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Olivia S. Mitchell and John Piggott*

Retirement systems should be conceived of as long-term financial contracts under which workers' contributions today are exchanged for benefits paid to the elderly tomorrow. Such contracts are said to be well-managed if the transactions are handled in an affordable, reliable, and efficient manner. Yet all pension systems are forced to operate under a multitude of constraints including participants' ability and willingness to save; the availability of assets with which to convert current saving into future retirement benefits; the limitations of imperfect capital markets; political influences imposed by stakeholders; country macroeconomic conditions; and as we are becoming increasingly aware, global business cycles. If pensions are to continue to meet the needs of an aging world, it is imperative to prepare for emerging challenges as these systems evolve through time.¹

In these remarks we first show how global demographic change is driving pension change throughout the world. Next we describe and compare developments in old-age provision over the last decade in Australia and the United States, and outline the key issues facing retirement systems in both nations. There are many differences between the experiences of the two countries, but as we shall show there are also common themes. Finally we identify key pension reform design issues facing Australia and the US in the upcoming decades.

The Global Aging Revolution and Its Impact on Old-Age Systems

The world is facing a massive increase in the number of people aged 65+ during the next half-century (Figure 1). Of particular note is the dramatic growth projected in the aged population for the Asian regions, and to a lesser extent in Africa and Latin America. This will occur due to rapid overall population growth combined with large increases in the fraction of the population age 65+, resulting from greater longevity and falling fertility.

<Figure 1 here>

This demographic transition is captured by changes in the aged dependency ratio, defined here as the ratio of the number of people age 65+ to the number of people age 15-65. This ratio provides an

index of the proportionate burden that the aged will place on working members of the population. In the Australian case, it is predicted to nearly double, from 16% in 1990 to 30% in 2030; the corresponding figures for the OECD are 18%, moving to 31%.

These projections amply demonstrate the existence and magnitude of the demographic transition to be visited on countries across the world. But as the World Bank (1994a) notes, the overall trend masks three important features of population aging. First, chronological age must be distinguished from functional age: it may be quite common for a 55-year old to be working in Japan, but it is far less common to find a 55-year old working in Brazil. Second, the overall statistics make no reference to gender, though old-age tends to mean quite different things to women and to men in different cultures. Typically women live longer and marry men older than themselves; as a result they are more likely to end up widowed and living alone. Third, approximately one person age 60+ in four is “very old” (defined as over age 75 by official statistics); of these, some two-thirds are women. The “very old” are often in a very different economic position than those between ages 60 and 75: their life savings may have run out, their children may already be classified as “old”, and their health needs are likely to be much greater and much more expensive than other peoples’. In some ways, then, an overall global aging phenomenon is producing more population and workforce heterogeneity across countries than might be at first considered.

Responding to the differential aging patterns, governments are developing a wide range of policy responses. To understand these policy alternatives, it is useful to recall that most nations have three “pillars” of retirement support. The first pillar is typically seen as a “safety net”, a program seeking to protect recipients from abject poverty through some minimum guarantee. Some countries limit such a safety net to workers, while others extend coverage to all residents regardless of age or employment history. The second pillar is generally a compulsory employment-linked pillar, which can be a defined benefit (DB) social security system prevalent in OECD countries, or it can be a defined contribution (DC) system as adopted in Australia and Chile. In the former case, the plan sponsor promises a specified benefit formula; here contributions as well as investments must subsequently be accumulated to make good on the pension promises. By contrast, in a DC plan, the plan sponsor specifies how much will be contributed and then invested in the plan; in this case, the eventual benefit level is determined according to what can be paid for out of plan assets. The third pillar, where it exists, is generally voluntary saving,

often with tax inducements. Figure 2 outlines these three pillars along with a simple menu of policy choices for each component. Again, some countries pursue a DB approach, others a DC tactic, and some permit both.

<Figure 2 here>

At the cost of some oversimplification, most formal retirement systems can be characterised using this schema. For example, safety net payments may be universally available to retirees as in many European countries, or targeted (means-tested) as in Australia. The compulsory pension contribution component can be provided by a federal government as in the United States; mandated through a public authority as in Singapore; or paid through private sector institutions as in Chile and Australia. Voluntary saving schemes for retirement purposes can be facilitated through various tax preferred channels (e.g. 401(k) plans in the US and Retirement Savings Accounts in Canada) or they may be confined to employer-based superannuation pension schemes as in Australia.

There have been several interesting developments in global pensions systems of late. One is that many nations have undergone “parametric” changes, modifying their tax financing rules and/or benefit formulas in order to make their systems more sustainable in the face of population aging. As we shall show below, this has been the path taken in the United States over the last two decades. But other countries including Australia have moved toward a DC model giving participants some control over the investment of their own contributions. A related development is that pension plans around the world are becoming increasingly well-funded. By this we mean that the pension promise tends to be backed by explicit and dedicated assets “owned” by participants in that pension plan. A funded plan is therefore different from the traditional pay-as-you-go model (common during the last half of the 20th century), wherein governments taxed the young employees to pay for elderly benefits. Some national pension systems now have capital market assets as large as the country’s entire domestic product; in other cases, prospects appear good for growing asset accumulations in the future.

To explore these points further, we turn to an examination of Australia and the US, the two countries of special interest to the present audience.

Australia's Superannuation Guarantee: A Mixed Public-Private Approach²

The Australian retirement income system has experienced rather far-reaching change in the last two decades. At the beginning of the 1980s, private retirement saving in Australia was voluntary and largely confined to relatively well-paid employees. Coverage by pension plans – known in Australia as *superannuation plans* – stood at about 30% in the private sector and 65% in the public sector. Superannuation was heavily tax-preferred in Australia – more so than in most other countries – and many private sector plans were well-funded (public sector employee plans were mostly unfunded.) At that time, pension investment portfolios were circumscribed to ensure adequate demand for government and semi-government bonds. At retirement, most retirees took lump sums because annuity streams were not mandatory, and income tax was levied on only 5% of the value of the lump sum.

Employees lacking a company pension plan had to rely on a government-provided Age Pension (and owner-occupied housing). This Age Pension was a flat rate, means-tested, social security benefit provided to all in old-age. Australia had no compulsory *employment-related* national pension plan such as those that flourished in many OECD countries.

Today many of these features continue to characterise Australia's retirement system, but the overall structure of the superannuation program has changed dramatically. The Age Pension continues to provide a safety net, but in addition the Superannuation Guarantee Act of 1992 requires mandatory private retirement saving. Specifically, the law mandates employers to deposit a fraction of employee pay into an "approved" superannuation fund of their choice. The arrangements apply to all employers and to almost all employees; workers earning less than \$A450 per month are excluded on the grounds of high administrative costs for small contributions.³ The mandatory contributions are fully vested (ie., the member is fully entitled to all accrued benefits), must be fully preserved until some minimum age (ie., accrued benefits must remain in a fund until the statutory preservation age for access to benefits is reached), fully funded, individual accounts.⁴ Employees may access the accrued benefits in the form of a lump sum or an income stream upon reaching the preservation age, currently 55, increasing to age 60 by 2025. Income streams are encouraged by tax and means test incentives, but to date these do not appear to be affecting the long-term preference for lump sum benefits.

This regulation therefore effectively mandated what had been since the mid-1980s part of a national collective bargaining agreement between participating employers and employee organisations. A phase-in schedule was also legislated, with employer contributions set at 7% for 2000, and slated to rise to 9% of earnings by 2002. The superannuation investment authority is vested in a Trustee Board comprised of both employer and employee representatives. Figure 3 outlines the main features of the Superannuation Guarantee.

<Figure 3 here>

No Second Tier: Social Security and Private Pensions in the US⁵

The US approach to retirement income provision differs markedly from the Australian model. First, the national retirement program known as the Social Security or OASI (Old-Age and Survivors Insurance), is financed by a mandatory 12.4% payroll tax used to pay benefits to current retirees. In this sense it is a pay-as-you-go program. Benefits are payable at age 62 (with an early retirement reduction); the benefit amounts are keyed to lifetime earnings and work, with no minimum guaranteed benefit. Over time, the finances of the OASI system have had to be readjusted periodically, as promised benefits grew to exceed tax revenues flowing in. Most recently taxes were raised, and benefits were reduced by increasing the normal retirement age. But these changes were inadequate to cure the system's projected date of insolvency (slated for around 2034), and policymakers are currently debating the best way to institute additional reforms.

In addition to the Social Security program, about half of all US employees also have a voluntarily-provided private pension, typically offered through the workplace (Mitchell and Schieber 1998). Traditionally these plans were of the DB variety, but in the last two decades there has been tremendous growth in DC plans, particularly following the 401(k) approach. In the latter case, an employer might offer workers the opportunity to participate in a salary-deferral plan, with some compensation match per dollar saved. The employer must offer workers at least three tax-qualified choices for pension investment options, though it is increasingly common to have many more choices than three.

Unlike in Australia where pension saving is mandated and pension preservation is preeminent, in the US pensions are optional, and those employees with a fund are granted substantial access to the

assets. This includes the ability to borrow up to half the pension money prior to retirement, and the opportunity to cash out the fund if the job terminates (with a tax penalty). Like Australia, participants have the option to take the fund accrual as a lump sum at retirement, and most appear to do so (though some “roll it over” into a tax-preferred mutual fund or other account).

How Well Are the Systems Working?

As a result of the Superannuation Guarantee, employee coverage by an employment-based pension program in Australia grew from 40% in 1987 to over 90% in 1998. Part of the reason is that an Australian employer that fails to contribute to a pension is subject to an effective penalty known as the Superannuation Guarantee Charge.⁶

In the US, a similar fraction (over 90%) of workers is employed in Social Security-covered jobs, but some may never become eligible for OASI benefits due to incomplete work spells by the time they reach retirement age. In addition, it is more likely that a US retiree could fall into poverty than in Australia since no minimum Social Security benefit is guaranteed. Those who lack both pensions and Social Security coverage may have the option of filing for poverty-based benefits, though in practice fewer than half those eligible in old-age do so (for reasons that are only poorly understood).

Another difference between the two countries’ old-age retirement systems is that employment-linked pension coverage was high in the US in the past but has been falling of late. That is, people retiring today have reasonably substantial pension wealth, but this will probably not apply to as many retirees in the future. Private pension coverage has exhibited a downward trend for about fifteen years now, even though the popularity of 401(k) plans is at an all-time high. As a result there is substantial policy concern that retirees will increasingly reach old-age without a private pension, and without a funded plan of the sort mandated in Australia. Such concerns have propelled debate over mandating funded individual DC accounts as a possible way to reform OASI (c.f. Mitchell et al 1999). As yet, however, structural reforms of this type have met political opposition from those committed to a DB/pay-as-you-go model for old-age provision.

There are also some similarities between the two countries that are well worth mentioning. In both nations, growth in funded pension assets is expected to sharply increase investments under pension

fund management, to boost the private retirement incomes of many, to reduce reliance on government-provided poverty benefits, and possibly to enhance national saving. Yet if these predictions are to come true, several policy challenges must be met squarely.

Looking Ahead: Pension Policy Challenges

A first problem facing both Australian and US pension plans in the future is that of asset leakage. As funds accumulate in these plans, there will be increasing pressure to permit participants to “use” the assets for a variety of well-intentioned purposes. This is already evident in the US where participants can obtain their funds under conditions of hardship, which is defined to include needing a down payment on a home or sending a child to college. In Australia this pressure is also building. For this reason, careful attention must be devoted to the design of a pension plan’s institutional structure to ensure that assets are preserved for retirement.

This concern leads naturally to a discussion of the best way to fashion “pension governance”, to ensure that pension assets not be diverted from their main purpose. There is always a possibility of outright mismanagement, though probably a more pervasive problem, and therefore a more costly one, is the fact that pension plans sometimes hold assets that are not carried at their proper market value. A related issue emerging of late has to do with institutional investor activism. This movement has gained strength from the apparent successes of US pension fund managers seeking to advise corporate Boards on how to manage their businesses. Investor activism is most prominent in the several public pension systems, and recently European as well as Asian companies are beginning to be questioned by smaller pension fund directors demanding explanations on how their investments are performing. While this trend is not yet terribly strong in Australia, the increasing size of the pension sector suggests that this issue is likely to emerge soon as a potent political topic.

One source of the pension governance debate derives from the practice found in some countries where government officials have sought to “steer” pension investments away from, or toward, particular targets. Australia and the US are unusual in that private pension plan investment policies have been relatively free of the practice known in Australia as “directed” and in the US as “economically targeted” investment (ETI). The concern behind the ETI issue is that *public* pension managers may be investing

assets using political criteria rather than risk and return, a problematic outcome if such investments perform poorly. In one instance, the public pension fund for the US state of Alaska lost on the order of US \$80million, because it had invested heavily in local home mortgages and a crash in oil prices led homeowners to declare bankruptcy (Mitchell and Husted, forthcoming). In other cases pension participants have earned lower returns and borne higher risk as well, resulting in potentially lower retirement benefits. Other countries have experienced even sharper pension setbacks as the result of political influences over investment choice.

With this history in mind, the question arises as to how to best structure pension management for the future to avoid repeating past mistakes. One method is to carefully clarify the roles of different institutional players. That is, pension plans must be clearly defined as a prudential organization, with trustees having an explicit fiduciary role that they must discharge under high expectations and facing penalties for malfeasance. English trust law has been a useful concept in the Western world, specifying that pension trustees must behave according to the “prudent person” rule. This requires that they must invest focusing only on expected risk and return, and they must also diversify the pension portfolio (including internationally). If they fail to do so, they can be held individually criminally liable and subject to legal action. Another step is to carefully design the authority and responsibility of the pension Boards themselves. Mitchell and Hsin (1997a and b) found that the way in which these Boards were selected and run in US public pension plans directly affected their investment portfolios, and hence their ultimate performance.

In the process of making investment policy, a pension Board must also set benchmarks for a wide range of items that have an important impact on ultimate benefits. Most obviously this includes return and risk benchmarks, about which often little is known due to poor reporting to pension participants. A related topic – one becoming increasingly interesting as international financial markets grow more competitive – is the arena of pension fees, expenses, and commissions. If pension managers permit high costs to eat away returns, this will drastically reduce the size of funds available for retirement income. This point has been recognised in the Australian context by Bateman, Doyle, and Piggott (forthcoming) and in other countries including the US by Mitchell (1998).

Conclusion

Unprecedented population aging seems certain to impose heavy dependency burdens on these old-age programs in the next half-century. At the same time public attitudes toward the role of government old-age support are changing, and financial markets have changed dramatically, with widespread disintermediation making it possible for small investors to invest directly in capital markets for the first time. These innovations are altering the global form and function of retirement income programs, and in turn require that policymakers adopt a new vision of how to regulate and shape old-age systems of the 21st century.

Establishing an environment for reliable, secure, and well-managed pension systems is not a simple matter, but it is essential if old-age economic security is to be protected in the face of demographic aging. Of course the ultimate goals of pension reform are similar across countries: to provide affordable, efficient, and equitable retirement benefits. Yet policy responses across countries have been far from uniform, ranging from marginal adjustment of program parameters to more fundamental structural reform. Strong pensions may also bring other benefits including better functioning capital and insurance markets and possibly higher national saving. As new retirement income models emerge and change, policymakers must ensure that sensible plan design and good governance structures ensure that pensions are actually there when we need them.

Figure 1. Population age 65 and over in 1990 and projected to 2050, by region (millions).
Source: World Bank (1994b)

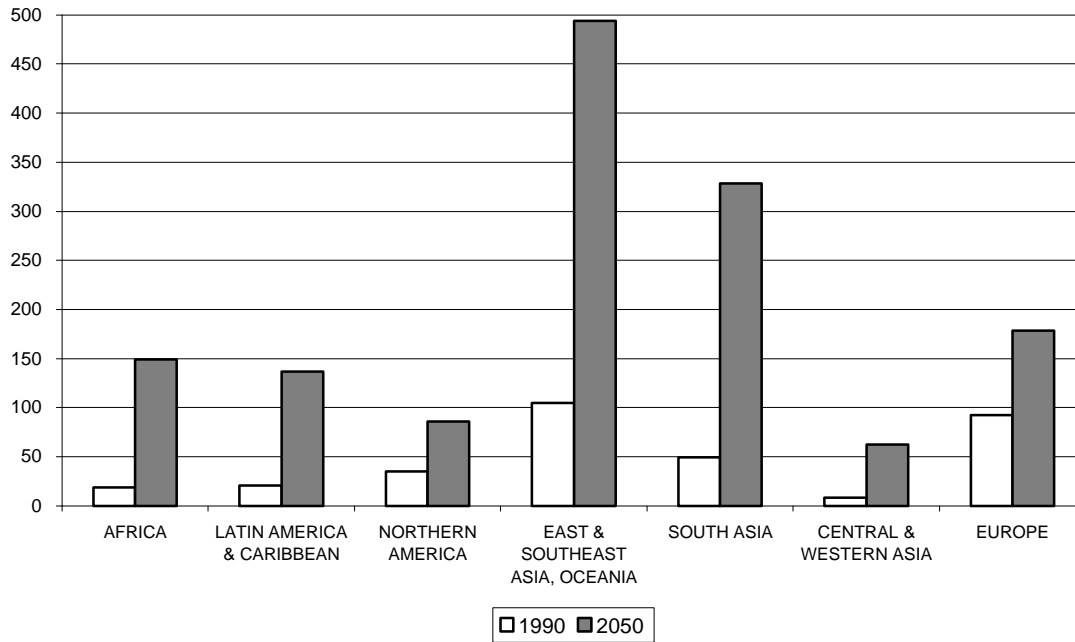


Figure 2. Components of Retirement Provision
 Source: Bateman and Piggott (1999).

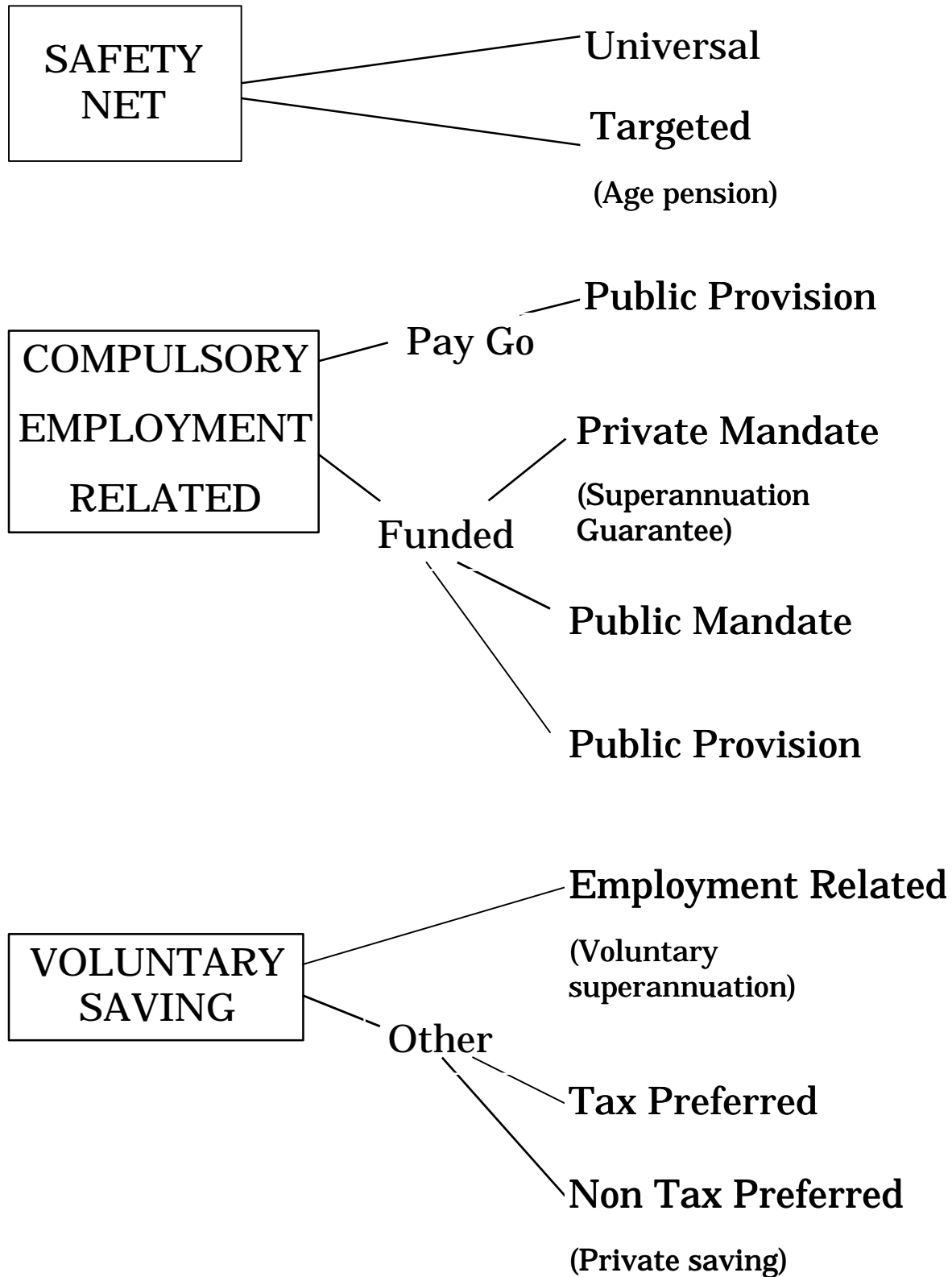


Figure 3: Features of the Australian Superannuation Guarantee

Source: Bateman and Piggott (1997)

Established	1992
Contributions	9% employer ^(a)
Funding	Fully funded
Individual accounts	Many private funds Few investment restrictions
Benefits	Defined contribution Fully vested, portable and preserved to age 55 (60 by 2025) No early withdrawals Choice of lump sum, pension, annuity with tax/transfer incentives to encourage income streams
Statutory coverage	All employees aged 18-65 with earnings > \$A450 month ^(b) Self employed not covered
Taxation	Employer contributions tax deductible Fund income (contributions and earnings) and benefits taxed at concessionary rates
Administration	Perceived to be complex. Member protection rules reduce costs for small amount accounts.
Safety net	Public Age Pension provided to all elderly residents, subject to income and assets means tests.

(a) The 9% employer contribution is being phased in over the period to 2002.

(b) There is a proposal to make coverage optional for employees earning between \$A450 and \$A900 a month.

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Endnotes:

¹ This paper draws heavily on prior work of the authors including Bateman and Piggott (1997, 1999); Bodie et al (1998); Gordon et al (1997); Mitchell, Myers and Young (1999); and Mitchell and Husted (forthcoming).

² Bateman and Piggott (1997) provide a more complete discussion of the history, design, and effect of old-age pensions in Australia.

³ The Australian government has proposed to make contributions optional for employees earning between \$A450 and \$A900 per month.

⁴ For public sector employers, a government guarantee can substitute for full funding. As well defined benefit schemes count in meeting Superannuation Guarantee obligations provided an actuarial benefit certificate, specifying that the implicit level of superannuation support accords with the requirements, is obtained. or a more extensive survey of the US old-age system see Mitchell, Myers and Young (1999).

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⁶ The Superannuation Guarantee Charge comprises the shortfall in the minimum level of superannuation support *plus* interest *plus* an administrative cost component. It costs more to pay the Superannuation Guarantee Charge than the mandatory contribution.