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The Political Economy of State-Based Pensions: A Focus on Innovative Reforms[1]

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1. Introduction

The phenomenon of population ageing will have profound consequences for governments and societies all over the world, and not just for pension systems. Capital flows are likely to shift dramatically, as older societies sell their assets to younger ones to finance consumption in retirement. Worldwide immigration flows may accelerate, as older, developed nations become more dependent on workers from abroad to perform jobs that cannot be filled with domestic employees alone. The balance of geopolitical power may also shift over time, as emerging and younger powers become more dominant economically, allowing them to demand a greater say in world political affairs.

But it cannot be denied that the implications of population ageing are seen first and most clearly in the long-term projections of state-based pension systems. In a sense, actuarial projections of pension systems were, and are, canaries in the coal mine, providing advance warning of the coming demographic shift that will fundamentally alter the political and economic landscape.

In the 1950s and 1960s, population ageing was not a concern. With a post-war baby boom underway, in varying degrees, in most countries, political leaders were unconcerned that the new retirement promises made by their governments were dependent upon an ever-growing population and thriving economy. The widespread optimism about the future was captured succinctly by Konrad Adenauer, the post-war German Chancellor, who, in 1957, said 'people will always have children', thus dismissing the population risks associated with a pay-as-you-go approach to pension financing.

But, of course, Adenauer was wrong. Birth rates fell dramatically, beginning in the 1960s. Germany's total fertility rate (TFR) — which measures the average number of births to women in a country during their lifetimes — fell from about 2.5 in the early 1960s to about 1.4 today[2]. And people began to live longer — much longer. In the United States (US), the average 65-year-old man could expect to get Social Security benefits for 12 years when the program first started. Today, he can expect to get benefits for about 16.5 years[3].

By the 1980s, some countries began to take steps to prepare for the long-term challenges posed by an ageing population. In 1983, the US raised the Social Security normal retirement age — on a gradual basis — from 65 to 67 years old. The United Kingdom (UK) switched pension indexing from wages to prices, dramatically cutting the Government's long-term pension commitments. And Australia began building a more universal system of retirement provision

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[1] The New Welfare: The Counter-Ageing Society Conference, Turin, Italy, October 8, 2007.

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[2] *World Population Prospects: The 2006 Revision* (Population Database), United Nations Population Division (h).

[3] *The 2007 Annual Report of the Board of Trustees of the Old Age and Survivors Insurance and Disability Insurance Trust Funds*, Table V.A3, p. 81.

on employer-based savings accounts (these accounts became mandatory in the 1990s).

Continental Europe, however, largely did not act on pension reform in the 1980s, as the constituencies in favour of large, state-based systems opposed strenuously any retrenchment of their hard-earned pension rights. At the same time, Japan's strong economic performance and overly optimistic population assumptions masked the need for prompt attention to its pension crisis.

By the early to mid-1990s, however, the momentum for reform began to build, largely due to the economic pressures associated with open global trade, economic integration in Europe, and Japan's long period of economic stagnation. Political leaders throughout the developed world began to see that state-based pension reform was an important component of economic reform in a competitive global marketplace. In particular, the crushingly high payroll tax rates for state-earned pensions — 20-30% in some countries — were seen as directly contributing to high unemployment and reduced opportunities for younger workers.

And so, beginning in the early 1990s, many developed nations began to seriously pursue public pension reform. While there are notable examples of failed efforts, a surprising number of countries have successfully navigated the treacherous political terrain of pension provision and implemented significant changes in their state-based schemes. Along the way, a few countries have pursued truly innovative and creative solutions to their pension crises which are deserving of mention and study. These approaches, which are summarized below, can provide models for other nations to follow even while recognising that political leaders must tailor their pension solutions to the unique historical and political circumstances found in their respective countries.

2. Notional Defined Contribution Schemes: Sweden

In 1991, with the country in a deep recession, the Social Democratic Government in Sweden was defeated and replaced by a multi-party, centre-right minority coalition that placed pension reform high on the agenda. The coalition Government established a small working group to negotiate the pension reform framework that was headed by the minister of social policy. The group included representatives from each of the five political parties supporting the reform process, including the Social Democrats, the Moderates, the Liberal Party, the Centre Party, and the Christian Democrats, as well as a few selected experts.

The group's sweeping pension reform proposal was adopted 'in principle' in 1994 by the Riksdag, the Swedish Parliament, shortly before elections returned the Social Democrats to power. The Parliament passed implementing legislation in June 1998, with the first benefit payments under the new rules beginning in 2001.

Many pension experts have been interested in Sweden's move toward mandatory individual accounts for retirement savings, with workers required to contribute 2.5% of covered wages to their personally-directed retirement funds. But it is Sweden's novel approach to financing the much larger pay-as-you-go state pension that was truly innovative. The new Swedish pension system contains features that should achieve what the architects of the new system sought — guaranteed and permanent financial solvency at a fixed contribution rate of no more than 16% of wages.

Sweden's pension reform is built on the conversion of the main pension entitlement from a defined benefit to a 'notional defined contribution' (NDC) system. Under the NDC, workers' payroll tax contributions are treated like contributions into an investment fund even though the actual tax payments are used to finance benefits for current retirees. The contributions are tracked separately and credited with a presumed rate of return equal to growth in average

wages in the economy. Thus, Swedish workers build up a notional 'fund' from which they will draw an annuity at retirement.

The NDC approach to pension reform may have two important advantages over a traditional, defined benefit approach. First, the NDC system promotes benefit transparency, which may improve incentives for labor supply. Many defined benefit schemes inadvertently discourage work beyond a certain age, as workers who are already entitled to benefits gain little from additional pension contributions. With an NDC system, workers can see clearly that their wages translate directly into an increase in their NDC 'account', and all wages are treated identically in the pension benefit formula. Thus, working beyond age 65 may become more attractive for workers.

Second, the NDC system appears to strengthen budgetary control. The pension entitlement is strictly tied to pension contributions; no benefit payment is made that is not financed by a worker's payroll tax payment. In the past, many countries made the mistake of expanding defined benefit promises without a clear means of financing the newly promised payout. Under an NDC system, the only way to provide more benefits is to increase the contribution rate into the NDC accounts, which may not be popular among workers with other priorities. In Sweden's case, the payroll tax — 16% of wages — is widely viewed as a ceiling that should not be breached.

3. Government-Owned and Invested Pension Reserves: Canada

While other countries made substantial cuts in future benefits to offset the projected cost of population ageing, Canada chose to pursue a different strategy. Faced with its own pension crisis due to population ageing, in 1997, the Canadian parliament passed a large increase in the payroll tax rate. Between 1998 and 2003, the rate was raised in stages from 6.0% to 9.9%, well above the system's current cost rate, to create a Government-owned investment fund to offset the costs of higher pension spending in the future.

To help ensure that the 'partial advance funding' results in genuine savings, the Government created a firewall between the general budget and the pension fund. Investments are managed by the Canadian Pension Plan Investment Board (CPPIB), an independent agency whose 12 members are appointed by the finance minister. The CPPIB has a legislated mandate to invest assets solely in the interest of the beneficiaries. Prior to the 1997 reform, Canada's public pension reserves were invested primarily in low-interest loans to the provincial governments, much like US Social Security trust-fund surpluses are invested in special interest US Treasury bonds. Since the reform, pension assets have been invested primarily in marketable securities. As of 31 March 2007, the fund totalled C$116bn, nearly two thirds of which was invested in equities[4].

The Canadian pension reserve fund is projected to grow rapidly over the next few decades, accumulating assets of roughly C$600bn by 2030, or the equivalent of six years of benefits. Current contributions are expected to exceed annual benefit payments until 2022, after which investment income will be needed to finance a growing portion of costs[5].

Over the years, many countries, including the US, have tried to put in place reforms similar to the Canadian approach. Few, if any, of these efforts have met the most basic litmus test of success — raising national savings. Typically, the pension reserves are invested poorly, and the Government increases other spending in proportion to the pension surplus. Moreover, in many countries, the source of financing for the invested reserves is an existing revenue

[4] *2007 Annual Report Summary*, Canadian Pension Plan Investment Board, p. 4.
[5] *Actuarial Report (21st) on the Canadian Pension Plan*, Office of the Chief Actuary, Office of the Superintendent of Financial Institutions Canada, November 18, 2004, p. 32.

source, not a new tax. Investing existing government revenue in private sector securities may actually decrease national savings as it could displace existing private investment and create the false impression that further pension reform is unnecessary.

Canada has taken a more substantive approach. The firewall separating the operations of the Canada's reserve funds from the general budget is functioning effectively. Investment decisions appear to be made by the investment board without political interference. The Federal Government, moreover, has run uninterrupted budget surpluses since the late 1990s, not counting the surpluses generated by the pension system. It also helps that Canada's political culture is accommodating of a large government stake in the ownership of private sector companies, something which would not sit well in other countries, particularly the US.

Over the long run, even Canada is likely to find it difficult to sustain the discipline necessary to ensure the fund truly is 'saved' for the future, particularly when an economic crisis hits. Even so, it must be admitted that the Canadian approach shows much more promise than previous efforts at addressing the ageing challenge with direct governmental savings.

4. Mandatory Personal Retirement Savings Accounts: Australia

Unlike most other developed nations, Australia never established an earnings-related state pension system, relying instead on a means-tested state pension, voluntary employer plans, and personal retirement savings.

Over the years, as the pension law was liberalised, more and more Australians qualified for the means-tested benefit, called the Age Pension. By the mid-1980s, some 85% of the population aged 65 and over was receiving a full or partial Age Pension. Labor unions and the Labor party Government elected in 1983 became increasingly concerned that workers were relying too heavily on state benefits, leaving their retirement income vulnerable to the fiscal pressures expected as Australia ages.

During wage bargaining negotiations in 1985 and 1986, the labor unions secured, with government cooperation, a contractual agreement that all covered employers contribute 3% of total wages to a pension plan — called a 'superannuation fund' in Australia — on behalf of their employees. By July 1991, some 75% of Australian workers had superannuation coverage.

The non-governmental nature of the obligation, however, left gaps in coverage. At the same time, the 3% employer contribution rate was viewed as inadequate to support retirement income — and increasing it would have been difficult through voluntary employer-employee negotiations. In 1992, the Labor government successfully passed legislation imposing the 'superannuation guarantee' (SG), which requires all Australian employers to contribute a percentage of a worker's earnings, up to a maximum of about 2.5 times average earnings, to an employer-sponsored superannuation fund. The SG increased this mandatory employer contribution gradually over a decade, until it reached 9% in 2002.

Adoption of the Super has substantially improved the retirement income prospects of most Australian workers. According to government projections, the overall pension system — the Age Pension and Super combined — is expected to provide a replacement rate of 82% in 2042 for an average-earning worker with 40 years of contributions, far above the typical replacement rate today for the Age Pension alone and well above the replacement rates provided by state pension schemes in most other developed countries[6].

With the superannuation guarantee, Australia has a near universal, fully funded, privately

[6] "Inquiry into Superannuation and Standards of Living in Retirement", Submission by the Commonwealth Treasury to the Senate Select Committee on Superannuation, July 2002, p. 4.

administered, and, as of 2005, individually controlled and portable, retirement savings program. Today, over 90% of workers have superannuation coverage, and superannuation assets are growing rapidly, from 14% of GDP in 1983 to 75% of GDP in 2004, with the Australian Treasury projecting that they will reach 110% of GDP by 2020[7].

Australia still faces challenges associated with population ageing, particularly with regard to rising health care costs. But, unlike the rest of the developed world, Australia does not face a state-run pension crisis. Government spending on the Age Pension is projected to be manageable in the decades ahead and likely can be made more so as workers accumulate substantial reserves in their 'Super' accounts. Australia has thus reconciled better than most countries the inherent tension between a sustainable and adequate retirement system.

5. Automatic Benefit Stabilizers: Sweden, Germany, and Japan

One of the more encouraging developments in recent pension reform initiatives is the introduction 'automatic benefit stabilizers' into state-based pension schemes. Three countries have adopted such a mechanism — Sweden, Germany, and Japan — with Sweden again leading the way.

Automatic adjustment mechanisms are formulaic provisions which adjust retirement benefit payouts automatically — without further legislative intervention by government — to keep pension spending within available revenue or a spending target. These adjustments thus differ substantially from traditional benefit indexing for inflation in that the adjustment is aimed at budgetary control, not benefit adequacy.

In Sweden, the NDC system has two automatic stabilizers. At retirement, the NDC account balance must be converted into a monthly pension payment by way of an 'annuity divisor'. The divisor is updated for each annual cohort of retirees to reflect the most current estimates of life spans and mortality. Thus, as retirees are projected to live longer, the monthly annuity paid out from a fixed notional balance will automatically decline with successive cohorts unless the pensioners choose to begin taking their monthly annuities later than those who retired before them. The system, therefore, is protected against most of the cost of projected increases in life spans.

Although correcting for longer life spans helps stabilize costs, it is not sufficient to assure solvency at a fixed contribution rate, as fertility and population growth, labour force participation patterns, and productivity growth all play important roles in long-term pay-as-you-go financing. As a result, in 2001, Sweden adopted what is called the 'automatic balance mechanism'. Each year, the government creates a balance sheet, with measured 'assets' and 'liabilities', to check for balance. If the calculation reveals an unfunded liability, the interest rate applied to the notional account balances and the indexing of annuities is reduced below the presumed rate — average wage growth — to offset the deficit.

Critical to this approach is the introduction of the concept of 'assets' in a pay-as-you-go system. Swedish officials developed a measure of system 'assets' by multiplying pension contributions for the year in question by the so-called 'expected turnover duration'. Turnover duration is a measure of the average amount of time, in years, that the pension system has until it must liquidate a pension obligation earned during the year in question. Turnover duration is calculated as the difference between the earnings-weighted average age of workers contributing to the system and the pension-weighted average age of those drawing annuities. Turnover duration thus contains within it factors that are critical to pay-as-you-go financing:

[7] Rothman, G.P., Retirement Income Modelling Unit (1998): "Projections of Key Aggregates for Australia's Aged", Commonwealth Treasury, Paper for the Sixth Colloquium of Superannuation Researchers, University of Melbourne, Conference Paper 98/2, July, p. 24.

fertility trends and population growth, wage patterns, labor force participation, retirement patterns, and mortality.

Currently, Sweden's expected turnover duration is about 32 years[8]. This implies that the system has a flow of contributions that can finance pension liabilities equal to about 32 times the amount of annual pension contributions, as there will be 32 years of annual contributions coming into the system before, on average, the pension obligations incurred this year must be paid out as benefits. Longer measured turnover duration thus implies a system that can finance more pay-as-you-go benefits, and vice versa. If, for instance, fertility continues to trend downward, the turnover duration will eventually reflect this trend. The weighted average age of workers will creep upward, shortening the turnover duration and reducing the value of the system's 'assets'. As this occurs, notional balances will earn a reduced rate of return, in effect offsetting the reduction in revenue to the system from fewer workers.

The new Swedish pension system has shifted the financial risk of changing economic and demographic factors onto the pensioners themselves rather than the wage earners financing the system. Based on intermediate demographic and economic assumptions, the government projects that the life span adjustment will cut average monthly benefits for those continuing to retire at age 65 by 18% by 2055 compared to those who turned 65 in 1995 — which is equivalent to a delay in their retirement of 36 months[9]. With the adjustment for longevity in place, the government expects the automatic balance mechanism to be triggered only 'a few times' over the next 15 years, thus modestly cutting the rate of return applied to the notional accounts.

But the intermediate assumptions — slightly higher fertility and immigration rates than the country is experiencing today, as well as permanent 2% real wage growth — may prove to be too optimistic. Under more pessimistic assumptions, the automatic balance mechanism is triggered more or less continuously beginning in 2008, driving down the replacement rates for retirees for several decades. But, as intended, the system would remain financially solvent at the 16% payroll tax rate.

Unlike Sweden, Germany has opted to stay with a traditional defined benefit state pension system, perhaps due to the country's long and generally favorable history with 'retirement insurance'. Started by Bismarck in 1889 as the first formal pension system in the world, the German state pension has served as a model for many other countries' social security systems. In the post-war era, German state pensions were expanded substantially, providing high wage replacement rates even by European standards, as well as generous early retirement options.

Over the last fifteen years, however, the German system has been in a period of retrenchment, as costs have soared with longer life spans and revenue has stagnated with low fertility rates. Before the system was reformed in 2001 and 2004, projections indicated that the payroll tax rate needed to finance German pensions would increase substantially, from today's 19.5% to more than 28% of payroll in 2040.

Former Chancellor Gerhard Schröder sought to stabilize the payroll contribution rate for pensions at no more than 20% before 2020 and 22% before 2030. A first effort, in 2001, made progress toward this goal but was based on overly optimistic economic and demographic assumptions. Soon after enactment, it quickly became clear that more reform was necessary. Schröder appointed a commission in November 2002, headed by Professor Bert Rürup, to make further recommendations on stabilizing the system's financing. The Rürup commission proposed linking annual pension indexing, in part, to changes in the ratio of pensioners to workers supporting the system — the so-called 'sustainability factor'. All German pensions — for new retirees and those who retired in earlier years — are tied to the same basic pension

[8] *The Swedish Pension System Annual Report*, National Social Insurance Board, 2005, p. 29.
[9] *The Swedish Pension System Annual Report*, 2005, pp. 49-50.

value component, which, in turn, is indexed to annual wage growth. Adjusting this pension value component by the sustainability factor will have a powerful stabilizing impact on the pension system because it will automatically lower pension payouts for all German retirees as the pensioner-to-worker ratio increases over time. The German parliament passed the sustainability factor in March 2004.

State pension reform in Germany is more of an ongoing process than a completed task. Under current projections, the Rürup sustainability factor has reduced the projected payroll tax necessary to finance German pensions from 28% in 2040 to just under 24%[10]. Clearly, more reform will be needed to keep costs manageable, and there is on-going discussion of an increase in the retirement age. Nonetheless, the sustainability factor, now in place, will moderate any further demographic shifts which would otherwise push the system toward unaffordable levels of taxation. It is also a ready lever that can be pulled to further downsize the system if and when Germany's political leaders are ready to again address pension reform.

Japan passed two conventional pension reform measures — in 1994 and 2000 — that scaled back promises and made some progress toward sustainability. After each effort, however, new, more realistic demographic assumptions revealed a remaining financing shortfall. In particular, plunging fertility rates have eroded the expected future tax base substantially.

When taking up a third reform effort in 2004, Japanese political leaders decided to take a different approach from the previous efforts. To avoid the need for additional *ad hoc* adjustments to benefits, the 2004 reform introduced an automatic stabilizer, or 'macroeconomic slide', that automatically adjusts benefits to compensate for changing demographics. The automatic stabilizer is modeled on the German approach. It adjusts the normal indexing formula applied to both new and current benefits by two factors — one designed to offset the decline in the number of contributing workers, the other to offset the increase in the life expectancy of beneficiaries. It is expected that the stabiliser, which is scheduled to remain in effect for twenty years, will cut annual indexation adjustments by an average of 0.9 percentage points each year between 2004 and 2023, at which point the replacement rate for an average wage earner is projected to be 50%, down from 59% today[11]. Automatic benefit stabilisers — as put in place by Sweden, Germany, and Japan — should be a particularly attractive reform option for other countries.

First, automatic stabilisers reduce uncertainty in the long-term viability of a pension system. Until recently, governments were forced to implement pension reforms based on the most reasonable set of point estimate assumptions. As those estimates have inevitably been proven wrong (frequently by being too optimistic), governments have been forced to revisit pension legislation before the public has had time to adjust to what was already passed. Japanese voters, for instance, have grown particularly weary of pension debates as the government has passed three major reform laws in just over a decade. With automatic adjusters, pension systems can self-correct, reducing the need for constant tinkering by the Government and boosting confidence among the public that the pension system will remain viable, come what may.

Adoption of an automatic stabiliser can also foster a healthy emphasis on financial discipline. Instead of focusing solely on benefit adequacy issues (such as the retirement age and replacement rate), an automatic stabiliser, such as the one designed by Sweden, helps to focus public attention on how much the country is willing to set aside to pay for retirement benefits. The automatic stabiliser is then calibrated to keep spending within the level of taxation the public will support. Thus, the financial burden associated with a sustainable

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[10] Börsch-Supan, A.H., Reil-Held, A. and Wilke, C.B. (2003): "How to Make a Defined Benefit System Sustainable: The 'Sustainability Factor' in the German Benefit Indexation Formula", Mannheim Institute for the Economics of Aging, October, p. 26.
[11] Sakamoto, J. (2005): "Japan's Pension Reform", The World Bank, Social Protection Discussion Paper Series No. 0541, December, p. 40.

pension system is clearer, and political leaders can move more easily to implement the necessary changes.

It may also be easier for some countries to downsize their pension systems using an automatic adjustment mechanism rather than traditional changes in the retirement age or replacement rate. Instead of designing a pension reform to hit a point estimate for solvency, political leaders can build automatic adjustment provisions into the pension system that gradually alter key program parameters based on firm, actual data in the years ahead. Using this approach, politicians can correctly claim to satisfy both the optimists who assume the input assumptions are too dire and the pessimists who worry that the projections will be worse than anticipated. Either way, if the policy adopted has the ability to adjust flexibly to whatever key demographic and economic trends actually occur, the pension system can remain perpetually solvent.

6. Conclusion

Facing up to the challenge of population ageing can be overwhelming for political leaders. For the developed world, the ratio of pensioners to the working age population is set to double over the next half century. Such a dramatic shift toward an older population will not occur without difficulty. Among the many challenges will be maintaining a political and economic balance between adequate retirement provision and an affordable pension contribution rate.

Two decades ago, the political prospects for addressing the pension challenge looked bleak. But in the last fifteen years, many countries have put in place reforms that have improved the long-term outlook, even if modestly. While much more reform undoubtedly lies ahead, the successful implementation of innovative approaches to state-run pensions in several countries should increase our optimism about the political prospects of addressing the remaining challenge.

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