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SPECIAL ISSUE
Edited by Iraj Hashi and Peter Reynolds

Transformation in Central and Eastern Europe:
Economic Theory and Practice

CONTENTS

Articles and Notes

I. Hashi and P. J. Reynolds
Transformation in Central and Eastern Europe:
Economic Theory and Practice. Editors' Introduction. 1

M. Myant
Problems of Transition in Eastern Europe —
Should We Seek Alternatives? 9

L. Balcerowicz
Transition to Market Economy: Central and East
European Countries in Comparative Perspective. 33

P. G. Hare
Competitiveness and Restructuring:
Issues for Eastern Europe. 43

J. Mladek and I. Hashi
Voucher Privatisation, Investment Funds and
Corporate Governance in Czechoslovakia. 67

B. Roberts
The Sequence of Privatisation —
The Case of Poland. 97

J. Durkan and M. McDowell
Provision of Private Pension Schemes in Poland. 109

G. Pugh
Problems of Economic Transformation in Eastern
Germany: An Overview. 119

T. Lange
Training For Economic Transformation:
The Labour Market in Eastern Germany. 145

Reviews and Books received

In view of the number of articles in this issue, book reviews and a list of books
received are being held over for the February 1994 issue.
Provision of Private Pension Schemes in Poland

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University College, Dublin

ABSTRACT

This paper considers the problems of the social security system in relation to pensions in Poland. It concludes that the system that prevailed until recently had the capacity to cause the Social Insurance Fund to be permanently in deficit because of structural issues deriving from the conditions of the scheme, early retirement and recent increases in the dependency rate. Over the long term this deficit was likely to widen for demographic reasons. The recent reforms are unlikely to eliminate the deficit, so that the system may be driven to the private provision of pensions. This in turn raises fundamental property rights issues. Finally, the issue of the private provision of pensions need to be seen in the light of the economy's need for domestic saving and financial markets and instruments to accelerate development.

1. INTRODUCTION

In the transition economies of East and Central Europe, where market-related reforms are being implemented to alter existing economic structures and market solutions sought for economic problems, attention has shifted to private pension schemes as an alternative to state schemes. However the issues for transition economies are more than the simple question of public versus private pensions. Even in market economies there is a huge degree of complexity in relation to pensions - each having developed a set of pension arrangements to suit its own requirements. In some, a state scheme based on the principle of pay-as-you-go is the main form of pension; in others, private funded pensions provide a significant supplement to the state scheme, which in turn may be either a pay-as-you-go or a funded scheme; and in others private funded or unfunded pensions are the main source of income for pensioners. In these economies the policy issues in relation to pensions relate to: the adequacy of private funded pension schemes; the tax treatment of pension contributions, pension fund income, lump sum payments and pension income; the integration of state and private schemes; and the principles that
should govern the development of pensioners' income in an environment where real incomes are expected to increase.

In this paper we consider a sub-set of these issues in relation to the Polish economy. In particular, we are concerned with growing pressures on the Polish state-funded pension scheme in the late 1980s and the consequent necessity for reform (Section 2), the 1992 reforms to correct the pension scheme (Section 3) and finally, some macro- and microeconomic considerations regarding the role of pension funds and the choice of pension schemes (Section 4).

2. THE POLISH PENSION SCHEME PRIOR TO 1992

In principle state pensions in Poland are paid from the Social Insurance Fund, which is not a fund in the strict sense but operates on a pay-as-you-go basis, as do state schemes in many countries. The resources required to pay for pensions come from payroll taxes on enterprises, with no direct contribution from employees. Up to recently these payroll taxes were 43 per cent of the wage bill, and have since been raised to 45 per cent. They thus constituted a significant portion of labour costs of enterprises. On the benefit side the standard retirement age for women and men was 60 and 65 years respectively, with a minimum of 20 and 25 years employment history to benefit. The earnings base on which pensions were calculated related to earnings in the three highest earnings years over the twelve years prior to retirement. The replacement rate could have been as high as 80 per cent, and the minimum pension was set at 35 per cent of the average monthly wage in the State enterprise sector.

The problems of any pay-as-you-go pension scheme derive from the fact that the total resources available for pensions is, for a given employment rate and contribution rate, inversely related to the dependency rate.

2.1. The Dependency Rate

In Poland and Central and Eastern Europe in general, the dependency rate is increasing. Ceteris paribus, this implies a reduction in the relative level of pension resources over the medium and long term. (See Table 1) The level of the formal dependency rate in Poland in 1990 was low in comparison with
market economies, and towards the lower end of the range for transition economies. However, as with all countries covered in Table 1, the dependency rate is set to rise over the next 15 years, with an acceleration over the subsequent 15 years. The demographics of the situation confronting many economies have already induced major changes in pension entitlements (Japan) and in attitudes towards retirement (USA). Thus, in Poland, as a result of demographic pressure, the continuance of the system in the long run must have been in doubt.

### Table 1

<table>
<thead>
<tr>
<th>Country</th>
<th>Life Expectancy</th>
<th>Dependency Ratio</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>1990</td>
<td>2010</td>
</tr>
<tr>
<td>USA</td>
<td>75.5</td>
<td>19.1</td>
</tr>
<tr>
<td>Japan</td>
<td>78.3</td>
<td>16.8</td>
</tr>
<tr>
<td>Northern Europe</td>
<td>75.5</td>
<td>23.4</td>
</tr>
<tr>
<td>Western Europe</td>
<td>75.5</td>
<td>21.3</td>
</tr>
<tr>
<td>Poland</td>
<td>71.5</td>
<td>15.4</td>
</tr>
<tr>
<td>Hungary</td>
<td>70.2</td>
<td>20.1</td>
</tr>
<tr>
<td>Czechoslovakia</td>
<td>71.2</td>
<td>17.7</td>
</tr>
</tbody>
</table>

*Source: UN World Population Forecasts, 1989.*

Furthermore, the formal dependency rate understates the true dependency rate. The effective retirement age for women and men was 57 and 58 years respectively. Since 1990, following on mass layoffs, there has been a marked increase in the number of pensioners as a consequence of early retirement, and the treatment of some layoffs as early retirement rather than unemployment.

It is estimated that there are now 8 million pensioners out of a total population of 40 million, that is, the true dependency rate is about 20 per cent as opposed to the formal dependency rate of about 15 per cent.

### 2.2. The Employment Rate

Up to 1990 unemployment did not exist in Poland, though there was considerable underemployment as enterprises hoarded labour. The system of planning guaranteed cost recovery and this created an incentive for labour hoarding to meet plan targets. This also produced full employment, an active
labour market with high turnover and an accelerating wage inflation, though there remain doubts about the extent of real wage growth because of the scale of inflation. It is not obvious that real living standards improved. Since 1990 unemployment has emerged as a characteristic of the Polish economy. From an effective zero rate of unemployment at the beginning of 1990, the rate increased to just over 6 per cent by the end of that year, to almost 11.4 per cent by the end of 1991 and is now, in mid-1993, at 15.4 per cent. Thus the economy experienced a reduction in the employment rate which exacerbated the problems of the Social Insurance Fund by effectively reducing the base income for contributions.

2.3. The Contribution Rate

Prior to 1992 the rate of contribution to the Social Insurance fund was set at 43 per cent of the wages bill of enterprises. Even with this level of contribution the Social Insurance Fund was in deficit, and required transfers from the State. The shortfall became particularly acute in 1990 and 1991 as the Fund faced the effects of the reduction in employment, an unanticipated increase in the number of pensioners due to early retirement, and the effect on outgoings from the Fund as a result of the rules in relation to the earnings base.

Table 2
Social Insurance Fund 1980-1991: % of Revenue and Expenditure

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<tbody>
<tr>
<td>Contributions</td>
<td>79.3</td>
<td>116.8</td>
<td>80.2</td>
<td>92.0</td>
<td>80.6</td>
</tr>
<tr>
<td>Subsidy from</td>
<td>4.7</td>
<td>4.9</td>
<td>12.5</td>
<td>16.3</td>
<td>19.2</td>
</tr>
<tr>
<td>Government</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (including surplus/deficit)</td>
<td>16.0</td>
<td>(21.7)</td>
<td>7.3</td>
<td>(8.3)</td>
<td>0.2</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
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<tbody>
<tr>
<td>Pensions</td>
<td>98.8</td>
<td>98.7</td>
<td>67.9</td>
<td>72.7</td>
<td>73.6</td>
</tr>
<tr>
<td>Old Age</td>
<td>-41.7</td>
<td>-47.8</td>
<td>-29.5</td>
<td>-35.0</td>
<td>-38.7</td>
</tr>
<tr>
<td>Invalidity</td>
<td>-28.3</td>
<td>-29.6</td>
<td>-20.3</td>
<td>-22.3</td>
<td>-20.7</td>
</tr>
<tr>
<td>Other Expenditure</td>
<td>1.2</td>
<td>1.3</td>
<td>32.1</td>
<td>27.3</td>
<td>26.4</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: IBRD
This latter was caused by an acceleration of wage inflation in the two years of 1988 and 1989 which resulted in an increase in real earnings of 25 per cent. For those newly pensioned these years formed the base for pension entitlement. For existing pensioners pensions were indexed to the average wage in the State enterprise sector and this rose sharply in the second half of 1990. In an attempt to deal with the size of the shortfall in the Fund the Government suspended indexation in the second half of 1991. Since, for all practical purposes, there was a fixed contribution rate, the Social Insurance Fund was faced with permanent and widening deficits - permanent because of the mismatch between receipts and expenditure, and widening because of the increasing dependency rate.

These problems for the Social Insurance Fund have been compounded by the expansion, since 1986, of other benefits covered by this Fund. Table 2 illustrates the deterioration in the Social Insurance Fund between 1980 and 1991.

3. THE 1992 POLISH PENSION SCHEME REFORM

As noted earlier, indexation of pensions was suspended in the second half of 1991. In early 1992, in addition, a major reform of the Polish pension scheme was undertaken. First the level of contribution was raised from 43 per cent to 45 per cent of each enterprise’s wage bill. Clearly, this affected labour costs and was one factor in the increase in unemployment that occurred in the economy as it became more subject to market pressures. Secondly, a new method of calculating pensions was adopted for all current pensions. As with all reform measures, there were potential gainers and losers with the losers amounting to 40 per cent of all pensioners. In practice there were only gainers as government failed in its attempts to get agreement on those parts of the reform which involved a loss to existing pensioners. The additional costs are thus a charge on the state finances. Thirdly, a change was made to the qualifying base income on which the pension will be paid. In future the qualifying period will be progressively increased to 10 years out of the previous 20, rather than 3 years out of 12. This has the effect of reducing the impact of atypical years’ earnings which led to an acceleration in costs in the previous scheme. Fourthly, the value of the pension is to be determined by the number of working years, and the relationship between the average income of the employee and the average income in state enterprises. The maximum value
of the pension is to be two and a half times the average wage in State enterprises. The minimum pension remained unchanged. Fifthly, the degree and timing of indexation were reduced. Indexation was to apply three times a year compared with quarterly indexation previously and the indexation is not automatic, but only takes place if over the previous four months average wages have increased by more than 10 per cent.

We have already pointed out that the four elements of a pay-as-you-go pension scheme, the relative value of the pension, dependency, employment and the contribution rate, are inextricably bound up together. The reform was directed at two of the elements that impact on the viability of the state pension scheme, i.e. the relative value of the pension, and the rate of contribution. But the system was also facing severe constraints as a result of demographic factors and the move to a market economy.

There are two major caveats about the reform measures. First, the payroll cost is very large for what is being provided by way of pension. The costs to employers of the Social Insurance Fund are very significant and will have adverse effects on the demand for labour. Secondly, there will continue to be large numbers of people whose pensions remain at the very low level of 35 per cent of the average industrial wage.

The state scheme in Poland has some of the hallmarks of private occupational pension schemes in market economies, but lacks the safety net that the state itself provides in these economies through state pension schemes which are independent of income. At the same time, with a ceiling at two and a half times the average industrial wage, this scheme is very generous and must act as a disincentive to work for people on high incomes in state employment. Even though there has been a major reform, the Social Insurance Fund could still be in serious financial trouble. The two other elements in the equation - the actual dependency rate and the level of employment will compound the problems of the Social Insurance Fund. The number of people in receipt of pensions, and unemployment, have continued to rise since the reforms were introduced in early 1992. The failure to limit the scale of existing pensions will place additional pressures on public finances. Thus the reform may not have been sufficiently deep and further change in the provision of pensions will be required.
4. PRIVATISATION OF PENSIONS IN A TRANSITION ECONOMY: A THEORETICAL DISCUSSION

Much attention has been given to the micro economics of the transition process e.g. the need for correct pricing of factors and products in order to establish true profitability and improve the allocation of resources, the need for a legal system which gives effect to contractual arrangements, and the need for financial markets where assets and liabilities can be exchanged. These three areas are important to the development of a market economy in Poland quite independently of whether there is a state or a private pension scheme. It is not conceivable that private pension schemes will be developed in Poland without progress in these areas. But, at the same time, we must address other related issues such as: the transition phase of moving from a pay-as-you-go system to a funded system with no start-up assets, the macro implications of private pensions and the micro issues related to the type of pension scheme that might be introduced.

4.1. Transition Phase

Existing workers and retired persons have property rights in relation to previous and current employment. Since the existing scheme is unfunded, this property right can only be made effective through taxation or through the transfer of assets from the state to private pension funds which use the earning capacity of these assets to provide pensions. For new entrants into the labour market, private pensions can build up assets just as private pension funds in market economies do at present. While it is easy to see what needs to be done, in practice this will prove extraordinarily difficult to realise, not least because of the ownership problems of current state assets. Given the large stock of pensioners and existing pension rights, the best solution for Poland could be the maintenance of some minimum state scheme financed by taxation providing a flat payment to all pensioners, supplemented by occupational pension schemes which build up assets over time.

4.2. Macro Implications

There is a fundamental difference between a pay-as-you-go system and a funded system. A funded system involves building up current assets to meet future liabilities and involves an increase in the savings rate in an economy. It
is no surprise to find that economies that have funded pension schemes also have high savings rates (e.g. Japan). Thus, in moving from a state pay as you go system to a private funded system, Poland must necessarily increase its savings rate. In a well-developed market economy that made the transition from a pay-as-you-go scheme to a funded scheme, the increase in the savings rate, which may be modified by a reduction in taxation, will have serious macroeconomic consequences. In the case of Poland, there is some evidence that the reduction in output that took place since 1989 had minimal effects on the output available to the population, since much of the lost output had no effect on welfare. Thus, as the economy improves, some of the increased output can be devoted to savings.

4.3. Micro Implications

The move to a system of funded pension provision will have substantial implications for the body of laws affecting corporate structures. In general contractual savings for pension purposes are organised through firms rather than being left to individual decision making. Pension funding via the employer raises a variety of property right problems. These are principally concerned with employees' rights to the assets of the funds.

An issue which needs to be resolved in the provision of private pensions is the question of actuarial funding. If the rights acquired by contributors are of the Defined Benefit type, then a fund can easily prove to be over or under-funded actuarially. If it is over funded, the surplus assets in the employees' pension fund represent a liquid asset which the firm (or, frequently, a takeover raider) can appropriate for other purposes. If, on the other hand, it is under-funded, then the fund may face technical or real bankruptcy. In this event the cost of the under funding is visited on employees who have little control (and little incentive individually to acquire information to exercise control) over the management of the funds. In the UK, for example, firms have accepted a liability to top up funds if under-funding occurs. The question for a transition economy is whether it can rely on the emergence of a customary procedure underpinning the financial position of funds, or whether it will need to create statutory regulation and policing of that regulation in order to guarantee pension fund solvency.
To a considerable extent the solvency problem arises from the prevalence of Defined Benefit rights in funds rather than Defined Contribution rights. Under Defined Benefit, the contributor purchases a deferred annuity (and frequently a lump sum). This annuity is based on some arbitrary expected income, typically the average income of the last two or three years of employment, or even of retiring salary. Since this base line income is not known with certainty in advance, the certainty of retirement relative income acquired by the employee has to be matched by the assumption of significant risk by the management of the fund. One justification for firms being entitled to appropriate surpluses in funds is that these represent a return to assuming the risk. The corollary, of course, would be that firms would have an obligation in law to meet any deficiency in the fund arising from an under-writing failure.

It may be preferable, therefore, to proceed to 'privatise' pensions on a Defined Contribution basis. Defined Contribution pensions, in the absence of fraud, are by definition not exposed to insolvency risks. The employees' rights are simply to receive the pension and/or lump sum accumulated in the fund over their working lives. While this by definition transfers the risk to the contributor, it has certain advantages for the contributor. Bodie, Marcus and Merton (1988) point out that the principal of these are (i) enhanced 'portability' of pension rights, which makes the labour market more flexible, and (ii) the enhanced ability of the contributor to modify the level of his contractual savings and (if he wishes) to change the assets in which his savings are invested. For higher income and variable income earners this form of contractual savings has obvious attractions.

Another feature of Defined Contribution funding which is worth noting in the context of encouraging and mobilising savings is the stronger positive interest response probability under Defined Contribution funding. Bernheim and Shoven (1988) have pointed out that Defined Benefit funding implies lower contributions if real interest rates rise, a significant factor, in their opinion, in finding an explanation for the apparent perverse response of the US savings ratio to higher real interest rates.
5. CONCLUSIONS

The existing pension system in Poland is coming under increasing strain from the rise in the dependency rate, the fall in employment and the widening gap between contributions and pension payments. With the (minor) reform of early 1992 proving to be inadequate, a fundamental review of the pension system, allowing for the establishment of private pension schemes, is inevitable.

We have outlined the two main alternative systems - Defined Benefit and Defined Contribution. Given that these two systems are options which are open to employees or self-employed earners, the dominance of Defined Benefit schemes in the market place in the West may, one suspects, be treated as an example of revealed preference by risk averse savers. There is no reason to believe that in transition economies the same preference would not dominate. The problem, unfortunately, is that Defined Contribution funding is institutionally easier to organise, offers more encouragement to saving and enhances labour market flexibility.

In considering various aspects of the private provision of pensions, we have highlighted the particular problems associated with existing pensioners and property rights issues during the transition to a funded system. On these, policy makers will face very difficult choices.

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Bernheim, B. D. and J. B. Shoven, 1988, Pension Funding and Saving, chapter 3 in: Bodie, Shoven and Wise, op. cit.