the more advantageous funded benefit type for the reform countries (see Holzmann 1991b). Technically, DCP are much easier to implement and administer, create no impediment for labour mobility and privatisation, and have a straightforward effect on private savings. The most important pitfall of a DCP is the income risk, which resides with the individual, and partially with the government in case of guaranteed minimum pension benefits.

The income risk for the individual during the accumulation period is closely linked to the level and path of inflation and the availability of price-indexed assets. Only a few reform countries in Central and Eastern Europe have succeeded in bringing

annual inflation down to low, two-digit levels. In most countries of the FSU, one-digit monthly inflation is still an aim, and as experienced throughout the world, inflation inertia is difficult to overcome. Real interest rates on deposits and few financial assets have become marginally positive in a few countries and for a certain period of time, but financial markets are still far from being able to provide indexed securities, and the banking system is still some way off from being restructured and safe. The provision of nominal annuities through insurance companies, which are being restructured and partially already privatised, may be less of a problem, but price-indexed annuities may not be available for some time. Although it is sometimes argued that vested interest of the population in a low-inflation environment is increased by nominal saving and pension contracts, more progress in macroeconomic stability and financial market developments may be required before DCP can be fully introduced.

### 4.2 The scope of swapping government assets for social security debt

As discussed above, a shift from an unfunded to a funded pension scheme makes the implicit social security debt explicit. In order to redeem this public debt without burdening the transition generation(s), the gains from reduced negative externalities (e.g. labour market distortions) or induced positive externalities (e.g. financial market developments), resulting from such a UF-FF shift, can be used. Additionally, available government assets can be used to reduce the debt. In the context of the reform countries of Central and Eastern Europe, the assets of socialised enterprises suggest themselves. Under such an approach the public debt implied in the social security scheme (i.e. the present value of all benefit obligations to current retirees and workers) could be exchanged (swapped) for public assets to be privatised. Compared to a free distribution of assets to the population via vouchers, the net-asset position of government would remain unchanged, whereas under the first approach, the net-asset position would deteriorate and would have to be compensated via future increased taxes.

This idea, while fascinating, raises, of course, the question of the scope for such a social security debt-government equity swap. No reliable estimates for both sides of the swap are available, but some very tentative calculations may be provided.

As regards the scope of the Social Security Debt, for a reasonable range of parameter assumptions (such as wage growth and interest rate) estimates in other countries suggest a range of 20 to 30 times the annual expenditure. Taking the average pension expenditure share for the reform countries in 1992 of some 10 percent of GDP, this would amount to a SSD of some 2 to 3 times GDP[12]. However, the starting figure of some 10 percent is likely to underestimate the full obligation since it is based, as noted above, on a low past labour income share in GDP. Upgrading this share by proportions experienced in OECD countries would lead to an adjusted SSD in the range of 3.2 to 4.8 times GDP, with even higher magnitudes for some countries (Table 2).

As regards the government asset (GA) side, the magnitudes are even more uncertain since market prices for these enterprises essentially do not exist. One approach may be to start from a capital coefficient in the range of 2.5 to 4, and making various adjustments in the numerator to derive the pensionable GA: (i) the capital for public infrastructure has to be deducted (which in OECD countries amounts to some 20 to 30 percent of total capital stock; see, Meyer-zu-Schlochtern 1988); (ii) past wasteful investments need not to be deducted, since they are already included in the lower GDP estimate; (iii) the portion of enterprises which are envisaged to remain in public hands (currently in the range of 10 to 30 percent, essentially public utilities and strategic industries) has to be taken into account; and finally (iv) for the remaining stock, the portion to be handed over to pension funds has to be determined. Taking the US example as the upper limit, where about half of total net equity of all corporations is owned by pension funds (Turner-Daily 1992), this would lead to a range of some 0.25 to 1.4 times GDP of government assets which could be handed over to pension funds.

As to be expected from the applied questimation approach, the resulting ratio of transferable GA to SSD has a wide wedge, ranging from some 3 to 70 percent. Tentative empirical data on Hungary suggest that a reasonable ratio is rather to be found in the lower range, around some 5 to 20 percent. The current plans in Hungary are to transfer assets worth some Forint 400 billion to the Social Security Fund by 1994 (roughly equivalent to 100 percent of pension expenditure in 1991, or 15 percent of GDP, or 10 percent of privatisable assets). The Polish privatisation plan envisages a transfer of 20 percent of government assets the Social Security Fund(s). No estimates

of the worth of this assets are available. However, in view of the high expenditure level on social security in Poland, and of the more run-down industries, the magnitudes are likely to be equivalent to the Hungarian case.

In summary, very tentative calculations suggest that only a relatively small portion of current public pension obligations could be exchanged even if major parts of socialised enterprises are handed over to pension funds. In the meantime, all reform countries have initiated various privatisation procedures, thus further reducing the potential scope for the swap (see Frydman et al. 1993).

### 4.3 Portfolio management and corporate governance

Even in developed economies with important pension funds, corporate equities account for only a moderate portion of total assets. Except the UK, in other OECD countries with significant funded retirement provisions, the share of stocks is well below 50 percent, while the remainder of the portfolio consists of corporate and foreign bonds, government securities, real estate and loans, pooled funds, cash, and short-term assets and other assets (Turner-Dailey, 1992). In the USA, the total pension holdings of equities amounted to a mere 7.7 percent in 1950, increasing to 42.3 percent in 1989 (Hofmann-Mondejar 1992). In Chile, after 10 years of fast growth in pension fund, the share of corporate equities amounts to 10.6 percent of total assets in 1990, starting from zero in 1985 (Santamaria 1991). In contrast to this, in the reform economies, after a swap, essentially all of the portfolio of pension fund(s) would consist of corporate equities.

This potential dominance of corporate equities in the portfolio of a funded scheme in the Central and Eastern European reform economies raises various issues which need to be assessed, inter alia: (a) the portfolio diversification of pension funds. Since efficient financial markets will not exist for some time and other pricing mechanisms are likely to be deficient, a normal risk diversification cannot take place and would have to be replaced by alternative mechanisms; (b) the determination and backing of the individual asset position. Whereas the individual and total pension rights to be swapped can be quantified more or less easily, in view of a lacking pricing mechanism, the value of the corresponding assets is much more uncertain. This may

affect the role of government (for benefit guarantees) or the design of the swap (e.g. the age groups concerned); (c) the number of pension funds to be created and the distribution of privatised assets. A small number may be advantageous with regard to staffing and public surveillance, but it reduces the possibility of diversification; and, (d) the role of pension funds in corporate governance.

The purpose of privatisation (and the endowment of pension funds with GA) is not a nominal change in ownership, but an improvement in the efficiency of resource allocation and productivity gains from which the current and future generation of retirees can profit too. For many observers of the reform process, the central issue for the success of privatisation and the overall reform program is the question of what will fill the gap created by the withdrawal of the state from the position of control (see e.g. Frydman and Rapaczynski 1992). As regards the SSD-GA swap, an additional issue emerges: In order to swap even a modest share of SSD, the pension funds have to be endowed with an important share of former GA, making them a main shareholder of privatised enterprises. Then, however, the question arises whether these pension funds are able to exert the necessary corporate governance (core ownership), or even, if they could-or are willing or able to-attract sufficient foreign financing. In particular, if the state pension fund were the main shareholder, credibility problems among potential investors may persist.

### 4.4 Financial sector: Development lines and minimum requirement

The introduction of funded pensions in economies with no or only rudimentary financial markets resembles the hen-egg problem: As a prerequisite to introduce funded pensions, some kind of financial market must already exist to which the introduction of funded pensions should contribute. This raises the issue of the minimum financial sector to exist before even the simplest form of funded pension schemes can be introduced. In absence of this, such minimum conditions have to be created. A detailed analysis of the issue is quite definitely beyond the scope of this paper, and quite likely beyond my expertise. Hence, this section limits itself to two pertinent questions: (i) What is the direction the development of financial sector is taking?; (ii) What are the minimum requirements of the financial sector?

**Financial Sector Developments**

Introducing funded pensions certainly shifts the origin, and hopefully increases the supply of financial resources in the reform economies. This leaves many questions open, in particular, which institutions should be in charge of financial intermediation, and hence undertake the risk assessment and risk diversification, and also, which assets should be predominantly acquired (equity or debt). The introduction of (private) pension funds does not answer these questions because firstly, pension funds can be simply an organisational institution, out-sourcing investment decisions and risk diversification; and secondly, the capacity of taking on the full scope of pension fund activities also depends on the direction and level of the development of the financial sector in an economy. Those questions arise even in a developed market economy and the answers are likely to depend on the predominant model of financial intermediation, i.e. German or Anglo-Saxon. The problems become more complex when the financial sector is hardly developed, and the question of financial sector reform or creation, and the main direction it should take, has to be addressed first.

Initially, discussions on a financial sector reform (or creation) in the formerly planned economies had been characterised by disputes between supporters of the bank-based and of the (securities) market-based model. Proponents of the bank-based model claimed that universal banks (allowing for commercial and investment activities) should take the lead in financing and supervising enterprise restructuring. Supporters of the market-based model argued that the structural problems of the banking sector cannot be overcome easily, so firms will have to look for equity and bond markets for sources of new capital. The issue of corporate governance, which is not solved by privatisation alone, however, has shifted general opinion towards the bank-based model, and most observers nowadays argue strongly for giving bank restructuring and privatisation highest priority (e.g. Blommestein and Spencer 1993, Szekely 1993). Given the initial situation, it is generally denied that an equity market can put competitive pressure on enterprise management, and it is further argued that equity and bond markets lack adequate liquidity, regulatory oversight, information disclosure, and clearing and payment systems. Consequently, unless banks are restructured and made fully functional, development of security markets will be constrained, too.

In the absence of a developed security market, pension funds cannot out-source the financial intermediation to investment funds and are likely to be constrained to undertake the financial intermediation themselves. In a few countries, investment funds are emerging from mass privatisation schemes, but their role in financing and managing privatised enterprises remains to be seen. Funded pensions in the form of individual retirement accounts can, of course, be established within the banking system. The latter, however, is still very much concentrated, burdened with bad or underperforming loans, little competitive and with deposits moderately remunerated (in view of the high interest rate spread to compensate for the weak asset side), rendering this option not a very attractive one for the time being either. This suggests that prior reforms of the financial sector are required before private and funded pensions can introduced sensefully (discussed next).

**Identifying the Minimum Financial Sector Conditions**

A key objective of pension-fund type institutions is to achieve a high real rate of return on assets at an acceptable risk, while matching the time structure of assets and liabilities. This requires technical capacities and also institutional possibilities of risk assessment and risk diversification (besides the usual institutional framework to safeguard the individual against unsound operations of the fund managers). Two polar solutions may be suggested for countries with an underdeveloped financial sector:

A highly centralised solution, with only one national pension fund, a strong government involvement to prevent shortcomings and to compensate for lacking markets, and major financial and technical assistance from international institutions (such as the World Bank) have been proposed to assist the introduction of funded pensions in low-income transition economies (Johnson 1993).

The alternative is a decentralised approach in which privately owned and managed pension fund institutions operate in an increasingly privatised and market-oriented environment. My conjecture is that this type of approach is more fertile for a fast development of financial markets and for the support of growth. On the other hand, the starting conditions for both the conventional regulatory framework of pension funds (such as supervision, auditing, etc.) and the initial financial market conditions are likely

to be higher. What the conditions are is very much open to discussion, and in the following a preliminary attempt to identify these conditions is made:

(I) A proper legal environment, including regulations on (central, commercial and retail) banking, bankruptcy procedures, and accounting. This is often claimed to be the most important prerequisite for a sound and stable financial system (e.g. Szekely 1993). As regards banking legislation, the process is advancing fast. As regards the other elements of legislation, progress is much slower and also much more diverse in and among the reform countries. Yet, the existence of a legal framework alone is likely to be insufficient and may require some testing and experience before a reasonable risk assessment and diversification can take place.

(ii) A solution of the bad debt problem of the banking system, the elimination of inter-enterprise arrears, and in some countries also an adequate solution of the concessional mortgage problem. Without those solutions, the economy may remain in a "bad equilibrium", and the pension fund assets endangered.

(iii) A stable macroeconomic framework allowing for low, or at least not accelerating inflation, a monetary policy and financial sector regulation providing non-negative real interest rates on financial assets, and a fiscal policy setting the fiscal stance independently of available pension fund money. While a rising number of reform countries can fulfil with the first two conditions, the latter may be more difficult to achieve. Essentially all reform countries are struggling with budgetary problems and it appears that a higher deficit is mostly only prevented by the limited access to private sector financing (and the explicit restrictions to monetary financing under IMF-supported programs).

(iv) A more competitive financial sector. Financial markets are still largely segmented, over-concentrated and the government is the predominant owner of the commercial banks. Albeit government may have to become more strongly involved in the development of the financial sector during the transition, privatisation of a major share of the financial sector and the opening to foreign financial institutions may be required up-front in order to reduce the incentives to abuse market power and to avoid the higher costs of financial intermediation (which are either an excess burden or a rent, both equivalent to a tax on pension fund money).

(v) Financial assets diversification. Besides banking deposits, the pension funds should have access to treasury bills and bonds; and perhaps to enterprise bonds, too, to allow for a minimum liquidity management and risk diversification. The need for having access to foreign financial assets as a minimum condition is debatable. Undoubtedly, this would enhance the risk diversification and ease risk assessment, and exert pressure on government to conduct a credible economic policy. On the other hand, this would require capital account convertibility, which would lengthen the list of prerequisites.

None of the reform countries in Central and Eastern Europe currently fulfils all these conditions, although the Czech Republic, Hungary and Poland, and perhaps Slovenia, too, have made important progress and the minimum conditions may soon be met. In other reform economies, in particular in the CIS, progress is much slower (see EBRD 1993). Hence, if a UF-FF shift were to take place, this would require either a speeding-up of the financial sector reform under a decentralised approach, or the implementation of a centralised solution with other likely problems.

## 5. The current funded pension discussion in Eastern Europe

The idea of funded and private pensions in addition to, or as a substitute for unfunded and public retirement provisions has been ventured in Central and Eastern Europe since the beginning of economic reform. In one country - Romania - elements of a quasi-funded scheme existed even prior to reform. Yet, in no reform country has a UF-FF shift been seriously pursued, and only in one reform country so far-Latvia-a proposal is being developed.

**Romania** in 1977 introduced a supplementary pension scheme, which is notionally on a funded basis. The scheme is of a defined benefit type, with a replacement rate of 7 percent (for a contribution period of between 5 and 10 years) rising step-wise to a replacement rate of 16 percent (for a contribution period of 25 years and more). The mandatory contribution rate was originally set at 2 percent, and has been 3 percent since 1986 (when the voluntary contribution of 2 percent was discontinued), and is paid by the employees only. According to the original concept, the initial high surplus

of contribution revenue over benefit expenditure should allow the build-up of financial reserves, thus keeping the steady-state contribution rate below the pay-as-you-go level since additional revenue is derived from interests earned. The concept and implementation, however, are threatened from various sides, inter alia:

(i) The nominal rate of return of 3 percent stipulated by law may have been sufficient under past economic conditions and the illusion of zero inflation. In view of the very high inflation since 1990, this fixed rate implied a huge inflation tax on the insured, amounting to some 2 percent of the reserves in 1990 and to over 60 percent in 1991 (equivalent to 2.3 percent of GDP) and to almost the same magnitude in 1992.

(ii) The use of those reserves to provide "credits" to ailing social pension programs (to the agriculture insurance scheme since 1990) has been seen in other parts of the world, leading ultimately to a depletion of the funds and putting an initially funded scheme back on a pay-as-you-go basis. A continuation of such a "lending approach" in Romania runs the danger of loosing credibility for future funded provisions in whatever kind they are proposed.

The reform in the **Czech Republic** envisages a revised public scheme, consisting of a flat-rate and an earnings-related part, providing moderate income replacement for the low and middle-income groups, and a supplementary pension scheme (SPS) on a voluntary basis. The reform draft for the public scheme is still under discussion, while the SPS, adopted by Parliament, exhibits the following salient features: (i) Predominance of a defined contribution plan; defined benefit plans are restricted to disability pensions and long-service pensions (a gift to miners); (ii) any citizen can join any pension fund; (iii) stipulation of minimum vesting period and (partial) portability of acquired pension rights; (iv) no tax preferences for employers' contributions; employees' contribution are tax-exempt while returns on investment and benefits are taxed. The government provides a graduated subsidy to the individual pension fund contributor.

While the general structure of the enacted supplementary pension scheme may assist private and funded pensions, and thus may promote financial market developments, central questions remain, in particular since the public scheme has not yet been reformed.

**Hungary** has a very comprehensive and expensive public pension scheme and reforms so far are limited to adjustments in the benefit formula, the introduction of automatic indexation with net average earnings, and a planned increase in the retirement age for women from age 55 to 60 by the year 2003 and harmonisation with that of men. In view of the high number of retirees, the benefit level remains low, and the replacement rate for a rising share of middle and high-income earners remains insufficient. For this reason, and perhaps also to prepare the ground for an enhanced importance of private and funded schemes, a draft proposal on voluntary and individual private pensions in the form of individual retirement accounts is under discussion.

The most radical proposal at government level for a reform is under elaboration in **Latvia**. The general idea is to substitute the current public and unfunded pension scheme by a funded one, while using privatisation assets to compensate the transition generation. Latvia has, in principle, good starting conditions to move towards private pensions: The current benefits are essentially flat-rate, the public debt level is low, and Riga, the capital and former Hanseatic city, has a long tradition as the financial centre of the Baltics, reaching well into Russia. Yet, at the moment, the official proposal is still rather vague and not very consistent, highlighting the many open issues in reform economies:

(i) The current proposal envisages the provision of minimum benefits for the elderly on a social assistance basis only. Hence, everybody from age 65 onward and not eligible to pension provisions or other income may apply for means-tested benefits, to be supplied by a contribution-financed first tier. This raises the well known issue of moral hazard, and in the reform countries also technical issues of means-testing on a large scale in view of important grey-market activities, lacking income-tax files, and local government administration under restructuring.

(ii) The proposed funded second tier is to be mandatory only for civil servants and related professions, but voluntary and left to occupational arrangements for all other workers and self-employed. The envisaged defined benefit plan raises issues discussed above, and the proposed voluntary character of the second tier for most of

the population, together with the assistance-type nature of the first tier raises many distributional questions in view of myopia and market failure.

(iii) The proposal assumes a financing of the transition through the use of government assets to be privatised. At the moment, however, the scope of liabilities is still unknown and also the scope of government assets to be put at the disposition of the pension scheme. However, it appears unlikely that an important share of the social security liabilities can be swapped for government assets. On the other hand, the government opposes a pension-reform induced widening of the budget deficit.

(iv) With regard to financial sector regulations, the current proposal remains mute. Information about the conditions of the financial sector in Latvia, however, suggests that despite important progress in the banking reform, the minimum conditions outlined above will be fulfilled in a few year's time only.

It seems evident that the Latvian current proposal is still too inconsistent and leaves too many questions open to be taken seriously. However, alternative proposals for a UF-FF shift are being developed[13], and if successful and implemented, could give the whole discussion on pension reform in Central and Eastern Europe a new twist.

## 6. Conclusions

The paper investigated the potential contribution of funded pensions to the overall economic reform in the Central and Eastern European countries on their way from plan to market. Since the reform agenda is long and paved with many open conceptual and empirical questions, only a few selective but hopefully important issues could be addressed. Nevertheless, the following tentative conclusions emerge:

(i) For the reform countries, a Pareto-efficient (partial) transition from their current unfunded to a funded scheme is, in principle, feasible. The insistence on Pareto-efficiency for those countries appears important in view of the welfare record of the transition generation and the need for a consensus solution.

(ii) A shift in the financing mechanism is no substitute for reforming coverage, eligibility criteria (most importantly an increase in the retirement age), and the benefit structure of the retirement income scheme. The Pareto-efficiency of a change in the funding mechanism has to be judged against these imperative reforms.

(iii) For the funded scheme, a defined contribution plan appears the most appropriate benefit form. It is suggested that a defined benefit plan is likely to impede economic reform via reduced labour mobility and other obstacles for economic restructuring.

(iv) The move towards a funded scheme, making the social security debt explicit, can be facilitated by the use of government assets to be privatised. Yet tentative calculations suggest a modest scope for a social security debt - government asset swap, raising additionally questions of corporate governance.

(v) The shift towards funded pensions could help to develop the financial sector and thus may bring the reform countries more rapidly towards a higher growth path. Yet, for the time being, the financial sector in the reform economies may not be sufficiently developed to allow introduction of funded pensions on a large scale. What the minimum conditions for the financial sector are and how they can be introduced rapidly is still open for discussion.

## Notes

[1] For a compact presentation of the initial and current reform issues see Blanchard et al. (1991 and 1993).

[2] For example, Deutsch, A. (1991); Hobbs et al. (1991); Topinski and Wisniewski (1991); Jenkins (1992); Chung (1992), Fox (1993) and Johnson (1993).

[3] The paper refers essentially to the East-Central European countries with progress in economic reform, namely Hungary, the Czech and Slovak Republic, Poland, Slovenia, Bulgaria and Romania, and the Baltic countries (Estonia, Latvia and Lithuania).

[4] The overall social security contribution rate, covering sickness payment, health, pension, unemployment and a few family benefits reaches in Hungary, in 1993, 60 percent, of which more than half goes to the public pension fund. The rate in the other reform countries is lower but rarely below 50 percent. The rates of 31 percent in Lithuania and 38 percent in Latvia do not finance health, and require rising transfers from the state budget.

[5] For the overall fiscal issues of countries in transition, see Tanzi (1992, 1993).

[6] Various constraints can be found in Western industrialised countries as well (see Holzmann 1988), others are special to the reform countries ( see Holzmann 1992).

[7] The Pareto-efficiency of an unfunded pension scheme with no distortions has recently been shown within a standard OLG model for open and closed economies (Breyer 1989, Breyer-Straub 1993).

[8] The Swedish and Norwegian scheme can be claimed to operate along these lines, providing a universal flat rate and a contribution-financed earnings-related tier. In the German system, the earnings-related scheme is very closely linked to life-time income and working record, and distributional considerations are handled outside the pension scheme via social assistance payments only.

[9] For calculations of the sensitivity of inter-generational and macroeconomic effects depending on the form of tax financing, see Arrau and Schmidt-Hebbel (1993).

[10] Borrowing from Villanueva (1993), the assumed effects of avenue (i) and (ii) can easily be introduced to make the model deviate from a neo-classic growth model, and the specification can be thought of as a reduced form of models introducing financial markets explicitly:

(1) $dK/dt = s(\kappa,..)Y - \delta K$

(2) $dT/dt = \alpha(\kappa,..)K/L + \lambda T$

The savings rate s depends positively on the depths and sophistication of financial markets, summarised by the parameter $\kappa$, and the change in technical progress dT/dt, too, does not only depend on the exogenously given labour-augmenting rate of technical progress $\lambda$, but also on a learning coefficient, which is positively effected by $\kappa$ and possibly by other factors emphasised in literature (such as the level of export orientation and the share of educational expenditure). The impact of financial markets on the learning coefficient can be motivated by the increase in the speed of diffusion of technological knowledge, management capacities or intersectoral externalities. As a result, the equilibrium growth rate of the economy is positively dependent on the level of $\kappa$

(3a) $(dY/dt)/Y = s(\kappa,..)f(k^*)/k^* + \delta$

(3b) $= \alpha(\kappa,..)k^* + \lambda + n$

with k* the equilibrium capital intensity measured in efficiency units of labour (k = K/N = K/(TL)), but it degresses to the traditional result of neo-classic growth theory if $\alpha = 0$. Increases in the savings rate for $\alpha > 0$, however, will not only rise the warranted capital/efficient labour ratio k (as in the traditional growth model), but will also increase the equilibrium growth rate (which is unaffected by the saving rate in the traditional model).

[11] For claimed effects of financial market deepening in Chile after the pension reform see Valdés-Pietro and Cifuentes (1990).

[12] The upper estimate of this multiple can be cross-checked under the assumption of wage growth equal to the interest rate, and a constant demographic structure. With, on average, some 15 to 20 years of retirement spell, the accrued obligation amounts to 7.5 to 10 times the annual expenditure. In addition, the accrued obligation with regard to the current working generations have to be taken into account. With some 30 to 40 years of average activity, the accrued obligation amounts to some 15 to 20 times the annual expenditure. Taking both upper estimates for the retired and working generation together results in accrued obligations of 30 times the annual expenditure. Of course, price indexation instead of wage indexation (or a positive interest-wage difference) reduces this estimate.

[13] For example, along the lines of a two-tier scheme, consisting of a public and unfunded flat-rate tier, and a mandatory, private and earnings-related sector tier (based on a defined contribution plan),

see Fox (1993); or .the "Swiss Chilanpore Model", in which the first tier consists of a flat rate and a restricted earnings-related component, see Vitas (1993).

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