

EUROPE: IS THERE AN AGEING CRISIS OR IS IT A PUBLIC PENSION PROBLEM?

RICHARD DISNEY*

Talk of an ageing ‘crisis’ or a ‘demographic timebomb’ in Europe is of course overblown; but such rhetoric sells books and attracts media attention.¹ If households have sufficient foresight, and can choose when to retire and how much to save, they should be able to offset greater longevity and falling birth rates in the aggregate. True, households may be myopic, but the heightened concern as to ‘ageing’ may bring home the necessity for making life cycle provision. It is also true that perverse incentives may encourage individuals to retire early or to save less, driving a wedge between private and social optima. In principle, tax and benefit policies can be adjusted to deal with this issue.

The ageing of European Union countries (see Chart 1) has, however, highlighted the underlying difficulties in financing major components of public spending – such as social security (pension) programmes and health care expenditure – while simultaneously achieving the targets of macroeconomic stabilization laid out initially at Maastricht and subsequently in the Amsterdam Treaty. The ageing ‘problem’ in Europe arises from the difficulty in reconciling the freedom of individual coun-

tries to develop their own social welfare policies with the requirements of economic cohesion arising from the Single European Market and economic and monetary union.

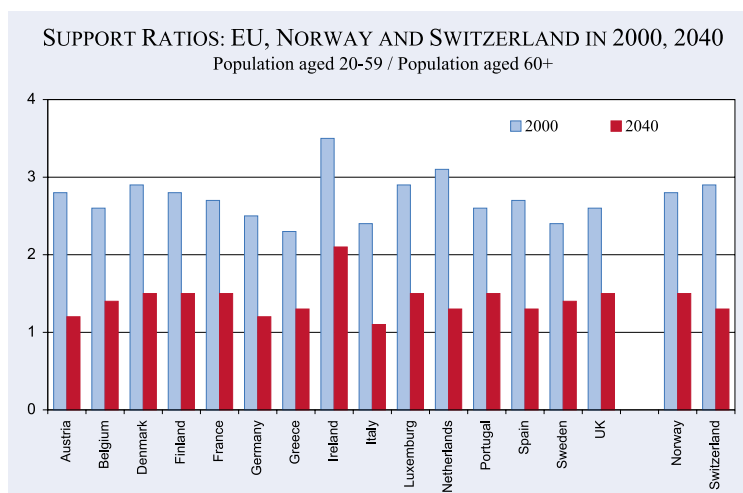
Public pension spending and EU macroeconomic stability

High social security spending, in particular, is seen as a threat to EU macroeconomic targets for several reasons:

- If these expenditures are not covered by tax receipts, then EU countries will have difficulties in remaining within the ceiling for annual borrowing as a % of GDP, and the inflation target.
- Insofar as unfunded social insurance programmes give individuals ‘rights’ or entitlements that are a claim on future tax receipts, they represent future implicit debt analogous to



Chart 1



Note on Chart 1

Chart 1 shows the *support ratio* – the number of people of prime age for each person of pension age (defined as 60 and over). Note that the ratio more than halves in several countries between 2000–40, including Austria, Germany, Italy and the Netherlands. The ratio stabilises at between 1.1 and 1.5 by the middle of this century in every country bar Ireland. The *effective* support ratio should take account of how many people of prime age are working, and how many people over 60 are receiving a pension. Prolongation of the working life, or an increase in labour force participation of those of working age (such as married women) will raise the effective support ratio (as happened in the 1960s and 1970s). However an increase in labour force participation ultimately leads to an rapid increase in the proportion of older individuals with their own pension entitlements – and this trend is now being observed.

* Professor of Economics, University of Nottingham, and Research Fellow, the Institute for Fiscal Studies, London.

¹ Disney (1996) tried to deflate this idea.

High social spending threatens macro-economic stability

Measures of accrued public pension rights as % of GDP, OECD, 1990

Country	Accrued rights as % of GDP, 1990 (Source: van der Noord and Herd, 1994)				Accrued rights as % of GDP, 1990 (Kune, 1996, as from Holzmann, et al, 2000)	Memo item: General gross debt as % of GDP, 1994 (IMF data)
	Total (3)+(4)-(5)	Present retired	Present workforce	Existing assets	Total	Total
Belgium	-	-	-	-	75	136
Canada	105	42	71	8	-	96
Denmark	-	-	-	-	87	69
France	216	77	139	-	83	48
Germany	157	55	102	-	138	50
Greece	-	-	-	-	185	114
Ireland	-	-	-	-	55	-
Italy	259	94	165	-	157	129
Japan	145	51	112	18	-	83
Luxembourg	-	-	-	-	156	-
Netherlands	-	-	-	-	103	79
Portugal	-	-	-	-	93	71
Spain	-	-	-	-	93	63
UK	139	58	81	-	68	46
US	89	42	70	23	-	69

Notes:

- 1) Accrued liabilities constitute the sum of obligations to current pensioners and accrued-to-present rights of workers, less pension scheme assets if any. Thus, in the US calculations, for example, the discounted social security rights of pensioners equal 42% of GDP, and the rights so far accrued of those still in the labour force, 70% of GDP. But the Social Security Trust Fund holds assets equal to 23% of GDP, leaving a net accrued liability of 89% of GDP. Total explicit and implicit debt is therefore 69 + 89 = 158% of GDP.
- 2) The OECD study discounts accrued rights at 4%, falling to 3% after 2050. It assumes benefits are accrued in line with earnings growth but are price indexed after retirement (in this simulation). Various additional financial obligations (for example, unfunded supplementary schemes for public sector workers) are ignored.
- 3) The study by Kune assumes 4% discount rates, ignores all complementary schemes (e.g. French supplementary schemes, Spanish and Portuguese schemes for public workers) and takes no account of longevity improvements. The maturation of the State Earnings Related Scheme (SERPS) in the UK is ignored.
- 4) Each study relies on simulation models from published data, coupled with projections of economic assumptions, rather than actual administrative microdata, to calculate liabilities.

Accrued pension debt dwarfs the explicit gross debt of EU countries

overt borrowing by governments. Even if such debts are not recognized in the EU debt/GDP ceiling, they are increasingly so recognized by financial markets. Moreover, as governments move towards an accrual basis for their accounting in GFS, rather than a cash basis, accrued liabilities of this type should be incorporated into their balance sheets.

The Table, compiled in Disney (2001), provides some estimates for OECD countries of these cumulated accrued liabilities – that is the obligations of these social security programmes to existing pensioners and workers in the hypothetical event that such schemes were closed down tomorrow. These cumulated liabilities, or

implicit pension debt, differ from the more commonly provided projected liabilities, which assume that the scheme remains in operation – but projected liabilities can be altered by changes in policy without any need to reform retrospectively. The debts, as a % of GDP, are substantial, and dwarf the explicit debt measure (in the final column) that is subject to a 60% ceiling in the Stability Pact. A major *caveat* is that such measures are very sensitive to the assumptions made as to earnings profiles, productivity growth etc.²

² For evidence, see Banks, Disney and Smith (2000). The issue of data requirements is discussed more fully in Boeri and Brugiavini (2001).

- If social security spending is financed from hypothecated taxes on payroll, as is typically the case, it is commonly argued that such taxes impose a constraint on employment.³ This constraint runs counter to the EU's agreed strategy to boost employment. There is indeed a potential 'vicious' circle here: high taxes on labour reduce employment and thereby raise the dependency ratio, so reducing the scope for the very employment growth that could offset the burden of increasing numbers of aged non-participants.

The 'modernisation of social security' in the European Union

These pressures have led to a 'sea change' in the attitude of the European Union to social provision (Szyszczak, 2001). Whilst the form of social security provision of member states lies outside EU competence, the potential impacts on macroeconomic sustainability and on the EU's employment strategy of what may be perceived as 'unsustainable' levels of spending on social welfare benefits are now seen to lie directly within its remit. What is now termed the 'modernisation of social security' is firmly on the EU agenda.

Accordingly, new forms of 'soft law' are used to encourage, and even coerce, member states into line. As part of the Lisbon Process, member states are subject to benchmarking and peer review in a variety of fields concerned with employment and welfare provision. They are set targets for employment strategy, and required to provide data on, for example, projected pension expenditures on a common set of assumptions, rather than their own *ad hoc* estimates (Commission of the European Communities, 2001). The issue of whether the single internal market is compatible with regulation and limitations of competition in the field of provision of welfare benefits has been tested in the European Court of Justice.

Social security reform in individual European countries

Whether independently, or as a result of this concerted pressure, many EU countries have begun to

reform their social security programmes (OECD, 1998). Some illustrations are contained in the Box. A common approach is a 'parametric' reform process (the terminology is from Chand and Jaeger, 1996; see also Disney, 2000) raising the retirement age and reducing the generosity of indexation of pensions in payment. In addition, several countries have attempted to develop or expand the funded component of their programmes. Two countries (Sweden, and Italy in the 1995 'Dini' reform) have attempted to link future individual pension benefits much more closely to individual contributions and to macroeconomic criteria of sustainability.⁴ This last strategy, proponents argue, both addresses the problem of macroeconomic sustainability and also makes contributors willing to pay for pensions, since future pensions are more closely tied to individual contributions. It is designed explicitly to limit intergenerational redistribution arising from the 'pension promise', but thereby sacrifices any scope for intra-generational redistribution, such as transfers to non-contributors and to those with low lifetime earnings.⁵

The role of funded pensions

A central issue in the European debate is as to whether social security programmes should con-

Social security reform is on the EU agenda

⁴ These are termed 'notional defined contribution' schemes. They remain unfunded, but link the notional 'return' on individual contributions to a measure of real *per capita* growth. Theoretically, this procedure cannot guarantee 'pay-as-you-go' equilibrium, but it is argued that it imposes a constraint on the capacity of governments to make future pension promises that rely on unrealistic future projections of GDP growth.

⁵ Again, proponents would argue that much redistribution in such countries pre-reform had little to do with vertical and horizontal equity, and a good deal to do with influential interest groups, such as public sector workers. See the chapter by Brugiavini and Fornero on Italy in Disney and Johnson (2001).

Some Recent Pension Reforms in Europe

France, Ireland

- Establishment of pre-funded component to social security programme

Germany

- Development of second tier of funded pensions

Italy

- 'Parametric' reform ('Amato') raising retirement age and cutting benefits
- Shift to 'actuarially fair' benefits based on contributions ('Dini'). Attempts to develop second tier of funded pensions from existing TMR funds

Sweden

- Shift to Notional Defined Contributions (unfunded individual pension credits) and development of small funded component

United Kingdom

- Cutbacks in second tier public provision; greater incentives for private provision; raising pensionable age for women.

³ The issue is discussed extensively in OECD (1995) and Nickell and Layard (1999). See also Alesina and Perotti (1997) and Daveri and Tabellini (2000).

tain a funded (possibly private) element. Economists have argued excessively as to whether funded and unfunded pension schemes involve different social obligations. Under certain assumptions, there are 'equivalence conditions' by which the total burden on society of running a funded pension programme is identical to that of an unfunded programme (see Bohn, 1997). Even if the steady state outcomes are different – for example, if the funded scheme generates a larger capital stock and, therefore, GDP *per capita* – the net effects on contribution rates in steady state may be rather small.

This issue is however peripheral to the current European-level debate, since it is the link between macroeconomic sustainability and *public* spending on social security programmes that is the issue here, particularly as there is some tentative evidence that individuals might prefer to save for retirement through a funded scheme, rather than to rely on the government's future taxable capacity (Boeri, Börsch-Supan and Tabellini, 2001). Where the social cost issue 'bites' is during the transition from a fully unfunded to a partially funded scheme. If existing, accrued, liabilities are not to be reduced (and governments have been very reluctant to cut pensions retrospectively)⁶, then the introduction of a funded component requires higher contribution rates. With high payroll taxes already, this is unattractive. European governments are attempting to finesse this problem by finding other 'funds' that can be converted into embryonic funded pension programmes, such as the severance payment funds (TFRs) in Italy.

Moreover, private funded programmes can only survive with sizeable tax privileges relative to other forms of saving, which impose an indirect revenue burden on government. Getting the degree of effective subsidy to private programmes right is tricky – a lesson that countries with funded sectors have learnt to their cost, such as New Zealand and the United Kingdom.⁷

Incentives to retire

The concern as to 'ageing' arose in part from the possibility that household choices, particularly concerning the retirement decision, are distorted by tax policy. An influential cross-country study edited by Gruber and Wise (1999) shows that there is a positive correlation between the average implicit tax rate on retirement and the degree of early retirement, across countries. The focus here, correctly, is on the impact of *marginal* tax rates, rather than the average tax burden, on household behaviour.

Care must be taken in this type of analysis, however. First (and Gruber and Wise are careful in this respect), changes in economic behaviour in response to tax changes or other policies (for example, raising retirement age) must be modeled, not assumed. For example, raising state retirement age by five years will not lead everybody to work five years longer – many individuals find other avenues into retirement if there are incentives to do so. Nevertheless, there appears to be cross-country time-series evidence of participation rates responding to changes in retirement ages (Johnson, 2000).⁸ Second, there must be *explicit* high marginal tax rates to induce changes in behaviour. If, for example, receipt of a public pension is not conditioned on a 'retirement test' or 'earnings test', and deferral of benefits is available at an actuarially fair rate, there is no reason why households cannot work indefinitely, whatever the 'implicit' marginal tax rate on continued work.⁹ Only now are we seeing enough 'natural experiments' in terms of changes in these tests to permit us to evaluate the impact of explicit taxes on the work incentives of the elderly (Baker and Benjamin, 1999; Disney and Smith, 2002). These suggest positive and significant, but fairly small, impacts of taxes on retirement behaviour.

The Accession states

Enlargement of the European Union will bring with it a host of new opportunities and issues. In

⁶ The exception being policies that reduce the generosity of indexation of pension benefits post-retirement.

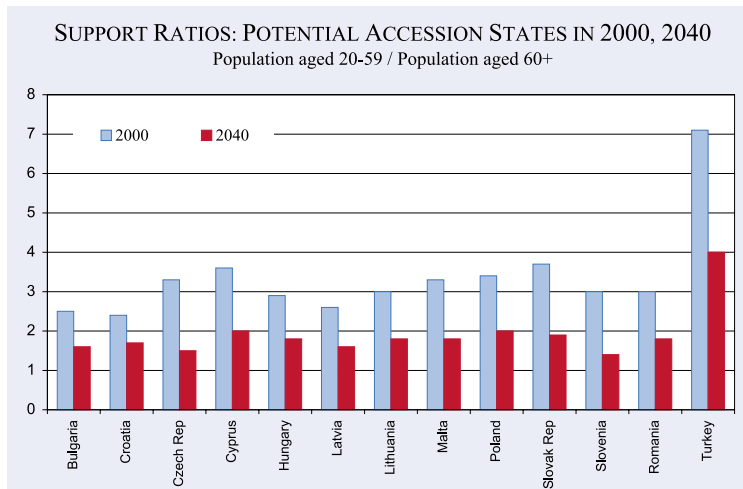
⁷ In New Zealand, the government decided on a policy of eliminating 'special' tax privileges to particular sectors, such as the private pension industry, leading to the almost complete collapse of the private sector. Conversely, in the United Kingdom, official audits have been highly critical of the overgenerous tax reliefs given to individuals to induce them to opt-out of the state second tier pension in order to buy a Personal Pension (an individual retirement account). See, respectively, the chapters by St. John, and by Emmerson and Johnson, in Disney and Johnson (2001).

⁸ Again, for clear case studies of the impact of introducing early retirement (Germany) and raising the retirement age (New Zealand), readers are referred to the case studies in Disney and Johnson (2001).

⁹ The clearest example is in private pension schemes, as in the Netherlands and the UK, which permit early drawing of the pension under certain circumstances. But these rarely preclude the individual from getting another job and not 'retiring' from the workforce if they so choose. Conversely, disability programmes (also prevalent in both those countries) generally impose a work test and therefore will have a substantive impact on participation.

Moving to a (partially) funded scheme involves high costs

Chart 2



case there was any doubt, however, Chart 2 illustrates how closely the demographic trends in countries in proximity to the EU mimic those of existing members. Many of these countries are having to accommodate existing welfare programmes that, in some cases, were designed on an enterprise level or a collectivist basis, unsuited to ageing workforces. There is a danger for such countries that, as underlying competitive wage disparities are eroded, high non-wage costs turn out to be a significant deterrent to inward investment and to employment creation. Nevertheless, the pension reform process, in countries such as Hungary and Poland, has often been striking and innovative. There may be lessons here for EU countries that have so far failed to embark on pension reform strategies.

Summary

Demographic ageing should not be an issue in theory, so long as the household can forecast expected longevity and can utilise the labour market and the capital market to smooth consumption. The problem that arises in a European context is explicitly a problem of public social welfare spending, where macroeconomic and employment targets limit the scope of individual countries to pursue their own, autonomous policies. EU governments are under increasing pressure to reform their public pension programmes so as to reduce current payroll tax rates and prospective pension liabilities.

Many EU governments have begun to implement 'parametric' reforms of their pension programmes, such as changes in retirement age, in the generosi-

ty of benefits, and in explicit taxes on work on elderly workers, in response to these spending constraints. Economists are just beginning to provide concrete evidence on the behavioural impacts of these policies. Another favoured strategy has been to institute a pre-funded component to pension programmes. Notwithstanding the extensive debate among economists as to the rationale for such a transition, the essential limitation on governments of EU member states lies in finding institutional arrangements that facilitate such a transition at minimal cost to existing taxpayers.

References

- Alesina, A. and Perotti, R. (1997) 'Welfare State and Competitiveness', *American Economic Review*, 87, December, 921-939.
- Baker, M. and Benjamin, D. (1999) 'How do retirement tests affect the labour supply of older men?' *Journal of Public Economics*, 71, 27-51.
- Banks, J., Disney, R. and Smith, Z. (2000) 'What can we learn from Generational Accounts for the United Kingdom?' *Economic Journal Features*, 110, November, F575-F597.
- Boeri, T. et al (2001) *Pensions: More Information, Less Ideology*; Kluwer Academic Publishers, Boston
- Boeri, T., Börsch-Supan, A. and Tabellini, G. (2001) 'Would you like to shrink the welfare state? A survey of European citizens' *Economic Policy*, 16, April, 7-50.
- Bohn, H. (1997) 'Social security reform and financial markets' in Sass, S. A. and Triest, R.K. (eds) *Social Security Reform: Conference Proceedings*, Conference Series No. 41, Federal Reserve Bank of Boston.
- Chand, S. and Jaeger, A. (1996) 'Aging populations and public pension schemes' *Occasional Paper* No. 147, The International Monetary Fund, Washington.
- Commission of the European Communities (2001) 'Budgetary challenges posed by ageing populations', Economic Policy Committee, available at: http://europa.eu.int/economy_finance/publications/european_economy/reportsandstudies0401_en.htm
- Daveri, F. and Tabellini, G. (2000) 'Unemployment, growth and taxation in industrial countries', *Economic Policy*, 30, April, 47-101.
- Disney, R. (1996) *Can we afford to grow older? A Perspective on the economics of aging*, MIT Press, Cambridge, Mass.
- Disney, R. (2000) 'Crises in public pension programmes in OECD: What are the reform options?' *Economic Journal Features*, 110, February, F1-F23.
- Disney, R. (2001) 'How should we measure EU pension liabilities?' in Boeri et al (2001).
- Disney, R. and Johnson, P. (eds) (2001) *Pension Systems and Retirement Incomes across OECD Countries*, Edward Elgar: Cheltenham.
- Disney, R. and Smith, S. (2002) 'The labour supply effect of the abolition of the earnings rule for older workers in the United Kingdom', *Economic Journal*, 112, May, forthcoming.

Impact of parametric reforms remains to be seen

Gruber, J. and Wise, D. (eds) (1999) *Social Security and Retirement around the World*, a NBER Conference report, Chicago: Chicago University Press.

Holzmann, R., Palacios, R. and Zvinieni, A. (2000) 'On the economics and scope of implicit pension debt: An international perspective', *mimeo*, HDSP Department, the World Bank, Washington.

Johnson, R. (2000) 'The effect of old age insurance on male retirement: Evidence from historical cross-country data', *Federal Reserve Bank of Kansas City, Research Division*, Research Paper 00-09, Kansas City.

Kane, C. and Palacios, R. (1996) 'The implicit pension debt', *Finance and Development*, June, 36-38.

Kune, J. (1996) 'The hidden liabilities: Meaning and consequences', *mimeo*, CBP seminar Series, Den Haag, the Netherlands.

Nickell, S. and Layard, R. (1999) 'Labor market institutions and economic performance' in Ashenfelter, O. and Card, D. (eds) *Handbook of Labor Economics, Volume 3c*. Amsterdam: Elsevier Science.

OECD (1998) *Maintaining Prosperity in an Ageing Society*, Organisation for Economic Co-operation and Development: Paris.

Szysczak, E. (2001) 'Social policy' *International and Comparative Law Quarterly*, 50, January, 176-186.

Van den Noord, P. and Herd, R. (1994) 'Estimating pension liabilities: A methodological approach', *OECD Economic Studies*, 23, 131-166.

World Bank: www.worldbank.org/pensions