Demographic Pressures and the Changing Political Economy of Pension Law: A Critical Analysis of Pension Law Reforms in Five OECD Countries

PAUL KLUMPES* & WILLEM SINNINGHE DAMSTÉ**

1. INTRODUCTION

Psychological evidence suggests that many people do not save enough for their old age, if left to their own devices. During the first half of this century, under the influence of welfare economics, governments of many advanced industrial nations sought to address this social problem via 'paternalistic' pension policies by providing state-financed retirement income programmes to reduce poverty levels of their elderly.[1] However the 1970s saw the demise of paternalistic pension policy and a larger neo-classical economic concern for the promotion of economic efficiency.[2] Moreover, recent evidence that unfunded pension systems are economically unsustainable due the demographic pressures of ageing populations has led to calls for policymakers to reduce the scope of public pension systems and encourage the growth of privately-funded pension savings via the medium of 'pension funds'.[3] These are financial intermediaries, usually sponsored by

* Lancaster University, Lancaster, UK.

** Sociale Verzekeringsbank, Amstelveen, The Netherlands.

1. Weiss, D.M, *Paternalistic Pension Policy: Psychological Evidence and Economic Theory*, The University of Chicago Law Review, 58, 1991, p. 1275.

2. Ippolito, R, *Pensions, Economics and Public Policy*, Richard D. Irwin: Chicago, 1986, p. 35.

3. World Bank, *Averting the Old Age Crisis*, Washington, D.C. 1994; Organisation of Economic Cooperation and Development, *Pensions Public Policy and Private Practice*, Paris, 1992.

The International Journal of Comparative Labour Law and Industrial Relations, Vol. 13/3, 211-231, 1997
© Kluwer Law International (KLI). Printed in the Netherlands.

employers, which collect and invest funds on a pooled basis for eventual repayment to their employees in the form of pensions.[4]

Instituting law reforms to encourage greater participation in pension funds can have both macro-economic effects on labour and capital markets,[5] as well as incentive effects on individual labour contracts.[6] However recent literature documenting apparent cross-sectional differences in laws governing pension arrangements between countries[7] has tended to ignore analysing the socio-economic background or consequences of pension law reform. By contrast, Mitchell[8] suggests that broader social-economic analyses of welfare states have moved away from one-dimensional, crude comparisons to develop a more qualitative appreciation of the historical and political factors which shape observe regulatory or legal institutional outcomes. Using this approach to analyse the political economy of pensions law in the Canada, the UK and the USA, Deaton found that motives for pension law reforms in these countries were more closely related to pressures by powerful industry groups, rather than by a desire to improve the economic welfare of the elderly.[9]

This paper analyses the institutional sources of pension law reform in five advanced economies which share similar trends in their demographic, political, capital and labour markets: Australia, Canada, Netherlands, UK and USA. This analysis is possible only because: (i) while their legal and institutional sources of pension regulation differ, they have also face similar demographic and social pressures for reform; (ii) these countries share in common three discrete legal-institutional levels of pension arrangement: (1) government-managed social security system with generally universal coverage with the limited goal of reducing poverty among the old; (2) a privately managed, group based employer sponsored pension savings pillar with widespread coverage among working age population to supplement the public system; and (3) an individual-based voluntary pension savings vehicle to supplement pillars (1) and (2).[10] This comparative analysis is powerful because it allows us to identify both the common institutional sources and

4. Davis, E.P, *An International Comparison of the Financing of Occupational Pensions*, Mimeo, 1994.

5. Pesando, J.E. *The economic effects of private pensions*, in Private Pensions and Public Policy, OECD Social Studies, Paris, 1992.

6. Lazear, E.P., *Incentive effects of pensions*, in D.A. Wise (ed.), Pensions, Labour and Individual Choice, University of Chicago Press, Chicago, 1986.

7. Mok, L. *Survey of International Pensions Law*, Kluwer: Dordrecht, 1990; Kvist, J, *Taxation of Pensions in the EC: A National Overview*, Kluwer-SOVAC, 1992; Ellison, R, *Pensions: Europe and Inequality*, Longman: London, 1992.

8. Mitchell, D., *Welfare States and Welfare Outcomes in the 1980s*, Paper presented to Social Security 50 Years After Beveridge Conference, York, 1992.

9. Deaton, A., *The Political Economy of Pensions*, Columbia University Press, 1989.

10. Dietvorst, G.J.B., *De Drie Pijlers Van Toekomstvoorzieningen en Belastingen*, Kluwer, Deventer, 1994.

constraints to pension law reform and to examine its socio-economic consequences along various dimensions.

The rest of this paper is organised as follows. Chapter 2 briefly overviews demographic pressures common to all countries and provides a brief discussion as to the institutional backgrounds and pressures for reform to the welfare state. Chapter 3 identifies private pension systems arising from demographic transition. Chapter 4 considers the implications of these pressures for changes in various legal-institutional frameworks and the consequences for international harmony. Finally Chapter 5 presents a conclusion.

2. THE CHANGING POLITICAL ECONOMY OF PUBLIC PENSION LAWS

This section overviews the historical development of public pension legal systems in each of the five countries (section 2.1), and then considers how they have been affected by common economic and social pressures for reform (section 2.2).

2.1 Legal-institutional background

2.1.1 Australia

Social security did not exist in Australia prior to Federation (1901). However the Australian constitution explicitly granted the commonwealth with jurisdiction over the payment of pensions. The first Australian social security legislation (1909) provided a very limited flat-rate benefit on a universal basis. Over the next eighty years, the benefit level gradually increased until it reached a peak of 25% of average gross weekly earnings in 1990. Until 1947 all social security payments by the Federal government were made under separate legislative authority. In that year all Acts providing social security benefits were amalgamated into the *Social Security Act 1947.*

Pressures for reform arose firstly out of the non-adoption of a proposed national superannuation system in 1981 and the consequent political encouragement of employment-based private pension arrangements for retirement income savings. Then in 1983 the Federal government imposed means- and assets- based testing on the old age pension, and in 1991 foreshadowed the mandated contribution of employer and employee contributions towards employer-based pensions.

2.1.2 Canada

In the nineteenth century, limited municipal-based social welfare was available to only the most poor and indigent people on an as-needs basis. The first Federal legislation proving a Federal-provincial programme was introduced via The *Old Age Pensions Act 1927.* At that time, only Canadians aged 70 years or older and who could prove that they were destitute were entitled to benefits.[11] In 1943 the Marsh Report provided a seminal and comprehensive set of income security proposals to set minimum benefit standards, but this was not accepted as government policy. By 1952 OAS benefits had become universal and were paid to

11. Diotte, R., *All About Old Age Security*, Good Times, May 1992: pp. 38-42.

all Canadian citizens aged 65 or older. The CPP/QPP were introduced in 1966 as national earnings-related social insurance systems. In 1967 the Federal government sponsored income-tested supplemental programme to the OAS (the Guaranteed Income Supplement or GIS) for those living below the poverty line. The GIS was intended to be temporary, but in the 1970s policymakers increasingly opposed universalism and OAS benefits were gradually eroded, with slack being taken up by the GIS. In subsequent years benefits paid to high income retirees were 'clawed back'.[12]

2.1.4. Netherlands

Political deliberations about the introduction of pensions began in the same year as the German system was introduced (1889), but national consensus delayed the social security system from introduction until 1913. Eventually the *AOW General Old Age Pension Act* was introduced in 1957 which provided a basic flat rate social security pension for insured upon reaching the age of 65. However no pressures for reform took place since, despite funding pressures indicated by actuaries.[13]

2.1.5. UK

Comprehensive social security legislation provided for a non-contributory, flat-based pension for poor old age persons aged over 70 'of good character (*Old Age Pensions Act 1908*). This provided for contributory, means-tested and flat-rate pensions. Later legislation was passed which provided for contributory, means-tested and flat-rate pensions for those aged 65 and over (*Widows, Orphans and Old Age Contributory Pensions Act 1925*). In 1942 Beveridge proposed the establishment of a comprehensive universal system of public retirement income provision that was based on an 'insurance' contributory scheme, but set minimum flat-based universal pension. This was implemented with a *National Insurance Act 1946* (effective 1948).

2.1.6. USA

Prior to the twentieth century, only limited social services were provided to indigent groups on a needs basis.[14] The issue of social security was raised following widespread poverty among the elderly which became evident in the years after the Depression. President Roosevelt created a Committee on Social Security which was charged with the task of proposing a general program of social security. The Committee later proposed an insurance program which was based on the German model. This was implemented in 1935 with the *Social Security Act*, which provided the first national old age social insurance program (later known as OASDI) for retired persons aged 65 and over. The legislation initially covered only employees in industry and commerce. However during the next two decades there

12. Boronowski, *Retirement Incomes Arrangements in Six Countries in Comparative Perspective*, in Retirment Incomes Perspectives, Economic Planning Advisory Council, Canberra, 1993.

13. Verbon, H.A.A.), *On the Evolution of Public Pension Schemes*, Offsetdrukkerij Kanters B.V., Alblasserdam, 1988.

14. Deaton, A. op. cit, *supra* n. 9, p. 147.

was a continuous extension of the program and it now covers virtually all wage earners and salaried employees, self-employed and most government employees.[15]

2.2 Pressures for Reform

Social security systems of all six countries operate almost exclusively on a pay-as-you-go (PAYG) basis. Consequently, any changes in the retired population relative to those still employed immediately impact the financial viability of such systems. As noted earlier, there is growing evidence that changes in the demographic structure of populations alters the ratio of retirees to those who are currently employed. Ageing populations generally imposes financial strains on PAYG pension systems.[16] The expenditure increasing effect of demographic trends will be exacerbated by maturing of earnings-related schemes and drive up the real and relevant costs of retirement programs.[17]

Thus population ageing may cause intergenerational social tensions in these countries. This raises an important psychological problem - people are often gladly willing to sacrifice for their children, but not for the older generation.[18] Yet public policy-makers are restricted to one of three policy strategy options to adapt existing old age security PAYG systems to cope with the effects of ageing populations: Decrease benefit levels, reduce eligibility and/or increase contribution levels.[19]

The evidence suggests that public policy-makers adopted various combinations of these options over the past twenty years, and will continue to do so. The Australian government introduced strict means and assets based testing of the old age pension in 1983; the Canadian government limited the indexation of OAS benefits in 1984. The UK government introduced the *Social Security Act 1985* to reduce the scope of welfare state provision by effectively reducing the pension receivable by those retiring after 2009 from 25% of the best twenty years of earnings to only 20% of average life-time earnings.[20] In the ten years after 1993, the US OASDI pensions of high income retirees became taxable, inflation indexation was skipped for one year, payroll taxes were increased, and a schedule

15. Clark, R.L.., *Population Aging and Retirement Policy: An International Perspective*, in A.M. Rappaport and S.J. Schieber eds., *Demography and Retirement*: the Twenty-first Century, Praeger, Westport, 1993.

16. Kronjee, G.J., *Changes In The Human Life Cycle, Demographic Ageing and Social Public Expenditures*, The Hague, 1991.

17. Berghman, J., *Ageing and Social Security Financing*, EISS, Tilburg, 1991.

18. Richter, J., *Economic Aspects of Aging*: Review of the Literature, in G.J. Stolnitz (ed.), Demographic Causes and Economic Consequences of Population Aging: Europe and North America, United Nations, New York., 1992.

19. Organisation for Economic Cooperation and Development, Reforming Public Pensions, Paris, 1988.

20. Borowski, A. (1993), op cit., supra, n. 17.

for raising the retirement age was established.[21] Only in the Netherlands have there been no significant adjustments to the AOW benefit and entitlement levels.

3. THE CHANGING POLITICAL ECONOMY OF PENSION FUND LAWS

Reducing the scope of public pension systems will only have a limited impact on the financial strains that are anticipated to occur over the next fifty years by ageing populations.[22] By contrast, it has been argued that encouraging the growth of pension funds can achieve not only a reduction in the cost of public old-age pensions, but also increase the rate of national savings as well as improving the adequacy of retirement income.[23]

In this section, we analyse the historical development of laws governing pension funds and consider the impact of these arguments for their recent reforms in each country. This analysis recognises the fact that, although pressures to develop public policies that encourage the growth of private pensions is quite a recent phenomenon, legal arrangements affecting pension funds have historically developed independently of social security systems and may in fact predate them in many OECD countries. Pension funds are understood differently across countries due to their differing institutional and legal arrangements.[24] However in all five countries under review, pension funds are broadly viewed as being separate legal entities from both the employer sponsor and/or the financial intermediaries who manage them.

3.1 Australia

McCallum identifies three phases in the historical development of pension funds in Australia. During the first phase (the establishment of employer-based pension funds in the nineteenth century) they maintained a privileged lifestyle into old age for an exclusive group of highly paid employees.[25] In the second phase (beginning with the introduction of social security in 1909) an increasing proportion of the workforce participated in pension funds, but only those who remained loyal and long serving employees really benefited. It was not until the mid-1980s that widespread participation in pension funds occurred.

The new impetus for pension funds commenced when a new Labor Federal Government was elected in 1983 which embraced the concept of industry-wide

---

21. World Bank (1994), *op cit.*, p. 159, *supra*, n. 3.

22. Organisation for Economic Cooperation and Development, *Government expenditure and financing of pensions - projections to 2050*, Paris, 1996.

23. World Bank (1994), *op cit.*, p. 166, *supra* n. 3.

24. Horlick, M. (1987), *The Relationship Between Public and Private Pension Schemes: An Introductory Overview*, in Conjugating Public and Private: the Case of Pensions, International Social Security Association, Geneva, 1987.

25. McCallum, D. The Three Phases in the Historical Development of Australian Superannuation, Superfunds, 1991.

occupational pension fund regulation as part of an 'accord' with the trade union movement. During the latter half of the 1980s, the government sponsored various studies about the impact of demographic-induced pressures upon the social security system. It subsequently released a policy statement in 1989 in which the government decided to make pension funds its preferred savings vehicle.[26]

Over the next few years, 'operating standards' governing occupational-based pension funds were developed and gradually implemented. These were supervised by a newly created regulator, the Insurance and Superannuation Commission. These standards related to actuarial review, investment, vesting, portability and disclosure requirements.

In 1991 the policy shift went a step further when the Government negotiated an extension of occupational-based pension arrangements as part of an 'accord' with the union movement. Pension contributions were now recognised as a mandatory form of deferred labour compensation by employers and a levy was imposed on all employers who failed to provide a minimum level of contributions to industry-wide pension funds (via the *Superannuation Guarantee Levy Act, 1991*). These new policy measures were justified on the grounds of the need to increase the level of national saving and to limit the impact of demographically-induced future demands for social security benefits on the public purse.

These new policy measures were publicly announced as a number of political inquiries investigated the adequacy of the existing framework of regulation and law governing Australian pension funds. The government then announced a new 'regulatory framework' for private pensions which was claimed to be the 'best in the world'. The duties of those responsible for operating these schemes were codified (via the *Superannuation Industry Supervision Act 1993*), their accountability to members was enhanced and additional resources and enforcement powers were given over to the ISC.[27]

3.2 Canada

Institutional arrangements governing Canadian pension funds vary across provinces, since the Federal government has only very limited constitutional powers. Since 40% of all Canadians work in the province of Ontario, and since that province has taken a leading role in the reform of institutional arrangements governing pension funds, we discuss the major developments as they affect that province.

Pension funds appeared long before public pensions in Canada. The first retirement benefits were provided by the Amalgamated Society of Engineers in 1850, followed by the Bank of Montreal (1860) and the Canadian Government (via the *Federal Superannuation Act, 1870*).[28] Beginning in the 1920s, US transnational corporations penetrated Canada and expanded their industrial relations practices there, including occupational pension fund arrangements. This integration

26. Minister for Social Security (of the Commonwealth of Australia), *A Public Policy for Retirement Incomes*, 1989.

27. Treasurer (of the Commonwealth of Australia), *Security in Retirement*, 1992.

28. Deaton, A. (1989), *op. cit.*, *supra* n. 9.

became so complete that early surveys of US and Canadian pension funds in the late 1920s and early 1930s did not distinguish between them.[29]

Regulatory arrangements affecting pension funds were limited to tax deductions for employee and employer contributions. In 1957 retirement related savings plans (RRSPs) were introduced as individual-based retirement savings contracts that were also tax-deductible and became very popular.[30] In 1970 the Ontario Government passed the *Pensions Benefits Act* which specified detailed regulations with which pension funds had to comply, including detailed investment standards. Since the early 1980s there has been a wide-spread debate about the status of legal arrangements governing Canadian pension funds, beginning with two detailed studies (the Lazar and Haley Reports). Later a series of reform proposals were issued by the Federal Government (a green paper in 1982), regulators ('A Consensus for Pension Reform', Canadian Association of Pension Authorities) and industry (Business Committee on Pension Policy, 1983). These were followed up by more definitive policy reform proposals both at the Federal (Frith Committee Report, 1983) and provincial (White Paper, Ontario 1984) government levels. In the federal-provincial consensus of 1985, all governments agreed to certain minimum standards of legislative consistency in certain issues related to pension funds, such as vesting and locking in of pension benefits.

In 1987 Ontario passed a new *Pensions Benefit Act* which for the first time contained important provisions relating to many aspects of pension design and funding. These included membership rights relating to membership, vesting of employer contributions, locking-in of pensions and portability provisions. However a number of the reform provisions lead to considerable disagreement over appropriate interpretations, and the Ontario government promised a major overhaul of the entire Act in order to clarify a large number of the most controversial reform provisions.[31]

Subsequently in 1989 the Ontario government issued a draft for consultation in which it listed a detailed series of reform proposals. These were presented as the government's intended action on several years of public debate on the effects of population ageing on public policy towards pension funds. They included proposals regarding the ownership of pension fund surpluses, indexation of benefits, solvency, family breakdown and vesting. However so far the Ontario government has so far still not enacted new legislation to implement these proposals.

29. Williamson, S., *US and Canadian Pensions Before 1930: A Historical Perspective*, in J.A. Turner and D.J. Beller (eds.), Trends in Pensions 1992, US Government Printing Office, Washington D.C., 1992.

30. Sanschagrin, M., *The Situation of Private Pension Plans in Canada*, in Conjugating Public and Private: the Case of Pensions, International Social Security Association, Geneva, 1987.

31. Conklin, D.W., *Pension Policy Reforms in Canada*, in J.A. Turner and L.M. Dailey (eds.), Pension Policy: An International Perspective, US Department of Labour, Washington, D.C., 1990.

3.4 Netherlands

Pension funds are widespread over the Dutch workforce. These funds largely supplement the benefits payable under the social security system. Benefits payable from single private sector employer funds may be insured. Most funds are fully self-administered and are not insured. Insured plans may either involve an employer taking out an insurance contract on behalf of all employees, or employees can be given the discretion to take their own insurance contracts. The design and level of pension plans vary widely, but most are earnings-related.

Although the first pension fund dates from 1881, until the beginning of the twentieth century provision of a pension was an exception rather than the rule. In the early twentieth century pension funds became more widespread, but were perceived as a moral obligation for long service by loyal employees rather than as a compulsory form of deferred labour compensation.[32]

Institutional arrangements to regulate pension funds were not established until 1949, when the *Industry Pension Fund Compulsory Participation Act* mandated participation where it was requested by a certain industry and when certain conditions were met. However apparent abuses of pension fund investment moneys by a certain shipping form resulted in public debate as to the merits of legal regulation of pension funds. This resulted in the introduction of the *Pensions and Savings Fund Act* in 1953 (PSW). The PSW contains requirements for safeguarding pension promises to employees, the adoption of an acceptable funding system and the separation of pension capital from employer sponsor assets. However the PSW contained no vesting or portability requirements, which were recommended in 1985 by the main advisory committee of the government (Stichting van de Arbeid or STAR). It recommended the establishment of a special trust (the Stichting Diensterlening Samenwerkingsverband or SDS) to implement portability of pensions possible by voluntary agreements between a number of large companies and their pension funds. Amendments were subsequently made to the PSW in 1987 to allow the transfer of pension rights from one participating SDS employer sponsored scheme to another.[33]

3.4 UK

Pension funds began in the UK in the first half of the nineteenth century. The first formal pension funds were municipal, beginning with the Metropolitan Police in 1829, followed by the civil service scheme which began operations with the passing of the *Central Government Superannuation Act* in 1934. The development of private sector pension funds accompanied the industrial revolution. The first manufacturing pension fund was established by the Gas and Light Coke Co. in 1842.[34]

---

32. Zweekhorst, K., *Developments in Private Pensions in the Netherlands*, in J.A. Turner and L.M. Dailey (eds.), Pension Policy: An International Perspective, US Department of Labour, Washington, D.C., 1990.

33. Zweekhorst, R. (1990), *op. cit.*, *supra* n. 31.

34. Deaton, A. (1989), *op. cit.*, *supra* n. 9, p. 401.

Pension funds were first subject to regulation in 1918 when the *Income Tax Act* permitted income tax deductibility status for employer contributions to occupational pension funds. However income tax deductibility was not extended to pension contributions by employees until 1952.

Based on recommendations contained in a 1971 white paper, in 1973 the Occupational Pensions Board was created to monitor and regulate pension funds. However proposals to differentiate 'recognised' funds that could supplement provisions of the flat-based public pensions were abandoned by the incoming Labour Government in 1974. Instead the new Government proposed, in a white paper, that employees of occupational pension funds could 'contract out' their earnings-related pension contributions from SERPS. This was eventually implemented in 1978, but was available only to certain occupational-based pension funds which satisfied certain statutory criteria.[35]

During the 1980s, the new Conservative Government conducted a major study of the relationship between social security and pension funds, particularly in the light of projected demographic changes. It published a Green Paper which outlined possible alternative proposals in 1983, and subsequently published a White Paper in 1985, outlining its intentions. The policy suggested was to encourage the working population to provide for their own pension provision so as to reduce the future burden on SERPS. Changes introduced by the *Social Security Act 1986* and the Finance (No. 2) Act 1987 included the creation of 'personal pensions' to facilitate private retirement income provision. This was defined as 'a scheme whose sole purpose is the provision of annuities or lump sums under arrangements made by individuals in accordance with the scheme'. Such schemes must be approved by the Occupational Pensions Board.[36]

The government's objective of reducing the burden on SERPS was clearly dependent upon sufficient people opting for occupational or personal pensions. Evidence suggests that this has indeed occurred, with over five million people electing to opt for personal pensions alone in the following five years.[37] New single premiums paid on personal pensions in 1990 trebled those paid in 1988, the first year in which they first became available.[38] However these trends did not continue into the 1990s, partly due to the failure of life insurers to keep their promises of attractive returns.

During the 1980s, the occupational pension fund industry suffered from anecdotal evidence apparent abuses by employer sponsors, causing pension promises to be severely underfunded and causing alarm as to the adequacy of existing regulatory arrangements. The most publicised case was the looting of the

---

35. Cunliffe, J., *Pensions in the United Kingdom*, Tijdschrift voor Pensioenvraagstukken, October 1990, p. 78; De Lange, P.M.C., *Pensioen Regelen en Verzekeren*, Kluwer, Deventer, 1994 p. 199.

36. Chatterton, D.A., *The Reform of Pensions into the 21st Century: A Critique* - Part 1, New Law Journal, 25 March, 1988.

37. Department of Social Security (of the United Kingdom), *The Growth of Social Security*, HMSO, London, 1993.

38. Association of British Insurers), *Insurance Statistics 1986-1990*, London, 1991.

Maxwell pension funds, when over £160 million was fraudulently invested during 1990-1991, causing 18, 000 Maxwell pensioners to lose their pension entitlements. Further evidence of the misuse of pension fund moneys was revealed in 1994 when it was found that the Church of England Pensions Fund incurred losses of up to £800 million due to a 'certain degree of complacency' in the management of the funds' capital.[39]

In reviewing the implications of these events on the adequacy of existing system of arrangements governing those responsible for administering, investing and advising pension funds, the Social Security Committee of the House of Commons recommended the establishment of an inquiry to urgently address the task. Despite doubts expressed by industry as to the need to overhaul trust law as the basis for regulating pension funds the government appointed a Pensions Law Review Committee (the Goode Committee) to investigate whether the laws governing the accountability of those responsible for managing and advising pension funds could be improved. After issuing an issues paper in 1992, the Goode Committee proposed recommendations for reform in 1993. The new *Pensions Act 1995* codified regulation of occupational pension funds, including clauses to tighten up sanctions against trustees, including the establishment of a new Occupational Pensions Regulatory Authority.

3.5 USA

Pension funds in the USA developed in the late 19th and early 20th centuries. The first municipal pension fund was established by the New York City Police in 1857, and the first employer-sponsored fund was established in 1875 (American Express). This was followed by the first union-sponsored pension fund (Patternmakers Union) and the first manufacturing fund (Carnegie Steel) at the turn of the century.[40] However none of the pension funds established by the time of the Great Depression in 1929 provided vested benefits, and they included many disclaimers which discriminated against certain categories of employees.[41] Although income tax deductibility status for employer contributions to pension funds was granted in 1926 (via the *Revenue Act* and *Internal Revenue Code*), comprehensive regulatory arrangements were not developed until the 1970s.

The economic recession experienced in the early 1970s resulted in a pattern of layoffs and firings of long-term unvested workers and the termination of pension funds with insufficient assets to pay promised benefits, especially in the steel industry. This stimulated the development of the first national uniform legislation for private sector pension funds via the *Employee Retirement Income Security Act* of 1974 (ERISA), but only after a lengthy period of congressional enquiry and

39. Social Security Committee (of the United Kingdom House of Commons), Second Report: *The Operation of Pension Funds,* HMSO, London, 1992.

40. Deaton, A. (1989), *op. cit., supra* n. 9, p. 403.

41. Greenough, W.C., and F.P. King, *Pension Plans and Public Policy*, Columbia University Press, New York, 1976.

public discussion.[42] ERISA established minimum standards for vesting, funding, investment and disclosure for pension funds. It also set up a publicly funded pension benefit insurance fund, administered by the Pension Benefit Guaranty Corporation (PBGC). The insurance fund is funded by employer sponsor contribution at a fixed rate per participant, regardless of risk. This was considered to have imposed a high level of regulation on the US pensions industry. However during the 1980s, regulations have since been revised to extend even further the scope of government oversight of defined benefit pension funds. This has partially contributed to a pronounced trend towards greater use of defined contribution pension funds. The Federal government also increased tax breaks on tax-favoured personal pensions plans (RRSP's) and deferred annuities.[43]

4. Evaluating the Economic and Social Consequences of Law Reform

The policy response to demographic pressures clearly differs between countries. Australia appears to be the only country where reforms to pension fund laws have directly resulted from a demographically-induced shift in public pensions policy. The socio-economic impact has been dramatic, with pension fund coverage nearly doubling from 42% to over 80% of the workforce in the four years after August 1992, while their total assets increased fivefold.[44] These trends are less evident in the other countries, which have a longer tradition of voluntary coverage by their employee workforces in collective employer-based pension funds.

Population ageing (and by derivation the pension fund law reforms required to address them) can have significant consequences for the labour market.[45] Both public and private pension reforms can redistribute income both within and between generations of workers, as well as affecting pension equality between the sexes, employee effort and productivity, labour mobility, retirement age (both early and delayed).

Altman identifies three welfare economic goals of government regulation of pensions: Equity, security and adequacy.[46] Workers' security with respect to retirement income is achieved only if pension arrangements are adequate in the benefits they pay, fair in the distribution of those benefits, and capable of delivering on their promises. The promise of retirement is illusory if benefits are unavailable or inadequate. Of course, these goals are not without costs: thus, we will also consider relative efficiency as another criteria for assessing the opportunity cost incurred to achieve the other goals. This chapter evaluates the

42. Deaton, A. (1989), *op. cit., supra* n. 9, p. 5.

43. Clark, R.L. (1993), *op. cit., supra* n. 14.

44. Insurance and Superannuation Commission, *Annual Report 1992-93*, Australian Government Publishing Service, Canberra, 1993, p. 58.

45. Hagemann, R.P. and G. Nicoletti (1989), *Ageing Populations: Economic Effects and Implications for Public Financing*, OECD Working Papers, No. 61, Paris, 1989.

46. Altman, N., *Government Regulation: Enhancing the Equity, Adequacy and Security of Private Pensions*, in Private Pensions and Public Policy, OECD, Paris, 1992.

comparative law reform across the five countries primarily in achieving these goals, in terms of its regulatory effects on the operation of their labour markets. We also review the results of limited empirical evidence available on the efficiency effects of certain law reforms in some of these countries.

4.1 Adequacy

In assessing the adequacy of post-retirement benefits, it is important to consider the combined effect of retirement income derived from both public and private pension arrangements.[47] In a policy context, adequacy can thus be viewed in two different ways. From a welfare economics viewpoint, the focus is on freeing older people from poverty. This provides a justification for a role in publicly-financed pensions, as the term suggests an absolute amount which is at least large enough to satisfy basic needs. In all countries, public pensions are related to a notional percentage of average earnings, but these are typically set at the poverty line, and thus may not be adequate for most individual.

However, the limited ability of the public purse to fund these costs provides a rationale for pension funds, whose focus is to maintain a worker's standard of living at the cessation of his or her working years, thus the appropriate standard of adequacy relates to pre-retirement earnings. Thus, increasingly pension funds are relied upon to provide adequate retirement income savings. But while social security benefits are typically insured against inflation risk, the vast majority of pension funds do not offer any automatic inflation protection.[48] There are several possible reasons why pension funds do not offer employees protection against inflation. First, they are unable to hedge inflation risk through an appropriate investment strategy. Second, some inflation protection is provided elsewhere - such as owner occupied homes and via periodic wage negotiations. Third, since all five countries enjoy low inflation, money illusion is created when pension fund participants overstate the value of their pension rights. Finally, full indexation would require higher contributions.[49]

Collective-based employer sponsored funds are typically defined benefit funded and thus in any case are able to offer more comprehensive insurance against inflation risk than individual-based pension funds. Defined benefit funding means that benefits are a proportion of earnings averaged over a period of working life, thus assuring a benefit payment that is relative to that of pre-retirement. On the other hand, most individual-based pensions and an increasing amount of employer-based or industry based pensions are defined contribution - thus the retirement income is related to the amount saved over time, which may or may not be adequate. The codification of pension fund laws in Australia and the USA

47. Young, H., *Adequacy and Private Pensions: How Adequate are they?,* in Private Pensions and Public Policy, OECD Social Studies No. 9, Paris, 1992.

48. Bodie, Z., *Pensions and Retirement Income Insurance*, Journal of Economic Literature, 28 (March), 1990, pp. 28-49.

49. Frijns, J. and C. Petersen, *Financing, Administration and Portfolio Management: How Secure is the Pension Promise?* in Private Pensions and Public Policy, OECD Social Studies No. 9, Paris, 1992.

primarily affected the operation of defined benefit pension funds (e.g., by limiting pension fund surpluses and fund termination decisions), and this might explain the increase in popularity of defined contribution pension funds in these countries.

Even if benefit levels are adequate in amount, they will not provide sufficient support in retirement if they are distributed and spent in advance. Except for Australia, all countries prohibit pre-retirement cash-outs except in the limited case of the employee's own contributions, and then, only if the employee has not vested.

4.2 Equity

The concept of fair distribution flows from one's view of adequacy. If the purpose of the benefit is the satisfaction of basic needs, then the benefit should go either to those in need, determined by income and asset tests, or to everyone in the society upon the attainment of a specified wage. This provides a welfare economics justification for public pensions. On the other hand, if the focus is on wage replacement, then the distribution is fair if the benefits go to those who have been dependent on wages - workers and their families. This tension exists because welfare provisions in most countries is mandatory and universal, whereas private pension savings is voluntary.

The combined effects of population ageing and economic recession in recent years has posed important questions about the equality of working-age financial burdens to fund PAYG systems. Based on demographic, income and labour force data obtained from the Luxembourg Income Study project, Mitchell found in the period 1980-1985 an increasing market (pre-tax) income inequality in Australia, the UK and the USA, and decreased inequality in the Netherlands. This evidence suggests that traditional social policy goals of 'welfare states' to reduce income inequality are not being achieved in modern capitalist societies.[50] It also raises doubts about the validity of relying on the working-age population to fund pensions paid by PAYG public pension systems.

There are also serious inequities involving pension funds. In an unregulated environment, employers are free to establish a pension fund or not. Moreover, within a fund, they are free to cover anyone they want. This freedom creates the possibility of a serious inequity: Two discrete classes of retirees, those who receive privately funded pensions and those who do not. Retirees who receive private pensions are likely to have much higher incomes than those who do not.

Countries have pursued a variety of approaches to avoid this inequity. One approach is to mandate participation in pension funds (Australia). Another has been to condition favourable tax treatment on compliance with rules prohibiting discrimination in coverage.[51] However both these approaches have problems. In Australia, problems have been experienced in ensuring that employers comply with minimum contribution requirements, especially in relation to part-time employees.[52] On the other hand, in the USA, the taxation rules are very

50. Mitchell (1992), *op. cit., supra* n. 8.

51. Wyatt Company, *Benefits Report: Europe, USA*, Brussels, 1990

52. Senate Select Committee on Superannuation (Australian Senate), *Super System Survey*, Parliamentary Printing Unit: Canberra, 1991.

complicated, and permit plans to be tax-qualified even though a substantial number of employees are not covered.[53]

Sexual inequality is an inherent feature in determining age eligibility for receipt of public pensions in Australia, Canada and the UK, but not in the Netherlands or the USA.[54] For all countries, except Australia, only contributors are entitled to public pensions. By contrast, in Australia, residency, employment and other related evidence during working life is required for eligibility, in addition to the assets and income testing. There are bilateral social security agreements between all five countries.

There are also various issues related to inequality and discrimination affecting pension funds. Sexual discrimination is widespread in determination of eligibility for retirement age in all countries, except the Netherlands. However in recent years, European Union regulation has recently acted to reduce pension inequality affecting operation of both social security and pension funds in the Netherlands and the UK. European Union social security policy and regulation has affected four main areas: (i) entitlement to social security benefits; (ii) pension inequality and (iii) harmonisation of pension fund rules. With respect to (i), Article 48 of the Treaty of Rome confers powers on the European Council to ensure that the social security rights of migrant workers under the legislation of Member States, are protected. Regarding (ii), the celebrated *Barber* case[55] has confirmed that Article 119 of the Treaty of Rome, which requires equal pay for men and women, also applies to pension rights. However there has not been much progress on (iii). Although the European Union attempted to develop a pensions fund directive in 1990 to encourage freedom of internal market for pension funds, pension fund management, and 'pan-European pension funds. However soon afterwards it was realised that it would be difficult to gain agreement on cross-border membership due to the complexities and different natures of member states' tax and social security regimes. Nevertheless, the EU is currently drafting a new pension fund directive dealing with portability only.[56]

4.3 Security

In addition to being adequate in their levels and fair in their distribution, pension benefits should be secure. There are many ways in which pension promises can be financed, although pension economists have argued that there is no real difference between the various methods.[57] Nevertheless there are differences in the legality of various funding practices. PAYG systems are typically set aside in

53. Altman, N. (1992), *op. cit., supra* n. 48.

54. Department of Social Security (UK), *op. cit., supra* n. 36.

55. *Barber* v. *UK Government*, C.o.J. C-262/88, 1990-5, I-1889.

56. *Taverne, D. The Pension Time Bomb in Europe*, Federal Trust: London, 1995.

57. Bodie, Z. A. Marcus and R. Merton, Defined contribution versus defined benefit pensions: What are the real tradeoffs?, in A. Bodie and A. Wise eds. Pensions and the US Economy, University of Chicago Press: Chicago, 1988.

advance, but are usually paid for by the current active workforce, in the form of either general taxes or specific contributory taxes (for insured systems). Pension promises to civil servants are also PAYG, which being funded from general government revenues, effectively increase the level of public debt. But a promise of retirement income support made today but not payable for decades is inherently insecure. The political equation means that PAYG systems are inherently subject to social security risk.[58] This is an implicit social contract under which current generations of taxpayers honour their obligation to finance the current level of benefits paid to older generations of pension recipients.

However the incentive conflict is more problematic for defined benefit funded pension funds. Regulation aside, employers generally want to minimise the enforceability of their pension promise. Unless tax incentives induce them otherwise, they generally will prefer maximum flexibility to finance plans as they choose. This may include the option to terminate an overgenerous fund or to revert the surplus in the fund. These practices can lead to very insure pensions, although a union may be able to alleviate some of the insecurities through bargaining. Such actions have resulted in significant wealth transfers from pension funds to their employer sponsors, leading Tinker and Ghicas to argue that employee contractual promises have been broken.[59] Pension fund surplus reversion may eventually result in underfunding, as have been evidenced in a number of financially strapped USA state and local governments.[60]

Thus, regulation is often needed not simply to curb abusive practices, but to enhance the security of workers. Such regulations ensure that pension funds cease to reflect only the concerns and interests of employer sponsors, but to fulfil broader public goals as well.[61] All five countries have operating standards governing portability, vesting and funding termination of pension funds. However only Canada, the UK and the USA have imposed minimum funding requirements on virtually all voluntary employer-sponsored pension funds.

Even if funds are set aside in advance, the obligation may still be unsatisfied in the end as a consequence of poor investment or misappropriation of the set-aside, as was highlighted in the Maxwell scandal in the UK. The prudent man rule is one mechanism to overcome this problem. The prudent man rule requires sensible portfolio diversification, but places no limits on portfolio allocations other than limits on investments in securities of the employer sponsor.[62] Additionally, all countries have regulations which limit 'self investment' of pension fund assets in the sponsoring employer to 5% (10% in the USA). There are no other restrictions on pension fund investments, except in Canada, where there is a tax on

58. *Bodie*, Z. (1990), *op. cit., supra* n. 47.

59. Tinker, T. and D. Ghicas, Dishonoured Contracts: Accounting and the Expropriation of Employee Wealth, Accounting, Organisations and Society, 1993, pp. 1-13.

60. Deutschman, A., The Great Pension Robbery, Fortune, January 13, 1992, pp. 56-58.

61. Altman, N. (1992), *op. cit., supra* n. 45.

62. World Bank (1994), *op. cit., supra* n. 9, p. 191.

foreign assets over 10% and a 7% limit on property.[63] Merton proposed that the assets of a theoretical public corporation established by a government to administer indexed life annuities to public pension system recipients also needs to be invested in the broadest available portfolio of marketable securities.[64] However investing policies for public pensions are normally politically motivated.

Even if funds are set aside in advance and invested properly, pension promises may still be unsatisfied if the plan sponsor goes out of business or, for other reasons, terminates an underfunded plan. To protect gainst this, the USA requires that plans participate in the PBGC pension plan termination insurance. This program reduces the insecurity of the pension promise, but at the expense of creating an option over the taxpayer. On the other hand, no such arrangement is in place in Australia, thus exposing pension fund members to the risk of loss. In studying the regulatory effect of ERISA, Ippolito concluded from his evidence that ERISA failed to revolutionise the 'pension contract' or even substantially eliminate the pervasive problem of pension fraud.[65] Moreover, the PBGC's financial condition has deteriorated since the late 1980s and forced the US government administration to propose reforms of the PBGC in 1992.[66]

4.4 Efficiency

The above three criteria for evaluation relate to the overall welfare economics effectiveness of a pension system in reaching goals. Breuness refers to another neo-classical economics 'efficiency' criterion for evaluating pension systems, which aims at reaching specified goals at the lowest cost.[67] Efficiency can be seen as inherently different from the other three considerations, in that it evaluates the cost-benefit of implementing a new set of regulatory arrangements affecting public and private pensions that are presumably designed to attain a given level of effectiveness.

While effectiveness can primarily be evaluated in terms of qualitative characteristics, evaluating the efficiency of a given set of regulations requires a more objective and neutral measurement approach. One way in which efficiency can be measured is to examine the relative costs required to operate and fund public and private pension arrangements. PAYG systems in all countries except Australia are funded by levying additional payroll taxation on both employees and employers. These vary widely in terms of both their amount and relative burden - employees pay 15.40% (contribution as of 1 July 1996) of their salary to fund the AOW in the Netherlands, while there is a more equitable share in the Anglo-

63. Davis, E.P. (1994), *op. cit., supra n. 4.*

64. Merton, R.C., Continuous-Time Finance, Basil Blackwell: Oxford, 1988

65. Ippolito, R.A., *A Study of the Regulatory Effect of the Employee Retirement Income Security Act*, Journal of Law & Economics 31 (April), 1988, pp. 85-125.

66. Marcus, A., *PBGC Insurance Put Option Values*, in A. Bodie and A. Wise eds. Pensions and the US Economy, University of Chicago Press: Chicago, 1988.

67. Breunesse, E.A., *Visie op pensioenen in de 21e eeuw*, Amsterdam, 1995.

American countries. Pension funds can also be subject to various types of taxation: (i) contributions into the pension fund; (ii) income derived from the investment of fund assets; and (iii) payment of retirement benefits from the accumulated fund.[68] The tax regimes of the five countries have a combination of the above. Australia has the least generous tax system, with all three types of taxation in operation. There are no tax incentives for employees contributing to pension funds, even to personal pension arrangements.

Pension funds typically incur costs to delegate the management, performance monitoring and administrative functions to other financial intermediaries. These costs typically create a wedge between the gross returns earned on the fund's investment portfolio and those made available to participants, known as the intermediary spread. Brennan shows that the intermediary spread is both economically important and is contingent upon both market and the expenses incurred by the intermediary to perform its delegated monitoring role.[69] Klumpes and McCrae apply the notion of the intermediary spread to evaluate the performance of a sample of Australian industry-wide pension funds.[70] They found that most pension funds were unable to provide net returns to their members that could out-perform those available in alternative, relatively riskless savings accounts. This suggests that there are costly incentives conflicts involved in the delegated management of pension funds, just as there are for the management of corporate securities. These results appear to be corroborated by similar evidence on the financial performance of personal pensions in the UK. A report by a major accounting firm found that many individuals who were encouraged to move out of SERPS into personal pensions on the promise of higher returns in fact earned worse returns. It was estimated that the total cost of this 'bad advice' was over £3 billion. Although the nominated regulator of the personal pension industry, the Securities and Investments Board, has undertaken to review disclosure practices and follow up 'bad advice', to date not much has happened.

A second mechanism available to evaluate the efficiency of a pension fund arrangement is to evaluate the extent of supervision activities required to monitor and oversight their operation. All public pension systems require expensive regulatory monitoring to prevent fraudulent claims, to ensure the financial viability, monitor the efficiency of the payments system, monitor eligibility etc. As the only country that imposes strict assets and means testing, the Australian public pension system appears to be the most expensive to administer, although there is no systematic empirical evidence available. Pension funds also require costly regulatory oversight to enforce legislation and to monitor compliance with regulations. Unlike the regulation of public pensions, such costs are typically recovered (at least partially) via direct levies on the pension funds themselves.

68. Dilnot, A., *Taxation and Private Pensions: Costs and Consequences*, in Private Pensions and Public Policy, OECD Social Studies No. 9, Paris, 1992.

69. Brennan, M., *Aspects of Insurance, Intermediation and Finance*, Geneva Papers on Risk and Insurance, 1993, 8-32.

70. Klumpes, P.J.M. and M. McCrae, *Evaluating the Financial Performance of Pension Funds: A Members' Perspective*, Journal of Business Finance and Accounting (forthcoming), 1997.

Again, there is no systematic evidence available on the relative costs of regulatory supervision of pension funds between the various countries.

A third possible mechanism to measure efficiency relates to accountability by pension funds to taxpayers, members, regulators, government and other interested parties, which in itself is also a costly activity. Accountability is the acquitting of responsibility to others for one's actions.[71] In respect of publicly funded PAYG systems, Kotlikoff proposed a system of 'generational accounting' to make explicit who pays and when for providing a given level of pension benefits.[72] Generational accounting is simply a set of accounts, for each and every generation of taxpayers, which reconciles their net required contributions or benefits with the stock of government obligations with respect to pensions. However to date the concept has not been applied to specifically measure public pension obligations.

There are professional accounting standards governing the financial reporting of pension funds in Australia (Australian Accounting Standard AAS 25), Canada (Canadian Institute of Chartered Accountants Standard 4100), the UK (Statement of Recommended Practice No. 1) and the USA (Statement of Financial Accounting Standard SFAS 35), but not in the Netherlands. An issue of contention in the accountability of pension funds is how pension obligations should be measured.[73] According to the labour economics perspective, pension benefits are deferred wages and relate to implicit lifetime labour contracts (Lazear, 1986). Thus the appropriate measure of pension obligations is the projected benefit obligation (PBO). However the corporate finance perspective states that pension benefits are merely legal, rather than moral, obligations of employers and as such should be limited to those legally accrued during the period (accrued benefit obligation - ABO).[74] Finally, the insurance perspective views employers as providing their employees with retirement income insurance risk. As such it views pension obligations as annuities which offer a guaranteed minimum nominal benefit determined by the fund's benefit formula (indexed benefit obligation).[75]

There is little consensus among national-based professional accounting rule-making bodies in these countries as to which pension obligation measure is most appropriate for pension fund financial reporting. In the USA, professional standards require the recognition of the ABO in the balance sheet of the employer (SFAS 87) and disclosure of the PBO. The recognition of the ABO on the balance sheets of pension funds is required only in Australia (AAS 25 and the USA (SFAS 35). In Canada and the UK, pension funds are required to report only the assumptions used to calculate the ABO. An international accounting standard on pension funds issued by the International Accounting Standards Committee (International Accounting

71. Gray, R., R. Owen and D. Maunders, *Accountability, Accounting and Auditing*, Abacus Press, 1987.

72. Kotlikoff, L., *Generational Accounting*, Free Press: New York, 1992..

73. Bulow, R., *What are corporate pension liabilities*?, Review of Economic Studies, 1982.

74. Tepper, I., *Taxation and Corporate Pension Policy*, Journal of Finance (March) 1981, pp. 1-13.

75. Bodie, Z. (1990), *op. cit., supra n. 47.*

Standard IAS 26), where all five countries are represented, has similar rules to those of Canada and the UK.

It seems puzzling and anomalous that so little information is provided by pension funds to their members about the financial performance of pension funds, especially related to delegated financial management by financial intermediaries. Yet such information is crucial for the financial planning decisions of pension fund members who are being encouraged by government policy to place greater reliance on privately funded pension savings. While financial standards and regulations have prescribed disclosure of assets, liabilities and changes in assets related to pension funds, they have not required the intermediary spread costs of operating these funds. Klumpes examines the incentives facing a representative sample of Australian pension funds to voluntarily adopt the financial reporting provisions of AAS 25.[76] He found that the propensity to adopt the standard was related to the type of funding. Defined benefit funded pension funds, who opposed the standard as being too costly to implement, ignored AAS 25 and substituted less onerous government rules in preparing annual reports to their members. This suggests that the disclosure decision is a politically sensitive one for pension fund managers.

5. CONCLUSION

This paper has evaluated the impact of recent demographic pressures on the political economy of pension law reform in five countries of interest, via a critical analysis of their political-institutional historical sources and socio-economic effects. This analysis suggests that the establishment of laws to implement a paternalistic pension policy in each of these countries was subsequently modified to address the fiscal implications of ageing populations. Similarly, ageing populations pressures encouraged the growth of pension funds and led to reform of pension fund law in each country to increase their level of regulatory supervision. We also assessed the economic and social consequences for the labour market of the pension law reforms, using various policy effectiveness and efficiency criteria. In all countries except the Netherlands, pension law reforms have focused on primarily increased regulation of pension funds. There appear to be clear adequacy advantages of pension funds for those who can get them, although in terms of equity and security criteria they also present clear welfare economics disadvantages as instruments of social policy.

Each country has adopted similar regulatory strategies to handle the impending old age crisis, although they have moved at different speeds and directions in securing pension law reform in response to these pressures. Australia has most radically overhauled its public policy towards pensions in the direction of mandated private pension provision, whereas the Netherlands does not appear to have made any substantial policy change in recent years. In between, Canada, the UK and the USA have actively encouraged greater reliance on private pension funds without seriously undermining their national insurance-based public pension systems. However the qualitative-based equity, adequacy and security rationales underlying

76. Klumpes, P.J.M., *Controversy and Voluntary Compliance: Another Look at the AAS 25 Paradox*, Australian Accounting Review, 4(1), 1994, pp. 25-36.

pension fund law reforms appear to trade-off sharply against efficiency considerations. Apparent abuses causing pension fund participants to lose benefits appears to have provided primarily security-based rationales for the codification of occupational pension fund laws and regulations in both the UK and the USA. Canada, the UK and the USA also enacted laws to encourage supplementary individual-based retirement savings, while the welfare economics concern about pension inequality appears to have been the major policy consideration underlying recent pension law reforms in the Netherlands.

By contrast the more radical Australian approach appears to have been largely justified on neo-classical economic efficiency grounds, in taking pensions off-budget and enhancing private sector involvement in pensions. The distinction between private and public pension laws also becomes blurred when pension funds and contributions to them are mandated as they are in Australia. Comprehensive forms of public intervention are then necessitated, including greater regulation. Moreover, the current vogue for turning over state pension responsibilities to the private sector, as has occurred in Australia, appears to be driven by ideological or fiscal preconceptions rather than by a sense of real social advantages of each sector. Yet it seems inconceivable that the basic provision for old age through social security - which seem to have been so successful in eliminating extreme levels of post World War II poverty among the aged - should be abandoned and replaced by complex occupational-based pension fund laws which treat pensions as just another form of deferred labour wage compensation. From a welfare economics perspective, a danger in this approach to law reform is that the importance of public systems in providing a basic level of subsistence income in retirement could be underestimated - and possibly undermined.