

INVESTMENT MANAGEMENT ASSOCIATION RESEARCH PAPER

INDIVIDUAL RETIREMENT ACCOUNTS: INTERNATIONAL EVIDENCE

 Investment Management Association

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ABSTRACT

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This research paper looks at different individual retirement account schemes internationally, with a view to identifying cost-effective systems for establishing wide coverage of funded individual retirement accounts (ie. millions or tens of millions of accounts) and examining participants' behaviour:

- Section One introduces a number of different international approaches.
- Section Two outlines the key components of scheme costs.
- Section Three presents a typology.
- Section Four examines some of the difficulties involved in making international comparisons and learning from experience overseas.
- Section Five explores a range of evidence on compulsion, attitudes towards default funds in individual retirement accounts and the question of choice.
- An Appendix gives general details on six international schemes (Australian 'superannuation'; Chilean AFP; Swedish Premium Pension; Singapore Central Provident Fund; US 401(k) and the US Thrift Savings Plan).

There are several key findings:

- Aggregate individual account costs can be lowered by piggybacking on government payment/collection systems, using a centralised administration structure and offering a lower level of investment choice.
- Scale (in terms of fund size) is highly significant given that overall charges tend to be levied as a proportion of funds under management. Administrative and other costs per account may be a more useful comparative measure in different international systems.
- Auto-enrolment appears to work in the United States as a means of boosting participation levels. However, auto-enrolment has not avoided widespread passivity regarding fund choice and contribution rates. Default fund design is extremely important in consequence.
- While a wide range of choice can be one factor breeding inertia, it also has the potential to lead to 'naïve diversification' strategies among investors who do not opt for a default fund. This - in tandem with cost considerations - may mean that a small range of fund options is more appropriate in those schemes offering choice to a mass market.

TABLE OF CONTENTS

DIFFERENT INTERNATIONAL APPROACHES	4
ASSESSING SYSTEM COSTS	6
Set-up	
Administration	
Asset Management Charges	9
Distribution	
Consumer Information (Education/Advice)	
TOWARDS A TYPOLOGY	11
Government Organised Schemes	12
ISSUES AFFECTING INTERNATIONAL COMPARISONS	14
Charge Structures	
Fund Size Impact: 'Scale Matters'	15
Existence and implications of hidden costs	17
Level of system maturity	
Tax treatment	18
POLICY LESSONS FROM EXISTING EXPERIENCE	20
Auto-enrolment and default fund design	
Inertia/'Path of least resistance'	
Is choice itself a problem?	22
APPENDICES:	
1. SWEDEN: PREMIUM PENSION SYSTEM	26
General status	
Contributions	
Fund choice	
Charges	28
Rebate (price control) system	30
2. AUSTRALIA: SUPERANNUATION SCHEME	32
General status	
Contributions	
Fund choice	
Provider choices	
Investment choice	34
Charges	35

3. CHILE: AFP SYSTEM	37
General status	
Contributions/charges	
Fund choice	38
Participation rates	39
4. SINGAPORE: CENTRAL PROVIDENT FUND (CPF)	40
General status	
Contributions	
Fund choice	41
Charges	42
5. UNITED STATES: THRIFT SAVINGS PLAN (TSP)	43
General status	
Contributions	
Fund choice	44
Standard funds	
Lifecycle funds	
Charges	45
6. UNITED STATES: 401(K)	46
General status	
Contributions	
Fund choice	
Charges	47
ABBREVIATIONS	49
REFERENCES	50

DIFFERENT INTERNATIONAL APPROACHES

By funded individual retirement accounts, we mean pension funds in which assets belong to an individual and in which contributions are accumulated on their behalf during the course of their working life. It is possible to identify different types of such provision in place internationally based on a number of criteria. Primarily:

- whether they are voluntary or compulsory;
- the scale of the investment proposition (ie. whether the fund is intended to be the main source of income substituting for a more conventional state-run PAYGO system, or simply some form of additional or top-up pension);
- the extent of government involvement (in terms of collection / payment agency and fund administration / organisation);
- the degree of employer organisational and financial involvement (for example, through different forms of occupational scheme); and
- the level of investment choice available.

For the purposes of this research, we are most interested in those countries or systems where attempts have been made to develop large-scale individual retirement accounts based on a system of defined contributions. Table One outlines a range of diverse systems currently in place internationally and some of their key features. While many other countries operate variations on the theme, the six non-UK schemes selected represent between them instructive experiments with individual retirement accounts, and form the basis for the analysis presented in the course of the paper:

- Swedish Premium Pension;
- Australian 'superannuation';
- Chilean AFP - a model used elsewhere in Central and Latin America;
- Singapore Central Provident Fund - a model used in other parts of south-east Asia;
- US 401(k); and
- US Thrift Savings Plan.

The findings of this paper are not intended as a policy recommendation given the complexity of the pensions reform issue and a range of potential difficulties with the integration of low-cost models. They are simply intended as a deconstruction of system cost and an analysis of the existing literature on investor behaviour.

Table 1: Different Forms of Individual Retirement Accounts (for more details, see Appendix)

	Compulsion	Fixed contribution rate (Employer/Employee split)	Government-run or outsourced administration system	Government-run fund (s) (either compulsory or optional)	Level of investment choice
Sweden (Premium Pension)	Yes	2.5% split as part of wider system	Yes	Optional	Very High (over 650 funds)
Australia ('Super')	Yes	9%/Voluntary	No	No ¹	Variable ²
Chile (AFP)	Yes	0%/10% minimum	No	No	Limited (5 funds) ³
Singapore (CPF)	Yes	13%/ 20% ⁴	Yes	Optional	High (over 100 funds)
US (401K)	No	N/A	No	No	Variable (average of around 12-15 funds)
US (TSP)	No	N/A	Yes	Compulsory	Limited (5 plus lifestyle)
UK Employer DC (Occupational, Stakeholder/ GPP)	No	N/A	No	No	Variable (average of around 8)

1. Different arrangements apply for public sector employees, where a range of schemes operate both funded and unfunded.

2. This is dependent on the kind of scheme an individual is a member of, with far greater flexibility available to those who are members of retail 'super' funds or opting for self-invested schemes.

3. While the AFP system sets up competition among providers to attract individual savers, the shape of the fund offering is still heavily regulated precluding a wider retail fund offering.

4. The very high joint contribution reflects the fact that retirement income is only one aspect of CPF provision, which extends to healthcare and education.

ASSESSING SYSTEM COSTS

A number of factors need to be taken directly into account when considering the costs of any large-scale funded individual account solution as part of pensions policy:

- Set-Up
- Administration
- Asset Management Charges
- Distribution
- Consumer Information

SET-UP

System set-up costs will clearly depend upon the kind of system chosen and occur in a range of areas. For example, in a centralised individual retirement account system (piggy-backing on government collection and payment systems) offering some degree of fund choice, primary issues would be:

- How easily existing government systems could be adapted to handle specific channels of pension contribution collected via PAYE.¹
- How expensive it is to establish a publicly run or outsourced administrative/support platform for running millions of individual retirement accounts (needed if fund choice is offered).
- How adaptable employer systems would be to different forms of contribution made via PAYE.

On the other hand, in a decentralised employer-based DC system, the overall shape of set-up costs would look very different and the potentially high initial capital expenditure associated with government-run or outsourced IT systems avoided. In such a system, the costs faced by individual employers would vary considerably according to the kind of scheme adopted. Where the involvement of employers is typically most diminished (for example, through GPP and Group Stakeholder in the United Kingdom), initial provider costs can be recovered over time through the management fees charged to individual accounts.

However, as the analysis below demonstrates, there are a range of other cost factors which are likely to mean that while the direct set-up costs might be lower, such semi-retail systems can end up being comparatively expensive.

ADMINISTRATION

Administration costs in this context relate primarily to record keeping and communication, although they also encompass numerous other significant elements, such as regulatory compliance, cash flow management and custodial functions.

¹ Much would depend on whether wage and tax reconciliation procedures were changed, which would considerably affect both government and employer systems. This is discussed further in the administrative cost section.

The overall level - and distribution - of record-keeping and communication costs will be determined by a number of factors, including many that arise with respect to set-up costs:

- Whether a government contributions agency and centralised administrative platform are used.
- The level of employer involvement.
- The degree of fund / provider choice and the flexibility of switching allowed for funds.
- The design of support systems (ie. call centre-based account-management facilities, internet account access etc).

Centralisation of R&C is a significant feature for a number of reasons that could help to lower costs. At a general level, substantial economies of scale in unit terms are achievable, although the threshold for such economies may well be low enough to see similar effects in large, collective schemes. More significant would be the specific advantages to be gained from piggybacking on government contributions and payments agencies (assuming an efficient tax and benefits system):²

- Employers could use existing transmission systems for contributions (ie. PAYE systems already in place).
- The collections agencies will already have information about individuals (names, addresses, possibly bank account details) and be updating data as part of existing tax collection and social security provision.
- Employees have only one account through their lifetime, which can be accessed by any employer using standard social insurance identifiers (in the UK, this would be the NI number or UTR). The switching and portability costs that can be found in all decentralised systems - where individuals may change providers and/or build up multiple accounts as they move from employer to employer - can be avoided. The Australian system is a useful example here: with a working population of 9 million (and a total population of 20 million), there are 27 million accounts.

Certainly, centralisation is no panacea, and operating costs - as well as the set-up costs - could increase considerably in particular circumstances. This would be the case, for example, if the US TSP model in its current form was extended domestically or copied elsewhere. The sophisticated payroll and record-keeping systems, which facilitate a process by which funds are invested as soon as they are received by the TSP system, would be expensive to replicate.³

As we discuss in the next section, making precise cost comparisons between international systems is extremely difficult. That notwithstanding, Table 2 attempts to

²This is widely supported in the academic pensions literature. See Academy of Social Insurance (1998), Orszag and Stiglitz (1999), James et al. (1999, 2001), James (2005b) and Diamond (1999a, 2000, 2001). For a useful summary of administration cost issues, see James (2005a).

³On the issue of TSP extension, see, in particular, Cavanaugh (2002, 2005). Cavanaugh, former head of the TSP, offers a wider-ranging and cautious commentary.

show a range of administrative costs in unit terms (for further explanation on Sweden, US and Australia, see country details in Appendix). The Swedish PPM - essentially

running a very sophisticated fund supermarket - emerges as an interesting example. It confirms that it is possible to run a government agency with comparatively low administration costs both in unit terms and percentage of assets under management, and without a major additional burden for employers to shoulder in terms of administration.⁴

Table 2: Annual administrative costs per account (illustrative examples)

	GBP per year
Sweden PPM	£3.20 ¹
US TSP	£14.00 ²
Australian Retail Employees Superannuation Trust (REST)	£20.00 ³
UK stakeholder	£20.00 ⁴

1. Administration cost per account as of end-2004, calculated by dividing total administration costs by account holders. If the total PPM deduction per account is calculated (which includes factors such as payment to other government agencies and loan facilities relating to establishment costs), this produces an average of around £5 per account in 2004, but is charged as a percentage of assets under management.

2. Administration cost per account as of end-2004, calculated by dividing total TSP administration costs by account holders. Like PPM, charges are made as a percentage of assets under management. The figure in the table does not include the costs shouldered by participating federal employers.

3. REST is a very large industry fund, considered to offer excellent value within the Australian system. The administration charge is made directly to account on a fixed-rate weekly basis (A\$ 0.90). Given that industry funds are non-profit making institutions, this should be a reasonable reflection of expenses levels.

4. Estimated annual cost per account (Watson Wyatt 2003), levied within an advalorem annual management charge within an upper limit of 1% per year.

⁴ An obvious and potentially significant problem from an investor perspective is the opportunity cost that can arise where a complete individual annual tax record will need to be reconciled with monthly employer contributions before the money can be invested (this will be the case in most government schemes, unless TSP-style systems are used). In Sweden, for example, funds are only transferred once a year, thereby creating potential difficulties if markets have moved significantly (for example, a steep rise in the unit price of certain funds).

An additional challenge is the possible impact on markets if funds are only transferred once a year. This appears not to be an issue in the Swedish system because much of the investment across the PPM multi-fund system is in non-Swedish stocks and securities and the overall annual inflow is comparatively small in international market terms. The default fund, run by AP7 (worth about GBP 3bn in 2004), has only a fifth of its holdings in Swedish equities and a tenth in Swedish fixed income.

Potential solutions to both these problems are discussed in the national insurance section of the IMA main paper on options for new UK funded solutions.

ASSET MANAGEMENT CHARGES

The asset management charge - ie. the fee paid to the portfolio management company for their service - represents in some cases all of the annual management charge: for example, in occupational pension funds where administration is done elsewhere. In other cases, it will be a small part of the AMC - for example, retail funds.

A significant component of the asset management costs will be fixed (eg. staff). However, there will be some variation according to investment styles and the markets in which assets are being managed.

Scale is very important here given that investment management charges are levied on an ad valorem basis. Larger funds will typically attract a lower ad valorem charge because on an absolute cost basis they should be little more expensive to run. This issue of scale is discussed in more detail in Section Four.

DISTRIBUTION

Costs associated with distribution (ie. adviser commission, sales teams, marketing and advertising campaigns) will generally depend upon the extent of direct private sector involvement in competing to offer overall pension provision (ie. the individual pension wrapper) and/or a range of fund options:

- Any system in which different providers are attempting to generate market share by marketing directly to the public will see expense on adviser commission and general marketing, particularly if the product offering differs considerably (eg. Australia - see p.37) and/or the market is heavily regulated.
- One study has estimated that in the Chilean AFP system, marketing costs (sales commission in particular) accounted for over 45% of total expenditure by fund providers. A similar proportion was estimated for US mutual funds.⁵ Distribution costs are thought to account for 50 basis points of the overall expense ratio within the retail element of the Australian superannuation system.⁶

CONSUMER INFORMATION (EDUCATION/ADVICE)

The issue of advice also crops up under the more general heading of consumer information. For any advice to be effective, consumer education is a pre-requisite.

Education is both a long-term public policy question (ie. curriculum content) and a short-term issue in the sense of helping participants to understand the implications of choices available to them within a specific pension system:

- In terms of long-term public policy, pensions education would almost certainly have to take place within the context of broader financial literacy (thereby feeding into choices in other markets: eg. credit). In this respect, any cost or cost-benefit analysis cannot be limited only to the pension system.

⁵ See James et al. (2001), p.15-19.

⁶ Rice and McEwin (2002), p.17.

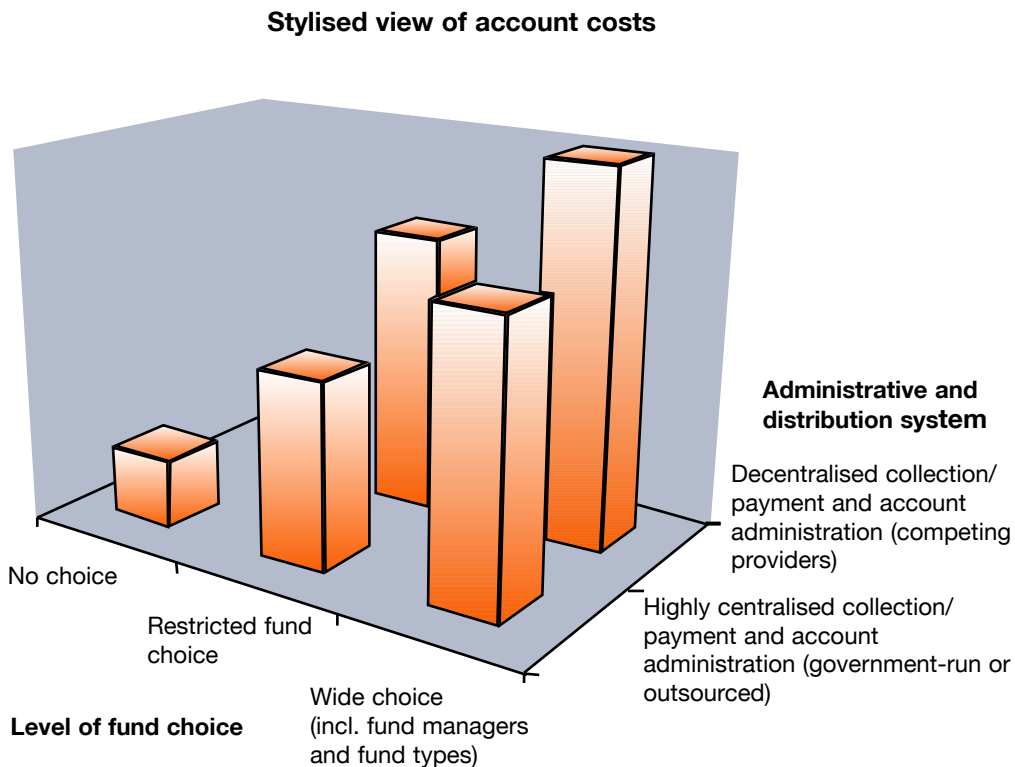
- More immediate education on choices available can be handled in a number of ways depending on the design of the system: employers could play a role, or the relevant government / outsourced agencies could address the education aspect as part of their communications strategy.

However, the line between advice and education can be difficult to draw - to the extent that one report has spoken of a 'critical tension'.⁷ Advice suggests a degree of responsibility for investment decisions that those providing 'education' will likely be keen to distance themselves from. In reality, it may be difficult to achieve this distance, with the US experience indicating that however it is described, many workers interpret default fund design as a form of investment advice (see below on page 20).

⁷ GAO (2003), p.29.

TOWARDS A TYPOLOGY

Figure 1: Stylised Overview of Account Costs for Individual Retirement Accounts (DC)



Drawing on the international pensions literature and examining various national systems, it is possible to produce a stylised view of the general shape of cost (administration, investment, marketing, adviser commission) structures for systems in which mass DC-based individual accounts are used (see Figure 1). It is based on two central observations:

- That piggybacking on government collection / payment systems and using centralised account administration - whether government-run or an efficient outsourced version - can be cheaper than a decentralised approach involving numerous providers (and for some individuals, numerous accounts). This is the result of a combination of factors, primarily administrative economies and reduced distribution expenses.⁸
- That introducing greater investment choice into the system can substantially increase costs.

⁸ We recognise that there are certain kinds of decentralised arrangements that can offer significant cost savings through similar factors. For example, the scale, not-for-profit status and low distribution costs of the largest Australian industry funds help to make them very competitive. Equally, large employers in any developed country are often likely to have the technology available significantly to reduce contribution collection costs for private pension providers (this will be less true of SMEs). This typology is an attempt to capture in aggregate terms what happens in different broad contexts.

While some parts of the Figure correspond in approximate terms to costing structures in existing systems, it is not intended to be a direct comparison of international costs (the difficulties in making such direct comparisons are outlined in Section IV below). Furthermore, it is important to note that costs are not static, and we are certainly not suggesting that competition in general will not work in driving costs down. It clearly can and does in certain systems and segments of systems.

Nonetheless, the evidence indicates that there are structural impediments to certain forms of pension arrangements being as cost-effective as others:

- Government-run pension schemes, with default funds or limited choice, can piggy back on existing collection and payment systems, enjoy low marketing costs and benefit from economies of scale in investment management costs. The Swedish default option within the PPM system is an example of this, as is the TSP in the United States.
- Privatised schemes, with a strong retail component, can also benefit from economies of scale by aggregating large groups of end-investors. However, they will likely incur higher costs in other areas, particularly distribution. Parts of the Australian 'super' pensions and 401(k) market are a prime example here. The Chilean system - while now cheaper than in the past - has also been dogged by high distribution costs.

GOVERNMENT-ORGANISED SCHEMES

Figure 2 illustrates the options with respect to centralised collection/payment and administration systems in more detail, outlining three types of fund:

- Single fund, managed on behalf of workers, with no investment choice.
- Limited series of funds, managed on behalf of workers, who are free to choose between the funds on offer (possibly also the managers, but this adds to complexity and cost, bringing the scheme close to the third option).
- Opening to the retail end of the market - probably alongside government-defined investment choices (or single default) - bringing much wider consumer choice.

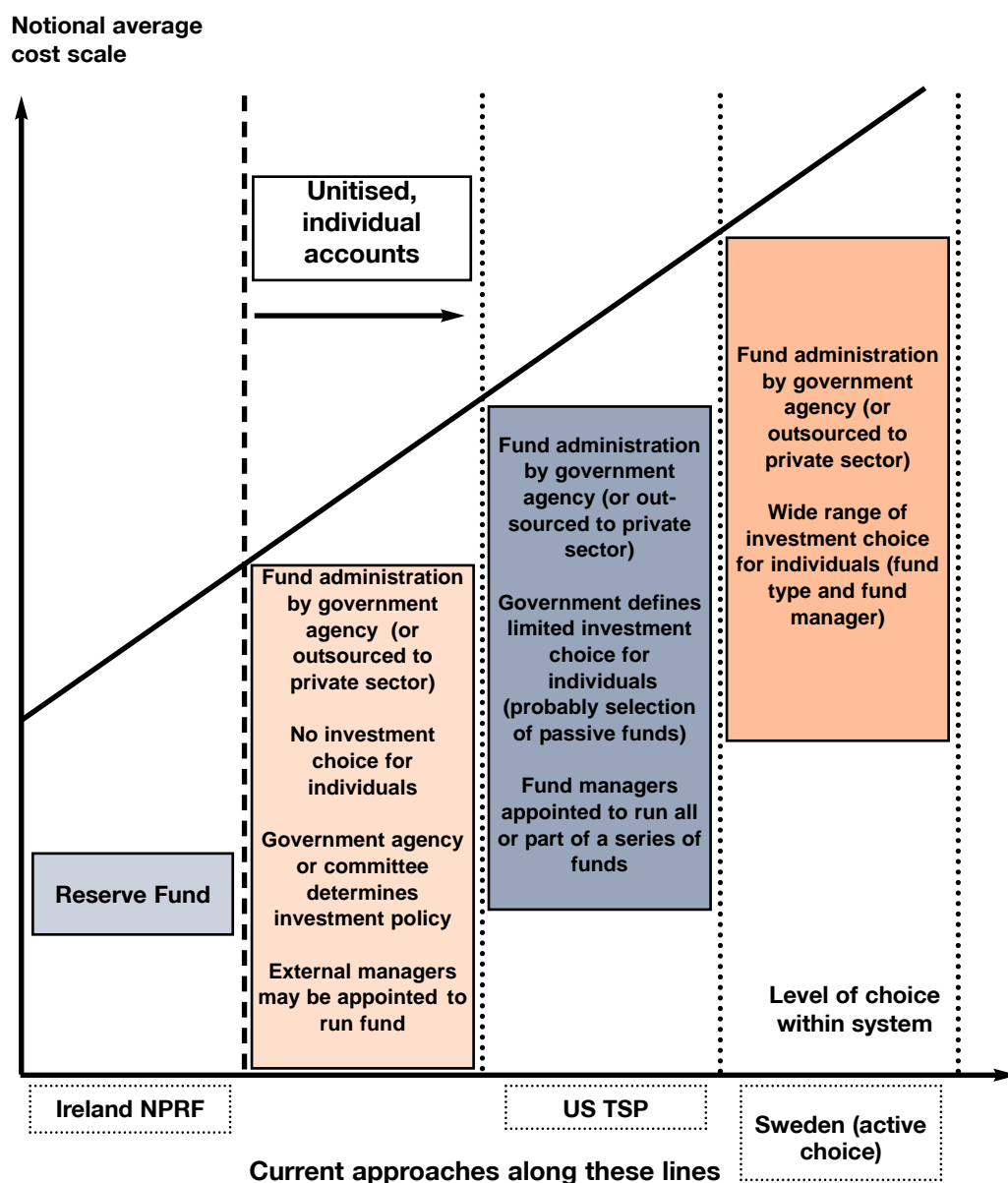
Figure 2 also includes the 'Reserve Fund' model, which is at the extreme end of the government-run funded spectrum, where there would be neither fund choice nor unitisation linked to individual accounts:

- Invested reserve funds are not a new idea: the best known is Norway's Petroleum Fund which is essentially a fiscal management tool with the additional goal of providing long-term pension resources. Several countries - notably Ireland, Canada and Japan - have also set up specific structures for investing resources for future pensions provision.
- Such systems are far more straightforward to implement than pre-funded IRAs and overall costs are considerably lower, given that there is no need to administer

or manage anything beyond a series of very large institutional fund mandates.

- In Ireland, the aim is to pay 1% of GNP annually in order to establish a reserve that can be used to help fund state pension payments during the period 2025-2055. This is paid out of government coffers and around 16 investment management companies are involved in running funds for the NPRF.

Figure 2: Options for piggybacking on existing government collection/payment systems



ISSUES AFFECTING INTERNATIONAL COMPARISONS

Given the range of possibilities available, it is unsurprising that the headline charges for worker-based funded retirement accounts vary widely from country to country.

A look at frequently cited headline figures certainly produces dramatic differences - from 0.06% in US TSP, to 0.42% in the Swedish Default Fund, to 1.3% on average within the Australian superannuation system.

While general lessons can be - and have been - drawn from these international experiences in this paper, such figures should be examined carefully, for a number of reasons related to differences in a number of areas:

- Charge structures
- Fund scale
- Hidden cost
- System maturity
- Tax treatment

CHARGE STRUCTURES

Fees are levied in a wide and confusing variety of fashions internationally. In this respect, the 'Total Expense Ratio' (TER) - the total annual administrative and investment charges levied against fund assets - is a useful measure given that certain expenses are sometimes charged directly to the fund rather than bundled in an annual management charge, or may be borne by an employer directly.⁹ The description of different international systems in the Appendix to this section attempts to provide expense ratio figures where possible.

It can also be useful to think of the overall impact of all charges across the lifetime of the individual account. This will include the annual fee on the fund balance as well as other charges where they exist, including front-loaded fees (when one joins a scheme) and exit fees (imposed as a penalty for early exit). Often expressed in 'reduction in yield terms', this overall impact is also expressed through the 'total charge ratio' (adds together total charges and expresses them as the percentage reduction on the accumulated funds):¹⁰

- Some systems will have a total charge ratio that should be mainly based on the annual expense ratios (eg. US TSP and Swedish Premium Pension).
- In other systems - notably, those with more decentralised, retail-oriented structures, the charge ratio could be higher due to entry and exit fees. However, within the same national systems, charge ratios may vary from one product to another, and even within product types.

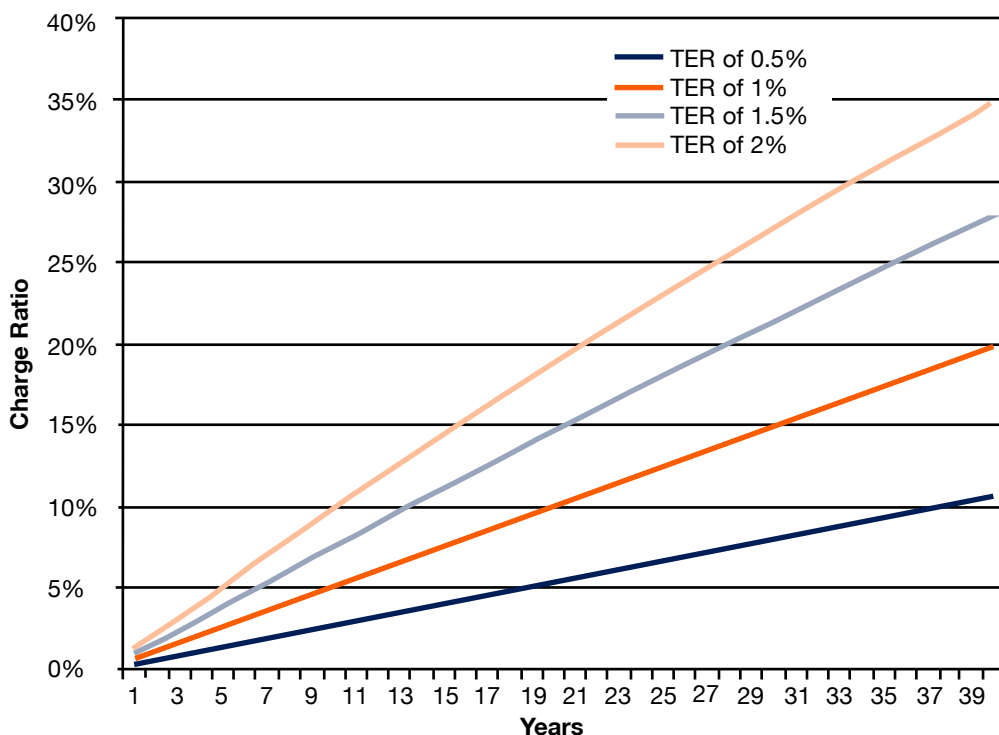
International cost structure analysis is also complicated by the fact that in Chile and other Latin American systems, charges are levied on flow rather than assets under

⁹This also raises the issue of hidden costs, which is discussed later in this section.

¹⁰ For a discussion of the issues surrounding such calculations, see Whitehouse (2000). See also Blake and Board (2000) for a useful overview of the impact of charges on UK pension outcomes.

management (see p.39), and therefore the most visible regular charge is calculated as a proportion of annual wages. While attempts have been made to convert such charges into comparable annual charges and expense ratios, this will clearly depend upon the length of the contribution period and the pattern of contributions made during that period.¹¹

Figure 3: Charge Ratio using different annual expense ratios over 40 years ¹²



Unfortunately, relatively little recent empirical work exists using charge ratios to compare different individual account systems internationally.¹³ Figure 3 provides a general guide to the relationship between annual TERs and the charge ratio. As it illustrates, a general rule of thumb is that a 1% annual TER will result in a 20% charge ratio over the lifetime of a pension.

FUND SIZE IMPACT: 'SCALE MATTERS'

In an earlier section on centralisation, we referred to economies of scale that can be generated in unit cost terms in larger administrative systems (p.7). In this context, comparison of ad valorem fees can mislead if funds are vastly different sizes (and this will be true both for administration costs and investment management charges).

¹¹For a calculation of the impact, see James et al. (2001), p.57.

¹² This is calculated over 40 years using an assumption of 4% real return and a 2.0% annual wage increase. It assumes annual charges worked out daily, and charged monthly.

¹³For the best analysis of this issue, see Whitehouse (2000).

Table 3: Administrative costs per member in US TSP and Swedish Premium Pensions (calculation based on AUM end-2004)¹⁴

Country	Total AUM in system (\$mn)	Total administration cost (\$mn)	Average admin cost (excl. investment cost)	Number of members (mn)	Estimated costs per account (\$)
US TSP	151,400	91.9	0.06% ¹	3.4	27.0
Sweden	18,700	33.0	0.18%	5.3	6.0

Source: TSP and PPM

1. Investment charges in TSP are so small that the overall expense ratio still remains 0.06% when they are included.

Taking just administrative costs as a proportion of assets under management (0.06%), US TSP may on the surface look astonishingly cheap. It also has a very high level of assets - over \$150bn (see Table 3). If one scales down the TSP - see Table 4, administration costs (estimated at around 92 million dollars or some 27 dollars per account in 2004) are less impressive and will rise quickly in ad valorem terms.

Table 4: Extrapolation of administration costs assuming fixed number of individual accounts

	US TSP			Sweden		
	Total admin costs (3.4m accounts)	AUM	Admin/AUM	Total admin costs (5.3m accounts)	AUM	Admin/AUM
	\$mn	\$mn	%	\$mn	\$mn	%
End-2004 position	91.9	151,400	0.06	33	18,700	0.18
	91.9	80,000	0.11	33	37,000	0.09
	91.9	40,000	0.23	33	75,000	0.04
	91.9	20,000	0.46	33	150,000	0.02

In these terms, Sweden operates far more cheaply - at around 6 dollars per account in 2004. Swedish administrative costs expressed as a proportion of funds under management will therefore drop gradually in coming years as the Premium Pension develops (although this is complicated by set-up cost financing and cost reimbursement to other government agencies).

Conversely, what looks expensive in headline terms may be less so when asset size is taken into account. One clear example of this is the case of Australian industry funds.

¹⁴ Calculations for administration costs and AUM are based on data obtained directly from PPM for 2004, and based on published TSP accounts for 2004.

In a major study in 2002, the average administration and investment cost of (not-for-profit) industry funds was estimated at 1.2% of assets (2001), which appears to offer a poor deal compared with corporate (0.94%) and public sector schemes (0.43%).¹⁵ However, annual overall costs per member in the industry sector were just A\$76. See Table 15 (The issue of cost within the Australian system is discussed in more detail in the Appendix).

It is also true though that what seems relatively expensive can in fact be so. In administration and investment terms, certain Australian retail 'super' funds appear costly on average compared to other options available within the superannuation system, although this is unsurprising given the structural features (higher R&C expenses, marketing costs etc.) of the retail market.¹⁶

EXISTENCE AND IMPLICATIONS OF HIDDEN COSTS

Different degrees of government and employer involvement in individual retirement account funded provision may both mask actual costs and have implications for scalability. For example, the 0.06% expense ratio figure for running the US TSP does not reflect the administrative, communication and educational work being undertaken at the level of participating federal agencies:

- TSP's complex record keeping system depends on the federal employing agencies across the world to handle initial enrolment, administration (including electronic transfer of information), employee education and individual counselling (counselling required under TSP statute).
- If one scaled up TSP, and also had to factor in these costs, the actual cost would be much higher - although probably still cheaper than traditional mutual funds. Employers would have to take on costs that are currently borne by federal agencies and adapt their systems. While larger companies could possibly do this, it would be very difficult to transpose in current form to small and medium sized enterprise (SME) level.¹⁷

Among decentralised schemes, such as that of Australia or US 401(k), there is also a similar difficulty in calculating total costs given the fact that employers will in some cases be undertaking a substantial administrative and/or educational subsidy, which may not all show up in fund cost estimates. This question of subsidy clearly matters both for comparing national systems, and looking within national systems at those components that operate most cheaply. Just as it would be expensive to extend the TSP, many small and medium-sized employers would find it hard to replicate the input often seen in larger private company pension provision.

LEVEL OF SYSTEM MATURITY

As a system matures, costs may change in a number of ways. We have already touched on the general issue of scale. There is also a range of other factors to be borne in mind.

¹⁵ See Rice and McEwin (2002).

¹⁶ For a discussion of the administrative cost problems in the Australian system, see Vidler (2004).

¹⁷ On the issue of TSP extension, see also the discussion in the earlier section on centralisation and administration costs, p.6.

Set-up costs. Set-up costs can be recovered in different ways:

- In a private system, where a brand new product is introduced - for example, stakeholder pensions - providers may only fully recover both set-up and operating costs much later in the product cycle (in a way that will not be visible to participants paying a fixed ad valorem fee).
- If government is involved, a variety of financing solutions could be envisaged. In the Swedish system, loans are being used to supplement fees during the establishment period. Set-up costs for establishing the PPM, the body which administers the 2.5% funded top-up, will be gradually recovered through charges to fund participants.¹⁸ This is thought to be resulting in an unduly large burden on early entrants.¹⁹

Competition impact. In systems where there is a strong private provider component, costs may be driven downwards as a result of competition. A variety of factors - ranging from efficiency gains to industry consolidation - can play a role here.

Administrative improvements. Even where there are no direct provider competition drivers, administrative efficiency may also improve as complex new systems are gradually bedded in and/or adjusted:

- Sweden's PPM administration costs have dropped substantially from 369 million SEK in 2002 to 220 million SEK in 2004. While some of this has to do with an absence of major communication campaigns over the past year, PPM expects further economies as a consequence of growing automation.
- TSP is now trying to get better value for money from its call centre operations by diminishing the involvement of the Department of Agriculture National Finance Center (which has been running TSP administration) and signing a contract with a private company to take up to 50% of TSP call traffic. Equally though, TSP's move to new record-keeping procedures and the introduction of the Lifecycle product have temporarily pushed up administrative costs in 2004-05. TSP estimates that the cost per account will fall back to 24 dollars a year in 2006.

TAX TREATMENT

Finally, while much attention is focused on charges in the comparison of international systems, the taxation of pension systems is also crucial. The general approach to individual retirement accounts has been to impose tax at the moment of receiving pension income and not on contributions and/or investment income (EET),²⁰ although there are numerous variations:

- In Australia, tax is levied all the way along the chain from contributions to benefits (TTT). The Association of Superannuation Funds of Australia estimated in 2004 that of 9% contributed by employers, only 7.6% is actually invested.²¹

¹⁸ For establishing the PPM, the body which administers the 2.5% funded top-up.

¹⁹ Weaver (2005), p.6

²⁰ The schema used internationally for the classification of such systems looks at the tax treatment of the three central stages of pension saving/dissaving (contributions, investment income and benefits) in terms of whether they attract tax relief or exemption (E) or are subject to some level of tax (T).

²¹ ASFA Fact Sheet #1, 2004.

- In Singapore, the system is EEE, which in principle is the most generous given that there is no tax on contributions, investment income or benefits. In practice, given that only one third of the labour force pays income tax, low-income groups are not receiving any tax subsidy and the system is therefore more regressive than it might at first seem.²²

Detailed study is needed to assess effects on outcomes.²³ In its most basic form, the E/T schema - while useful - is an over-simplification because national systems usually contain more complex provisions. For example, the UK system is usually thought of as EET, but given the scrapping of the dividend tax credit in 1997 and the availability of a tax-free lump sum, some commentators have proposed other formulations.²⁴

²² Asher (2004), pp.8-9.

²³ For a useful analysis of the issue, see Yoo and de Serres (2004).

²⁴ See Booth and Cooper (2005), pp.111-112; and O Connell (2004), pp.25

POLICY LESSONS FROM EXISTING EXPERIENCE

AUTO-ENROLMENT AND DEFAULT FUND DESIGN

Research on 401(k) plans from the United States points to the advantages of soft compulsion in the form of automatic enrolment (ie. where employer notifies employee that unless they opt-out, a certain proportion of their monthly salary will be put into a 401(k) plan set up in their name).

One study suggests that automatic enrolment can increase participation from 66% of eligible workers to 92%.²⁵ Another sees an even more dramatic effect, with participation rates of 86-96% after six months at companies with automatic enrolment, an increase of 50-67 percentage points prior to auto-enrolment.²⁶ Although participation rates increase with length of service in the absence of automatic enrolment, even after 36 months, 401(k) participation is 31-34 percentage points higher under automatic enrolment.

Inertia / 'path of least resistance'

However, some US evidence indicates that many of those who are automatically enrolled in 401(k)s tend to remain with default funds (which have tended to be money market, fixed income or balanced funds) or later adopt a more cautious investment strategy:

- While many will gradually move away from default funds, one study shows a sizeable minority (40%) of automatically-enrolled 401(k) participants are still with the default funds two years later, out of a combination of inertia and the sense that this is some form of investment advice.²⁷
- Some of those who move away from the default fund under automatic enrolment also still appear to have investment choices coloured by those of the default fund.²⁸ This seems to fit with a Dutch research paper arguing that risk-return preferences are domain related, with pensions engendering a greater degree of caution.²⁹

A further important issue in the auto-enrolment context is the contribution rate. US employers often set a default rate that is low (see Figure 4) - lower in many cases than the rate needed to take full advantage of employer matching.³⁰ A key question is whether employees will subsequently choose to override this and boost their contribution rates. The US experience suggests that in many cases they do not.³¹

²⁵ Holden and VanDerhei (2005), p.4.

²⁶ Choi et al. (2001a), p.10. See also Choi et al. (2001b).

²⁷ Madrian and Shea (2001), p.1174.

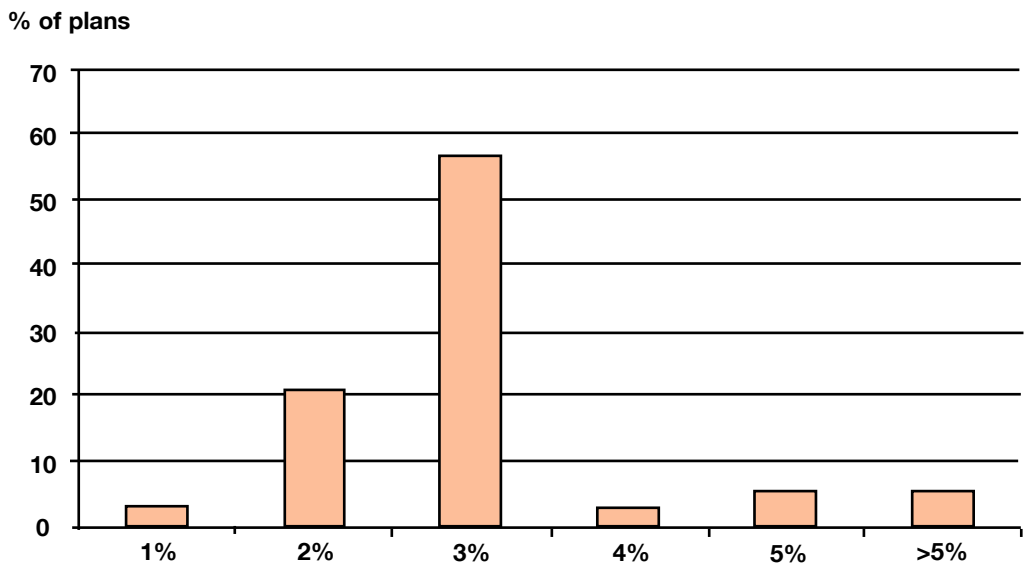
²⁸ Madrian and Shea (2001), p.1174.

²⁹ Van Rooij et al. (2004).

³⁰ Holden and VanDerhei (2005) show that the default rate is 3% in almost 60% of plans and note that an earlier study they conducted in 2001 found that half of participants offered matching funds in 1999 were offered a match on up to at least 6% of salary or more. See p.8.

³¹ Madrian, and Shea (2001). See also Choi et al. (2001a, 2001b).

Figure 4: Default Contribution Rates in 401(k) Plans with Automatic Enrolment



Source: Holden and VanDerhei (2005)

This leads to what Madrian and Shea describe as a 'win lose' situation in the US 401(k) system, wherein automatic enrolment has a large impact upon participation rates - particularly among those social groups who would previously have been among the lowest - but encounters major inertia regarding choice and contribution rates.³² Such inertia tends to confirm what a more general study by Samuelson and Zeckhauser identifies as inherent 'status quo bias' in different kinds of economic decision-making, particularly when the options available appear complicated.³³

However, despite the US experience, it is important not to see inertia as necessarily synonymous with the kind of investment conservatism that would result in an inclination, for example, towards the lower equity exposure in a pension plan evident in areas of the 401(k) world. In this respect, there is some useful evidence from the United Kingdom, where there is a similar preference for default schemes within DC schemes and a tendency not to change contribution rates:³⁴

- Within the employer DC world, the most popular funds tend to be lifestyle funds (which offer a risk profile that changes with age), and are also the most common form of default fund.³⁵ These can have quite a high equity exposure in earlier years.

³² Madrian and Shea (2001), p.1185.

³³ Samuelson and Zeckhauser (1988).

³⁴ With respect to employer DC, the NAPF 2004 Annual Survey (covering the full range of DC schemes offered by employers) shows that in 77% of those offering a default option, a majority of employees chose to invest in it. Some 33% of schemes had default fund participation of over 90%. See also 'What do employers want from DC, and are their needs being met?', AON (2005), p.11.

³⁵ Watson Wyatt (2004), pp.23-24. The Watson Wyatt data also shows that most employer DC schemes (95%) now offer choice, compared to only 77% in 2000. Unfortunately, there is comparatively little academic work on fund choice in the UK. One study, focusing on a large DC scheme run by a professional services company, has shown that 80% of fund assets ended up in the company's default option (a balanced fund with 80% equities and 20% bonds) - although 54% of those responding indicated that they wished to make an active choice (ie. some will have opted for the balanced fund rather than being in it by default). See Byrne (2004).

- Within the wider stakeholder universe (which includes both individual and group stakeholder products), David Blake et al. have commented that the range of defaults is so wide that "we cannot dismiss the hypothesis that the choice of certain key characteristics for the default funds is effectively random."³⁶ In other words, with default funds ranging from equity-dominated funds to more balanced managed approaches (see Table 5), a tendency to opt for the default cannot with any degree of certainty be ascribed to aversion to higher degrees of investment risk.

Table 5: Choice of Funds Available within Stakeholder Products

	Total	Actively Managed	Passively Managed	Lifestyle Default	Lifestyle Option	No Lifestyle
Balanced Managed	19	17	2	5	4	10
Global Equity	6	1	5	6	0	0
UK Equity	7	1	6	6	1	0
With-Profits	3	3	0	0	2	1
Total	35	22	13	17	7	11

Source: Blake et al. (2004)

Behaviour in the Swedish Premium Pension system points in a similar direction. The Swedish default fund (run as part of the Premium Pension by AP7 on behalf of the PPM) is anything but 'cautious' in the most widely understood sense of the term. It is currently some 83% invested in equities, with just 10% in fixed income securities (see p.29), but is now the fund of choice for 90% of new joiners in the Premium Pension.

The international evidence therefore indicates that considerable attention needs to be paid to default fund design, with participation likely to be strong, even where a higher risk/ higher return approach is used (ie. through greater equity exposure). Inertia and/or the belief that the default is some form of advice may be equally, if not more important factors than risk-aversion for the popularity of default options.

At a general level, there are clear dangers in dependence on one-size-fits-all default solutions if there is no lifestyling option. It is hard for a single default fund to satisfy very different constituencies: for example, younger workers who may (or not) be more inclined towards a higher risk-returns strategy alongside those closer to retirement who might be looking for less exposure to market risk.

IS CHOICE ITSELF A PROBLEM?

Clearly, a central discussion point in the debate over what causes inertia is the role of choice. Is inertia sometimes the result of excessive choice, as some behavioural literature has argued? Perhaps best known is the choice overload study by Iyengar and Lepper, which conducted three experiments and concluded that while more choice might be desirable in principle, in practice it could have negative consequences for motivation.³⁷

³⁶ Blake et al. (2004).

³⁷ Iyengar and Lepper (2000). Particularly frequently cited is the study in which consumers were attracted to two tasting booths in a supermarket one with 24 flavours of jam and another with 6. Consumers were seen as far more likely to make a purchase from the display involving only 6 jams.

Iyengar subsequently developed this analysis in the specific context of US pension provision, showing that participation in 401(k) plans show significant drops when comparing participation rates in plans offering a small number of funds to plans offering ten or more options.³⁸ More recent behavioural literature endorses the general point that too much choice can be problematic from a pension saver perspective.³⁹

The current high popularity of the Swedish default scheme seems at first sight to offer a degree of support for this (still relatively limited) behavioural literature that points to the problematic nature of too much choice. Unlike 401(k) or stakeholder products, where investment choice has tended to be relatively circumscribed, the Swedish PPM offers investors an exceptionally wide choice - over 650 funds in 2004, from an already huge range of 465 when the scheme first started.

Table 6: Proportion of new joiners making an active choice⁴⁰

Year	Proportion of new joiners making an active choice
2000 (initial round - 4 years of contributions)	67%
2001	17.6%
2002	14.1%
2003	8.4%
2004	9.4%

Source: Weaver (2004)

However, as Table 6 demonstrates, making a fund choice was a striking - and defining - feature of the first round of Premium Pension asset placement in 2000. In fact, the large number of active choices made by citizens in that first round (67%) led originally to (justified) claims that the Swedish system contradicted certain findings of the 401(k) studies regarding investor inertia and default fund preference.⁴¹

While analysis of the changing preferences of new joiners in the Swedish scheme has plausibly argued that the spiralling number of new funds available has contributed to the desire to opt for the default fund, there are other factors which need to be considered when explaining the sharp change after 2000.⁴² The Swedish experience is far more complex than simply one of 'too much choice':

- The introduction of the Premium Pension in 2000 was a major societal event, which might have had a contagion element with respect to fund choice. This was spurred by a blaze of publicity and marketing (which may have given the impression that a fund choice was actually required rather than optional), not been repeated in subsequent years. One further factor contributing to the excitement may also have been that several years of social security contributions (1995-1998)

³⁸ Iyengar et al. (2003). A useful summary of this approach can be found in Mottola and Uttkus (2003). See also Loewenstein (1999).

³⁹ See Mitchell and Utkus (2004a, 2004b).

⁴⁰ It is not possible to opt in and out of the default fund (PSF). Once you have opted into active choice, you cannot return to the default fund. Therefore, it is the first joiner decisions that are the only measure of default fund preference.

⁴¹ Engstrom and Westerberg (2003).

⁴² This section is based on observations by Weaver (2004, 2005) and Sunden (2004).

were invested in one go, making for a more substantial investment prospect than the annual 2.5%.

- Although the first round of active choice got underway just as the sharp stock market correction of 2000/2001 was beginning, the strong performance of the late 1990s - particularly in the tech sector - was likely to have contributed to the initial attraction of active choice. In contrast, a degree of disillusion may have set in following the widespread negative returns of the first joiners.
- The strong performance of the default fund run by AP7 may also have played a role (although it is not performance that is usually cited by those who have opted out of active choice).
- Analysis of the 2000 round found that there was some correlation between financial wealth (and hence experience) and active choice, which is unsurprising given existing evidence about the impact of financial familiarity on investment decisions. Younger cohorts joining the system on lower incomes may have been more susceptible to inertia, particularly given the wider context (increasing choice and poor returns).

Naïve diversification? - Choice and good investment decisions

When making a choice, there is also the crucial question of whether this is an informed and optimal one. Again, there is a range of evidence available from regarding individual behaviour, although the most detailed work has been done in the United States.

From the 401(k) world, there is some disagreement over investment patterns:

- One of the best-known pieces of analysis is that of Benartzi and Thaler who suggested that 401(k) plan holders making an active choice tended to adopt a 1/n approach, whereby they divided investments evenly between all funds offered within their employer's 401(k).⁴³ This notion of 'naïve diversification' has been widely disseminated, and used as an example of the danger of ill-informed investment decision-making. It could, for example, lead to increased exposure to equities as a result of the asset bias of the individual plan.
- The thrust of the Benartzi and Thaler paper - that the shape of a retirement plan can have a major impact upon participants who act naively in asset allocation - is supported in recent research by Brown and Weisbenner. The latter find that participants are on average not allocating their assets in line with standard finance theory predictions, but instead "are following naïve strategies that subjects them to 'manipulation' by non-binding changes in the number and mix of investment options."⁴⁴

However, this general interpretation of the 401(k) has been challenged in work by Huberman and Jiang.⁴⁵ They argue that while there is evidence that participants divide

⁴³ Benartzi and Thaler (2001).

⁴⁴ Brown and Weisbenner (2004)

⁴⁵ Huberman and Jiang (2004).

contributions equally between their chosen funds, they tend in fact to only choose 3-4 however many are in fact on offer (a much more restricted view of the 1/n approach). In this context, the even division of contributions does not appear to be as irrational as the Benartzi and Thaler research suggested.

Table 7: Choices of active investment participants in Swedish Premium Pension (2000)

	Number of funds chosen					All
	1	2	3	4	5	
% of Participants	14.3	12.8	21.2	19.7	32	100
% of Portfolio in:						
Equity Funds	33.4	68.3	70.1	77.2	83.1	70.3
Balanced Funds	11.8	9.8	8.7	7.5	5.9	8.2
Interest-earning Funds	1.7	2	3.3	2.2	1.8	2.2
Life-Cycle Funds	53.1	19.9	17.4	13.0	9.1	19.3

Source: Sunden (2004)

Research from Sweden suggests that the average number of funds chosen by those exercising active choice in the first round in 2000 was 3.4, with around a third of participants choosing five.⁴⁶ It also showed possible evidence of naïve diversification, with the exposure to equities increasing in proportion to the number of funds chosen (see Table 7). However, making comparisons with 401(k) findings is difficult:

- The maximum number of choices allowed is five (from the universe of 650+).
- The stakes are much lower in the Premium Pension (ie. a 2.5% contribution, which is part of a wider contribution split between employer and employee is relatively small, particularly at the outset). This might incline those investment participants to be less cautious than they might otherwise be with a larger contribution rate. The particular conjuncture (with equity markets having recently enjoyed a strong run) may also have played a part.

Within the United Kingdom, research of this kind has been comparatively limited. However, the same issues clearly arise given the increasing level of DC schemes and quite a wide degree of available fund choice.⁴⁷

Ultimately, it would appear prudent to consider very carefully whether a government-organised scheme should contain a high level of investment choice, particularly if the level of contribution is above the levels seen in Sweden (ie. greater than 2.5% of gross earnings). There is a multi-faceted problem: operating costs will ultimately be higher; formal advice structures may well be necessary; and poor investment choices on the part of individuals could lead to political costs and/or a later need for simplification.

⁴⁶ Sunden (2004).

⁴⁷ The NAPF 2004 Annual Survey suggests that 33% of DC schemes offer more than 10 funds/investment options, 54% offer 4-9 and only 17% offer less than four. See p.115. Other sources suggest an average of around 8 funds for stakeholder/GPP products and 9 for occupational funds.

APPENDIX 1 - SWEDEN: PREMIUM PENSION SYSTEM

GENERAL STATUS

- Premium Pension is run as a mandatory DC scheme for employees and the self-employed since 2000. Started with 4.4 million members. Now around 5.3 million accounts. It remains a relatively small element in the wider state pension package.
- The Premium Pension Authority - Premiepensionsmyndigheten (PPM) - conducts administration of funds for the Premium Pension Scheme and aggregates all individual trades to a single daily transaction with the relevant fund manager. PPM has staff levels of around 200.
- A Board of Directors appointed by the Swedish Government governs PPM. The Director General, also appointed by the government, is responsible for day-to-day activities and follows the Board's directives. The National Social Insurance Board and the Financial Supervisory Authority assess the way in which PPM discharges its functions.
- Some SEK 125 billion under management (GBP 9.2 billion) as of December 2004.

CONTRIBUTIONS

- Contributions are currently 2.5% of gross earnings, split between employee and employer as part of the overall division of the 18.5% total contributions.⁴⁸ In the first year of operation, accrued contributions from 1995-1998 went into the accounts.
- The National Tax Authority collects contributions (with other social insurance contributions). Information on payments is transferred on an individual basis to the National Social Insurance Board (RFV), which also keeps records of all the social insurance accounts. Money from new contributions is transferred through the National Debt Office, which administers all state financial transactions.⁴⁹
- Contributions are transferred into fund accounts once a year.
- Benefits in the Premium Pension plan can be withdrawn beginning at age 61 and annuitisation is mandatory. The PPM is the sole provider of annuities, and participants can choose between a fixed or variable annuity.

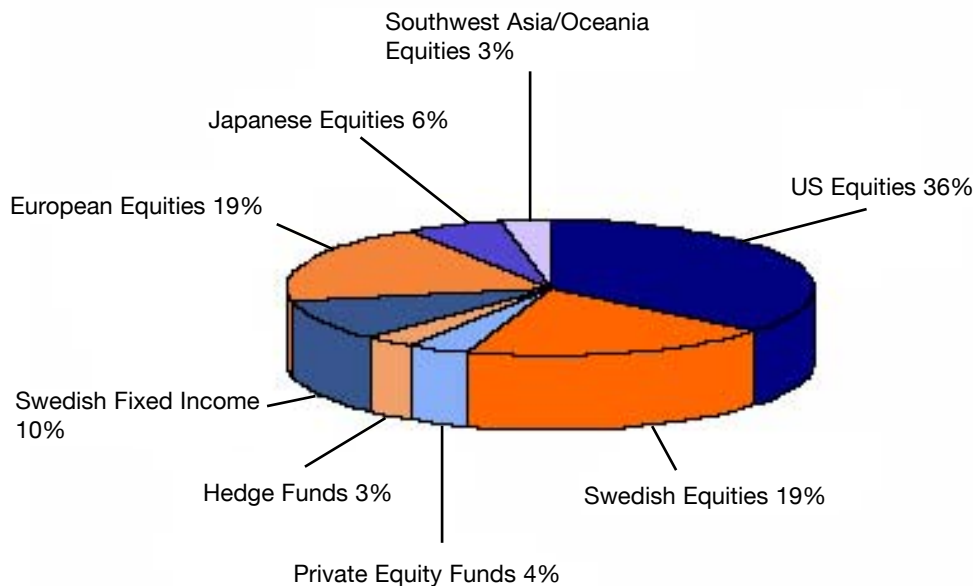
FUND CHOICE

- Fund choice is unusually wide (over 670). All funds registered with the Financial Supervisory Authority and which fulfil the requirements of the UCITS directive qualify for participation, but must agree to a charge schedule (see below). The charging cap structure does not seem to have inhibited firms from participating in the Swedish Premium Pension Scheme, and providing such a wide range of choice. It is unclear whether this trend towards the availability of hundreds of funds will continue into the longer term.

⁴⁸ Employer contribution is currently 10.21% and employees pay 7%. This is a total below 18.5%, which is due to pension base calculations.

⁴⁹ For a good overview, see Palmer (2001).AA

Figure 5: Premium Savings Fund Holdings (December 2004)



Source: AP7 2004 Report

- There is also a default option, Premium Savings Fund (Premiesparfonden) run by the Seventh National Pension Fund (AP7), which is part of the state-controlled AP pension fund system. The Default option cannot be marketed and individuals cannot actively opt-in (funds only placed if one fails to specify another choice).⁵⁰ This owes much to the difficult political bargaining that produced the Premium Pension through the 1990s.
- Currently, the default fund seeks to achieve a high long-run rate of return. Equity holdings cannot exceed 90% of the total value and may not fall below 80%; of these a maximum of 75% can be invested in foreign stocks. Asset allocation as of December, 2004: 10% in inflation-indexed securities, 19% in Swedish equities, 64% in foreign equities, 4% in private in equity funds, and 3% in hedge funds. See Figure 5.
- PPM participants are free to switch between funds once the money is invested, but not into the default fund once they have chosen to opt out. However, only about 640,000 switches were made in 2004 in a system which was built to handle up to 700,000 switches per day. Moreover, only a little over 600 account holders out of more than 5.3 million were frequent traders (more than twenty fund switches during the year), while two thirds of those who switched funds did so only once.⁵¹

⁵⁰ AP7 operates another fund, the Premium Choice Fund, into which one can opt at any time. Premium Choice (ie. government-run, but more equity risk). Currently 3% fixed-income, 8% private equity, 21% Swedish equities, 68% foreign equities.

- Early evidence from Sweden suggesting that individuals were keen for greater choice (only 33% of joiners in 2000 ended up in the AP7 default fund) proved premature. From 67% actively choosing, the figure had dropped to 9% in 2004. Some 2.2 million Swedes (42% of Premium Pension members) now save in the default. A number of reasons have been advanced, as we discuss on p.23:
 - Widespread negative returns experienced by most Premium Pension savings. First round of PPM took place near peak of global equity bubble.
 - Lack of 'contagion effect' after first round, which involved most adults in Swedish society and followed a wide-ranging debate.
 - Less rigorous information campaigns after 2000 and companies spending less on promotion.
 - Strong performance of the AP7 default fund (has five star rating from Morningstar).

Table 8: Proportion of Premium Pension participants making an active choice

YEAR	Proportion making an active choice
2000 (initial round -4 years of contributions)	67%
2001	17.6%
2002	14.1%
2003	8.4%
2004	9.4%

Source: Weaver (2004).

However, if market falls did play a part, the problem remains that it is not possible to combine high return aspirations with investment safety - and Swedish default fund is not a safe fund. With almost 85% equities at present, it is relatively high risk if workers are 10 years off retirement and current generations of new workers are arguably better served. The risk is currently mitigated by the low real value of accounts, but that will clearly change over time.

CHARGES

- The PPM is only allowed to charge a maximum of 30 basis points, and last year charged 27 basis points. Administration costs accounted for 18 basis points (calculated as % of AUM end-2004), and the difference seems to be accounted for in terms of other costs (including reducing loan credit requirements and transfers to the RFV).⁵² PPM claims that this is substantially cheaper than many products offered in the private sector (See Table 9).

⁵²The PPM is required to make payments to other government agencies to cover their costs in running the PPM system. So far, these payments have been very low, but look set to rise (for 2005, the projected figure is some SEK 58 million - GBP 4.3). Based on the current number of participants, this represents less than one pound per account.

Table 9: Administrative costs per unit-linked policy (SEK)

Company	2003
Skandia Insurance Company Ltd	517
Länsförsäkringar Fund	432
SPP Fund	321
Folksam Fund	303
SEB Trygg Fund	237
Handelsbanken Fund	166
Folksam LO Fund	109
AMF Pension Fund	70
PPM (real cost excl. of VAT in brackets)	62 (55)

Source: Premiepensionsmyndigheten (2005)

- On top of the PPM administration fee, participants must pay an investment management fee for their chosen funds, which averaged 0.42% in 2004. The # different fund charges (including rebate) are illustrated in Table 10.

Table 10: Management fees paid by participants per category of fund, 2002-2004 (as % of AUM)

Category of Fund	2004	2003	2002
Equity Funds	0.60	0.61	0.63
Mixed Funds	0.50	0.53	0.54
Life Cycle Funds	0.36	0.36	0.39
Interest Funds	0.39	0.40	0.40
Premium Savings Fund	0.15	0.15	0.17
Total	0.42	0.43	0.44

- In 2004, the expense ratio was 0.42% (0.27% to PPM for administration and 0.15% as management charge). For external funds, the average was 0.69%. See Table 11.

Table 11: Summary of Swedish Premium Pension Charges

Element	Cost
PPM administration charges	Initially charges 0.3% of assets under management. This fell to 0.27% in 2004, with the long-term aim of achieving 0.1%.
Default fund charges	The net fee on the Premiesparfonden in 2004 was 0.15%.
Active fund charges	These are capped according to an agreed schedule and averaged 0.42% in 2004

REBATE PRICE CONTROL SYSTEM

- The agreed schedule with fund providers aims to ensure that a reduction on their usual charges is delivered via the Premium Pension system on the basis that they benefit from cost reduction (administration, statements, information etc.) as a result of using the PPM system.⁵³ This is delivered via rebates, which are invested in the relevant fund on behalf of the PPM participant.
- Essentially, rebate is only calculated on a part of the fee (the total expense ratio minus a 'free cost withdrawal' amount - i.e. a part exempt from reduction) and depends upon the size of the PPM's holding in a given fund. In effect, it is a system of price controls and it remains unclear how this will develop in the longer term, particularly given scepticism within sections of the investment management industry.

Table 12: Rebate Amounts in Premium Pension

	Column A Fund Value of PPM's holding (SEK m)	Column B Free cost withdrawal	Column C Discount Level
1	0-70	0.40%	25%
2	70-300	0.35%	65%
3	300-500	0.30%	85%
4	500-1000	0.25%	90%
5	1000-3000	0.25%	95%
6	3000-7000	0.15%	95%
7	>7000	0.12%	96%

Source: PPM

- For a fund in Category 1 (holding of less than 70 million SEK), the rebate on a fund charging 1.0% will be 25% x (1.0-0.4) = 0.15. However, for those with very low charges, there will be little or no rebate demanded. See Table 13.

Table 13: Rebate Illustrations

COLUMN A Normal Charge (% AUM)	COLUMN B Free Cost Withdrawal	COLUMN C Discount level (%)	Rebate payable of fund's PPM assets (%)	Total charge after rebate (% AUM)
1. Managers holding less than 70 million SEK in PPM Funds				
1.5	0.4	0.25	0.28	1.23
1	0.4	0.25	0.15	0.85
0.5	0.4	0.25	0.03	0.48
0.12	0.4	0.25	0.00	0.12

⁵³ In order to retain a notional playing field, the default fund provider AP7 is also subject to a rebate system whereby it is paid 50bp to manage the Premium Savings Fund, but rebates 35 to PPM. Its costs are 15 basis points.

COLUMN A Normal Cost (% AUM)	COLUMN B Free Cost Withdrawal	COLUMN C Discount level (%)	Rebate payable of fund's PPM assets (%)	Total cost after rebate (% AUM)
2. Managers holding 70 to 300 million SEK in PPM Funds				
1.5	0.35	0.65	0.75	0.75
1	0.35	0.65	0.42	0.58
0.5	0.35	0.65	0.10	0.40
0.12	0.35	0.65	0.00	0.12
3. Managers holding 300 million to 500 million SEK in PPM Funds				
1.5	0.3	0.85	1.02	0.5
1	0.3	0.85	0.60	0.4
0.5	0.3	0.85	0.17	0.3
0.12	0.3	0.85	0.00	0.1
4. Managers holding 500 million to 3000 million SEK in PPM Funds				
1.5	0.25	0.95	1.19	0.31
1	0.25	0.95	0.71	0.29
0.5	0.25	0.95	0.24	0.26
0.12	0.25	0.95	0.00	0.12
5. Managers holding 3000 to 7000 million SEK in PPM Funds				
1.5	0.15	0.95	1.28	0.22
1	0.15	0.95	0.81	0.19
0.5	0.15	0.95	0.33	0.17
0.12	0.15	0.95	0.00	0.12
6. Managers holding more than 7000 million SEK in PPM Funds				
1.5	0.12	0.96	1.32	0.18
1	0.12	0.96	0.84	0.16
0.5	0.12	0.96	0.36	0.14
0.12	0.12	0.96	0.00	0.12

Source: Adapted from Palmer (2000)

APPENDIX 2 - AUSTRALIA: SUPERANNUATION SCHEME

GENERAL STATUS

- Compulsory contributions have been made from employers into superannuation schemes since 1986 (although many workers would already have been covered in employer schemes). The current coverage rate is now 90% of the working population. The self-employed are not compelled to join.
- The system is highly decentralised, with minimal central government/state involvement (beyond public sector pension provision through a special scheme). Employers and individuals contract with a wide variety of pension fund providers. The superannuation system is also widely used for insurance (life, disability etc.) cover.
- Some 72% of scheme members are covered by DC arrangements (see Table 14), but some employers - primarily public sector and corporate schemes - provide DB and hybrid pensions. In keeping with the experience elsewhere, pure DB schemes are increasingly closed to new members and DB assets under management have halved over the last ten years.
- Regulatory authority falls under the remit of Australian Prudential Regulatory Authority (APRA), which has a broad responsibility for financial services sector supervision.
- Alongside the 'super', the government still provides an affluence-tested basic state pension (currently received in full by two thirds of all pensioners).
- Total superannuation assets stood at A\$631 billion (GBP 242 billion) as of June 2004.

CONTRIBUTIONS

- Employers pay 9% of gross wages (this level has been in force since 2002, but began at 3% in 1986). However, Australia uses a TTT system, which results, according to The Association of Superannuation Funds of Australia (ASFA), in a reduction of 1.4 percentage points in the contribution paid it - ie. 9% becomes 7.6%.
- Employees have the option to contribute further (without limits). Government also provides a matching scheme for the lower paid.⁵⁴
- Benefits can be drawn from 55 (lump sum / draw down / annuity).

FUND CHOICE

Provider choices

The superannuation system generates a diverse range of fund types:⁵⁵

⁵⁴ From 2004/05, matching contributions of 150% up to A\$1,500 on incomes below A\$28,000. Matching rate tapers down to zero from A\$28,000-58,000. At least 10% of total income needs to have been derived as an employee.

⁵⁵ Source: 'Distribution of Managed Funds in Australia,' AXISS 2003 and Rice and McEwin (2002).

- **Corporate Funds** are sponsored by a single employer or group of related employers, with membership usually limited to the employer and employees of those firms. They may be DB.
- **Industry Funds**, often organised through workplace arrangements, usually cater for members as a result of an agreement between the parties to an industrial award (although there are several large Funds open to any employer and to the public - 'public offer').
- **Public Sector Funds** are sponsored by a government agency or a government controlled business enterprise (at Commonwealth or State level). These are often DB, but increasingly DC
- **Retail Funds** are publicly offered superannuation funds that members join by purchasing investment units or policies that are sold through intermediaries, such as life insurance agents or financial advisers. They include:
 - Small employer 'master trusts' (which are increasingly used by employers for outsourced DC provision).⁵⁶
 - Personal superannuation funds (individual, regulated retail products).
- **Self-managed Funds** - fewer than five members (of whom all are trustees), with the idea that all members are fully involved in decision-making processes of fund.
- **Small Funds** - fewer than five members (regulated by APRA with approved trustee)

Due to multiple account holding, the total number of accounts (around 27.0 million) far exceeds the entire population (20.4 million, with a working population of around 9.5 million).

Choice of superannuation fund provider now has to be offered to all workers (from July 1, 2005), unless they fall into specific not-eligible groups (eg. those covered by workplace agreements, certain federal or state employees and certain defined benefit schemes). In practice, it is estimated that 5.7 million Australians in total now have the right to choose.⁵⁷ Those eligible can select any Super fund providing it is a complying fund or a retail savings account (through a bank), and a fund willing to accept new entrants (eg. certain corporate funds will not be open to those that are not employees).

⁵⁶ A master trust is a public-offer vehicle providing administration and communication services, together with a number of investment options (both fund managers and funds). Master trusts are open to both company schemes and individuals (sold directly or via financial advisers). It is estimated that in 2000 around one third of retail assets were in group employer master trusts, with annual costs of 1.0% - 1.5%.

⁵⁷ Clare (2005), p.6.

Table 14: Fund Type and Benefit Structure (June 2004)

Fund type	Number of funds	Members (1000)	% Total Members	Assets (A\$bn)	% Total Assets
Corporate	1404	1029	3.8	59.1	9.8
Industry	107	8771	32.5	88.4	14.6
Public Sector	40	2659	9.9	111.6	18.4
Retail	235	13956	51.8	209.5	34.6
Small Funds	8069	11	0.0	3.2	0.5
Self-managed funds	281 298	539	2.0	133.7	22.1
Total	291 153	26966	100	605.5¹	100
Benefit structure					
Accumulation	290659	19552	72.5	388.7	64.2
Defined benefit ²	120	422	1.6	16.6 ¹	2.7
Hybrid	374	6992	25.9	200.2	33.1
Total	291153	26966	100	605.5	100

Source: APRA Annual Superannuation Bulletin, May 2005

1. The total assets in the superannuation system are actually estimated at A\$bn 630.9 when one includes the balance of life insurance statutory funds: ie. the balance is the remaining portion after insurance fund assets known to reside in other fund types are excluded. In addition, Rice and McEwin (2002) estimated the unfunded liabilities of public sector schemes at A\$bn 100.

2. The very low level of DB scheme assets is not necessarily indicative of DB liabilities, given that the public sector also operates unfunded DB schemes.

It is unclear how the recent extension of choice will impact upon the superannuation market.⁵⁸ On the one hand, greater choice certainly might help to cut down the high incidence of multiple-account holding, particularly in terms of allowing many employees to stay in their existing scheme when they change jobs rather than being forced into a new scheme. However, as other international experience has shown, intense competition between retail providers could encourage a high degree of fund switching and push up marketing costs in the process (Chile during the late 1990s).

Investment choice

Within the DC plans, there is a range of choice available as to the specific investment strategy. The number of available funds tends to be around 5, although there are many fund providers that offer more than this, predominantly in the retail sector where there may be a wide choice of both fund and manager, involving hundreds of permutations.⁵⁹

⁵⁸ Clare (2005), p.18

⁵⁹ For more on this, see Clare, R. (2004).

CHARGES

Table 15: Costs within the main elements of the Australian Superannuation System (2001) (excluding insurance costs)

	Corporate	Industry	Public Sector	Self-Managed ¹	Employer Master Trust	Personal Super	Other retail	TOTAL
Members (1,000)	1,570	6,977	2,846	387	2,775	4,018	4,666	23,239
AUM (\$Am)	81,352	45,276	114,259	86,833	38,843	92,373	52,459	511,395
Investment Fee (A\$m)	420	216	228	295	210	1,145	359	2,873
Investment Fee (% expense Ratio)	54.6	40.5	46.4	32.3	37.6	53	160	45.3
Administration Fee (A\$m)	349	272	263	330	246	554	315	2,329
Administration Fee (% expense ratio)	45.4	51	53.6	36.2	44.1	25.6	91	36.7
Distribution Fee (A\$m)		45		287	102	462	248	1,144
Distribution Fee (% Total)		8.4		31.5	18.3	21.4	49	18
Total Expenses (A\$m)	769	533	491	912	558	2,161	922	6,346
Total per	490	76	173	2357	201	538	922	
Expense ratio	0.94	1.18	0.43	1.05	1.44	2.34	1.76	1.24

Source: Based on data presented by Rice and McEwin (2002). As in Table 14, the total assets under management figures do not include the balance of life insurance statutory funds.

- There is some debate within the literature over the accuracy over certain studies measuring asset management costs. However, there is a consensus that expense ratios average around 1.2-1.4%.⁶⁰ Insurance adds an additional 0.07%.
- As Table 15 shows, and as we discuss on p.16, this average hides a wide range of costs within the superannuation system. In costs per member terms, industry funds appear to offer by far the best value, when compared to other provider types, but overall charge levels expressed through the total expense ratio are influenced by a comparatively low level of assets under management.
- Retail - and small / self-managed - funds will often carry adviser commission costs as well as entry and exit fees. In keeping with experience elsewhere, such

⁶⁰ For the most recent overview of cost studies, see Vidler (2004).

additions can considerably increase the overall cost burden. They can also create confusion among consumers about the true expense of different investment products. An opinion poll in October 2004 found the lowest level of satisfaction with current fees and charges among retail fund customers (58% satisfied), compared to levels of 70% and above for public sector, corporate and industry funds.⁶¹

- However, expense ratios will also vary enormously within the same superannuation sector:
 - Some of the largest industry funds are very competitive due to their considerable scale. Significantly, industry funds tend to be not-for-profit vehicles and generally do not pay adviser commission. The largest multi-industry fund - the Australian Retirement Fund (ARF) - has 650,000 members (40,000 participating employers) and manages some A\$7bn of assets. Its administration charge is a fixed A\$1.10 per week (A\$57 per year) and investment fees vary, averaging around 0.5% (excluding the cash fund). On a balance of A\$50,000, this equates to an expense ratio of approximately 0.6%.
 - Scale also makes a considerable difference in the corporate and employer master trust segments. The largest corporate funds (>A\$1 billion) had an expense ratio of 0.6% largely due to scale effects (see Table 16). Among employer master trusts, distinctions have to be made between the retail offering (accessed by small employers and costing as much as 2.0% for the smaller schemes), and large employer-sponsored master trusts (total expense ratio of some 1.16%).

Table 16: Costs within the corporate sector

Fund size (A\$m)	Funds	Members (1,000)	Assets	Expense rate	Expenses (\$m)
<50	2,041	820	22,349	1.5	335
50-250	112	262	11,785	1.0	118
250-1,000	37	236	16,501	0.8	132
>1000	10	252	30,717	0.6	184
Total	2,200	1,570	81,352	0.95	769

Source: Rice and McEwin (2002), p.8

⁶¹ Cameron (2004).

APPENDIX 3 - CHILE: AFP SYSTEM

GENERAL STATUS

- In 1981, Chile introduced a mandatory privatised DC individual account pension system, (as in Australia, no government collections and payments clearing house).⁶² The scheme extends to both public and private sector employees (although not the military), but is optional for the self-employed. About 7.1 million members in 2004, with total pension assets of about \$58bn (GBP 32 billion).⁶³
- Administradores de Fondos de Pensiones (AFPs) collect contributions (via employers), keep accounts up-to-date, invest the funds and provide old age, disability and survivorship pensions. They are entirely private and currently number about six (27 have been created since 1981, with most forced out through competition).

The government's role in the pension system is now essentially limited to three areas:

1. Regulating the system, with specialist agency (Superintendencia de AFPs - SAFP) established.
2. Providing a guarantee (funded out of general taxation) for those workers who save for 20 years in an IRA, but are low earners.⁶⁴ Pensions guarantee currently stands at around 25% of the average wage, and government provides the difference between a worker's IRA balance and the guarantee level.
3. Paying pension of those who had retired on the old PAYGO system, or those members of the old system who chose not to participate in the IRAs.

CONTRIBUTIONS / CHARGES

- Mandatory savings of 10% of the first \$22,000 of gross wages are paid to AFPs. Tax-deductible AVCs can also be made within certain limits.
- Additional contributions are made to cover administrative costs, and disability and survivorship insurance. This varies due to competition among providers, but is about 2.0-2.5% of gross wages (includes a fixed handling commission).⁶⁵ No commission is charged on non-active funds: ie. commissions are authorised on flow (when money first enters the system) and not total assets under management. The AFP Association estimates that disability and insurance represented 0.97% of gross wages, producing an overall commission per contributor of 1.45% of wages, equating to 0.63% annually of funds under management.⁶⁶ SAFP put the figure at 0.66%.

⁶² Mandatory for all employees, but not those who were members of the pre-1981 state pension system or the self-employed.

⁶³ For a useful overview of the Chilean pension system see Vasquez (2005).

⁶⁴ This is problematic in that it provides little incentive to save beyond 20 years for those on lower incomes. However, a rule prevents early retirement unless the member can obtain a pension equal or greater than 50% of the average taxable income for the last 10 working years; and obtain a pension equal to or greater than 110% of the minimum guaranteed by the state.

⁶⁵ While charges do vary, there is regulation of commission to make sure that the percentage remains around a certain proportion of worker income.

⁶⁶ Asociacion AFP Research Series, No.42, June 2004, p.2. However, this would depend on length of contribution period.

- Marketing costs are thought to be fairly high due to intense level of competition among AFPs.⁶⁷

FUND CHOICE

Workers are able to choose their AFP provider, and to transfer between them. Transfer became a particular problem in the 1990s and peaked at 1.6 million in 1997 as AFPs offered gifts and other incentives to workers. However, the authorities acted to restrict transfers (the marketing and administrative costs were pushing up charges) and these have been steadily falling, most recently estimated at 228,000.⁶⁸

Until recently, there was very little investment choice. Each AFP offered one portfolio and most were similar (no real choice - a particular problem with respect to lifestyling approaches). Up to 30% of the portfolio could be invested overseas.

Now it is possible for each AFP to offer five funds (known in Chile as 'multifunds'), reflecting different risk profiles, with the composition of the funds heavily regulated. The Equity limits are shown in Table 17 below.

Table 17: Equity limits in Chilean individual retirement accounts

	Maximum % allowed	Mandatory minimum
Fund A	80%	40%
Fund B	60%	25%
Fund C	40%	15%
Fund D	20%	5%
Fund E	Not eligible (mainly fixed income)	Not eligible

Source: SAFP

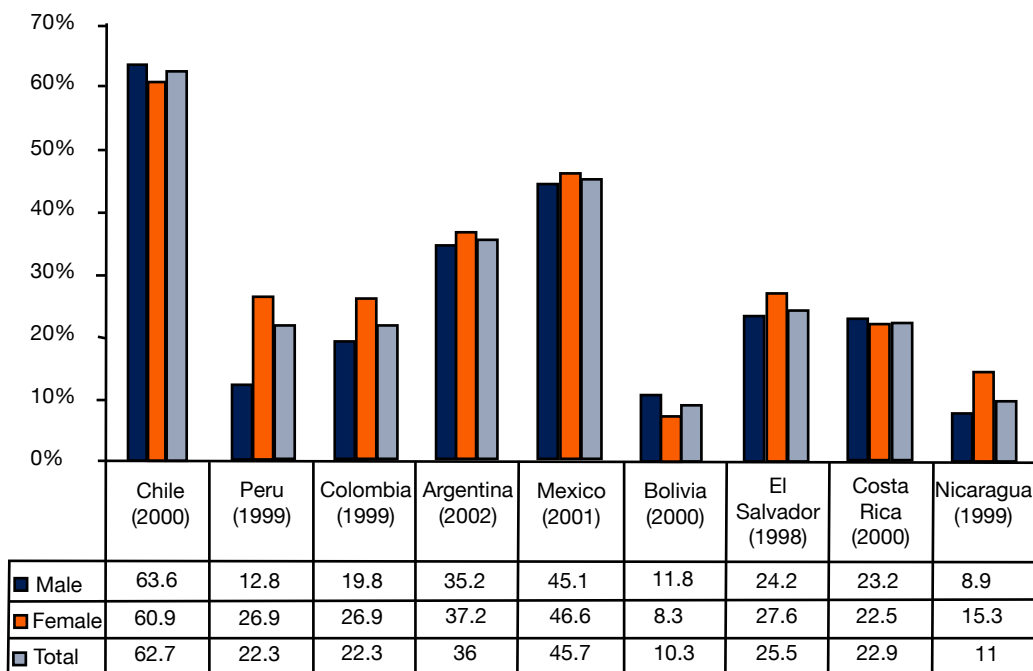
- Workers have up to 90 days to make a fund choice when they join an AFP. If they do not, they are allocated to a default fund on the basis of age criteria: Fund B (men and women up to age of 35; Fund C (men aged 36-55; women aged 26-50); Fund D (men aged 56 or more; women aged 51 or more).
- Returns are also regulated. The fund's real yield cannot be more than 200 basis points (Funds C, D, E) - 400 basis points (Funds A and B) or 50% below the industry's average real return in the last 36 months. The regulation thus forces funds to make similar investments and, consequently, have very similar portfolios and returns.
- Pension payments on retirement (65 for men, 60 women) are either through annuities (individual's choice of provider) or programmed income drawdown.

⁶⁷ However, the situation seems better under control now than during the 1990s when AFPs were battling intensely for business. This saw transfers between AFPs soar to reach 1.6 million in 1997. After 1997, restrictions on transfers saw a gradual diminution, to around 200-250,000 currently.

⁶⁸ Vasquez (2005).

PARTICIPATION RATES

Figure 6: Pension coverage in Latin American Countries (% of economically active population)



Source: Cited in Gill et al. (2005)

- At first sight, there is clearly a problem with coverage - estimates suggest that only around 63% of workers are affiliated with a provider.⁶⁹ To some extent this is consistent with limited participation of self-employed (only 6% are estimated to participate). It is unclear how much participation dodging is taking place. Nonetheless, participation rates are still much higher than in other Latin American countries (see Figure 6).

⁶⁹ Gill (2005), p.6. On this issue, see also Roman (2005).

APPENDIX 4 - SINGAPORE: CENTRAL PROVIDENT FUND

GENERAL STATUS

- The initial focus of the Central Provident Fund (CPF), established in the 1950s, was to ensure that members have financial security in their old age. However, the CPF is now more of a social security scheme (provisions for home ownership, health-care, family protection and general asset growth needs).
- CPF is run by government-appointed CPF Board, which contains employer and employee representatives. Supervision (and policy direction) comes from the Ministry of Manpower. There is no independent regulator.
- Both the employer and employee (although not those without permanent resident status or Singaporean nationality) make monthly CPF contributions. The self-employed can also be included voluntarily in the scheme.
- Currently around 3 million members (1.3 million contributors), with member balances of S\$111 billion (GBP 37 billion) as of December 2004.
- CPF contributions go into three accounts, each of them serving a different purpose: CPF Ordinary (CPF-OA) can be used to buy a home, pay for insurance, and for investment and education (but could eventually also be used for retirement); Special Account (CPF-SA) is specifically earmarked for old age and contingencies); and Medisave Account is for hospitalisation expenses and approved medical insurance.
- Early withdrawals can be (and are widely) made from the CPF-OA, particularly for housing investment.

CONTRIBUTIONS

- CPF contributions are payable for employees who earn at least S\$50 per month. The maximum amount of CPF payable is based on a salary ceiling of S\$6,000 a month, inclusive of various allowances and overtime payments.
- The current central contribution rate is 33% (20% from employee and 13% from employer. These rates apply to all employees below 55 years of age. Contribution rates are lower for older employees. The rates may vary according to the business cycle, giving the CPF a macroeconomic stabilisation function as well as being a savings vehicle
- At age 55, it is possible to get access to CPF-OA and CPF-SA savings after setting aside the Minimum Sum (currently S\$90,000). This Minimum Sum can be used to buy a life annuity from an approved insurance company; be deposited in a bank; or left in the retirement account with the CPF Board. Individuals also need to set aside a Required Sum for Medisave (currently A\$2,500).
- Tax treatment is E-E-E, but given that a large proportion of population is outside income tax net poses problems of fairness (see above, p.18).

FUND CHOICE

- Those who do not wish to actively manage their investment can leave it to a CPF Board default savings fund, which currently offers interest of 2.5% pa on the CPF-OA and 4% on CPF-SA and the Medisave account. The CPF-SA return appears pegged to long-term bond yields.
- For those wishing to invest, a wide range of investment options through the CPF Investment Scheme (CPF-IS), although this has a number of restrictions regarding the type of assets and products that can be purchased (See Table 18). With respect to unit trusts, fund managers have to follow Investment Guidelines established by the CPF Board. Some 30 international investment management companies operate in the market, offering over 100 fund choices.
- In order for the individual to invest their CPF contributions, CPF-OA requires a special investment account with an approved bank (there are three). CPF-SA does not require a special account. The CPF Board liaises with the various product providers to settle the purchase and sale of the investment, and keep track of investment holdings and transactions.

Table 18: Investment options under CPF-OA and CPF-SA

Full Ordinary Account savings can be invested in:	Full Special Account savings can be invested in:
Fixed Deposits	Fixed Deposits
Singapore Government Bonds	Singapore Government Bonds
Statutory Board Bonds	Statutory Board Bonds
Bonds Guaranteed by Singapore Government	Bonds Guaranteed by Singapore Government
Annuities	Annuities
Endowment Insurance Policies	Endowment Insurance Policies
Investment-linked Insurance Products	Selected Investment-Linked Insurance Products
Unit Trusts	Selected Unit Trusts
Exchange Traded Funds	Selected Exchange Traded Funds
Fund Management Accounts	
Up to 35% of investible savings (1) can be invested in:	
Shares	
Property Funds (or real estate investment trusts)	
Corporate Bonds	
Up to 10% of investible savings can be invested in:	
Gold	

Source: CPF

1. Investible savings is the sum of the CPF-OA balance, money withdrawn for education and money withdrawn for investment.

- The number of those taking advantage of investment opportunities through CPFIS-OA and CPFIS-SA is difficult to estimate. Furthermore, many of those saving in CPFIS-OA will not be doing so for retirement purposes. Totalling the number of members across insurance, unit trust and share schemes gives a total of 1.2m. However, given that there will be double counts due to many people investing in different kinds of scheme, this probably considerably inflates the actual figure.⁷⁰

CHARGES

Sources on costs are relatively sparse compared to other schemes, such as Australian 'super' or Chilean AFP. One study comments that fund expense ratios are fairly high: as at September 30, 2003, CPF-approved unit trusts with medium to high risks had median expense ratios of 1.92%, and for higher risk unit trusts, the ratio was 2.23%, well above the CPF's 1% target.⁷¹

⁷⁰ Asher (2004), p.20.

⁷¹ Asher (2004), p.11.

APPENDIX 5 - UNITED STATES: THRIFT SAVINGS PLAN

GENERAL STATUS

- Thrift Savings Plan (TSP) is a government-run voluntary DC scheme for federal employees (since 1987). As of end-2004, membership was some 3.5 million people, with approximately 2.5 million contributing.
- The Federal Retirement Thrift Investment Board administers the TSP, and is classed as an independent government agency.
- It contracts with the U.S. Department of Agriculture's National Finance Center (NFC) in New Orleans to serve as the TSP record keeper. NFC performs detailed record keeping of participant account balances (including quarterly statements). The TSP Service Office at NFC processes contribution allocations, inter-fund transfers, loans, withdrawals and transfers of funds into the TSP from other plans, as well as participants' designations of beneficiaries.
- Some 151 billion dollars of assets under management as of end-2004. All funds held in trust by the TSP belong to the participants of the plan.
- On leaving federal service, employees can transfer out of the TSP, or leave their account with TSP. They are still able to make inter-fund transfers, and can transfer in new contributions (from traditional IRA or eligible employer plan, including 401(k)).

CONTRIBUTIONS

- Contribution limits for employees currently range from 10-15% of gross earnings depending on civil service sector (to be abolished in 2006), but must also remain within IRS limits (\$20,000 from next year).
- Depending upon the agency, employee contributions are matched up to certain limits (currently 5%) by the government. Government may also make automatic contributions for certain groups of employees.
- While a TSP participant is still employed by the Federal Government, a TSP loan program provides access to contributions. In addition, participants who are age 59½ or older can make a one-time withdrawal from their TSP accounts while they are in Federal service. In-service withdrawals for reasons of financial hardship are also available.
- Contributions can be transferred into fund accounts on a daily basis.
- On retirement, TSP annuities are available, but there are also other options (transfer into Individual Retirement Account or other eligible retirement plan).
- Tax regime is EET.

FUND CHOICE

Standard funds

- Fund choice had until this summer been limited to five passively managed benchmarked funds (see below). If a participant does not make a choice, money goes into G Fund until they do.
- Table 19 shows that over a third of funds are held in the safest, most cautious fund (G) and another third in the basic equity fund. Very little is held in the international equities option (I).

Table 19: Main TSP Funds

Fund Name	Fund Type	US \$bn
G Fund	Government Securities Investment Fund	56.7
F Fund (run by BGI)	Fixed Income Index Investment Fund - matches performance of Lehman US Aggregate Index	9.7
C Fund (run by BGI)	Common Stock Index Investment Fund - matches performance of S&P 500	63.2
S Fund (run by BGI)	Small Capitalization Stock Index Investment Fund - matches performance of Dow Jones Wilshire 4500 Completion (DJW4500)	9.6
I Fund (run by BGI)	International Stock Index Investment Fund - matches performance of Morgan Stanley Capital International EAFE (Europe, Australasia, Far East)	7.0

Source: TSP

- Units are purchased according to daily single pricing and fund switching is permitted daily
- Fund operators are appointed through a bidding process which takes place every 3-5 years. Barclays Global has run funds since 1988. BGI runs F,C, S and I. G Fund currently invested in short-term non-marketable U.S. Treasury securities specially issued to the Fund, and run by the Thrift Investment Board.⁷²

Lifecycle funds

- New 'Lifecycle' (L 2010, 2020, 2030, 2040 and L Income) funds are now being introduced. As per UK lifestyle funds, these will rebalance as the individual approaches retirement.
- The four dated L funds are intended to capture different retirement horizons, while L Income will be used for those withdrawing money or about to start doing so.

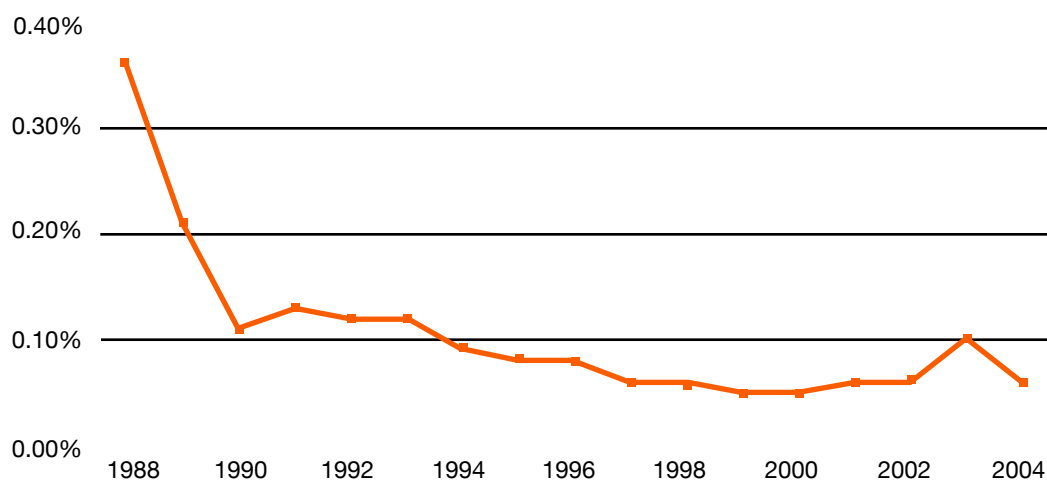
⁷² All investments in the G Fund earn interest at a rate that is equal, by law, to the average of market rates of return on outstanding U.S. Treasury marketable securities with 4 or more years to maturity.

- Participants will be able to enter or leave the L Funds when they want (as per individual TSP funds). They will also be able to move among the L Funds. So, if the time horizon or investment strategy changes, it is possible to select a different L Fund or change to the individual TSP funds. They can invest any portion of their account in the L Funds, and invest in more than one of the funds (as well as in the individual TSP funds).

CHARGES

- As discussed above, charges are contained by limited fund choice, piggybacking on the federal payroll system and not having marketing expenses. The total expense ratio is currently running at around 0.06% (less than thirty dollars per account per year), having dropped sharply since the inception of the scheme in 1988, mainly due to the increased size of account balances. See Table 20. However, this does not include the costs by participating federal agencies.
- Budgetary projections for 2006 (based on total administration costs of 89 million dollars - some 24 dollars per participant) suggest that record keeping will account for 65% of the total, communication 11% and staff costs / agency operation 24%. The record-keeping budget includes two call centres, which account for just under 10% of total administration costs.
- Net investment expenses in 2004 were about 2.7 million dollars (4.5 million dollars less a 1.8 million dollar rebate).⁷³ As a proportion of total assets under management on behalf of TSP, this is tiny (about 0.004%). In addition to some advantages that may arise from using large-scale tracker funds, it is also thought that crossing (internal matching of buy and sell orders) and securities lending helps to further lower overall investment management costs.

Table 20: TSP Fund Expense Ratios (Historical aggregate)



Source: TSP

⁷³This is based on 2004 TSP Financial Statement (ie. taking declared 'Investment Expenses' as reflecting the totality of fees paid - this may omit other areas where BGI could be making money: eg. on stock lending).

APPENDIX 6 - UNITED STATES: 401K

GENERAL STATUS

- 401k is named after a section of the US tax code that permits employees to set aside a proportion of their pre-tax income into a (tax-deferred) savings product. It often involves matching contributions from employers. While the 401(k) is primarily an employer-organised vehicle, there are schemes available for the self-employed.
- 401k sits within the wider US Social Security system, which offers an earnings-related PAYGO pension (alongside a flat rate scheme for those on low incomes).
- By end 2001, about 45 million US workers held 401(k) plan accounts with a total of \$1.75 trillion in assets.⁷⁴ However, while a large headline figure, the significant number of accounts means that at an individual aggregate level this is not a huge amount. One estimate suggests that in 2001, the typical household approaching retirement had 401(k)/IRA holdings of only \$55,000.⁷⁵
- The proportion of eligible employees who participate in 401(k) plans was estimated at 75% in 2003, having climbed steadily over the previous twenty years.⁷⁶

CONTRIBUTIONS

- Individual plan-holders generally decide the percentage of income which is contributed into the 401k account (up to a limit of \$14,000 in 2005). The limit on the annual contribution for both the employee and the employer is 100% of income or \$42,000, whichever is less. There are also catch-up provisions for workers 50 and older, allowing an additional \$4,000 of contributions annually.
- When the plan holder reaches 59½, funds can be withdrawn (they have to start withdrawing assets once they are 70½). Withdrawal of funds before retirement is only permitted in certain circumstances (usually in cases of extreme financial hardship), although there are also provisions for loans from 401(k) accounts
- Tax treatment is EET.

FUND CHOICE

- The employer decides what kind of 401(k) to offer and reaches agreement with a plan provider. Normally a range of investment vehicles is offered, including a default fund. Table 21 gives an indication of asset allocation, and indicates that there is in fact an aggregate progression of the kind that one might expect in a lifestyle pension product (ie. a trend away from equities and towards fixed income / guaranteed products as age increases). However, the idea that this is an orderly well thought-through progression on the part of the employee is challenged by a range of literature on fund choice, which shows in particular a dependence on employer default options (see discussion on p.20).

⁷⁴ See Holden and Vanderhei (2001).

⁷⁵ See Munnell and Sunden (2004).

⁷⁶ Source: Profit Sharing/401k Council of America (PSCA). Participation is estimated at 38.3% in 1983, 57.0% in 1988 and 64.6% in 1993.

Table 21: 401(k) Asset Allocation Across Age Cohort (2001).

Age Cohort	Equity Funds	Balanced Funds	Bond Funds	Money Funds	GICs 1 and Stable Value Funds	Company Stock	Other	Unknown	Total
20s	58.6	8.7	6.1	5.6	6.1	13.8	0.6	0.4	100
30s	58	8	5.7	4.2	6.5	16.5	0.8	0.3	100
40s	51.6	8.1	6.5	4.7	9.8	18.1	0.9	0.3	100
50s	45.1	8	7.9	5.5	14.8	17.3	0.9	0.3	100
60s	36.2	7.8	10.7	6.3	24	14	0.8	0.2	100
All	47.7	8	7.6	5.2	13.6	16.8	0.8	0.3	100

1 Guaranteed Investment Certificates

Source: Holden and VanDerhei (2003)

- Fund choice can be tricky when it involves the company's own stock. Although they had a wide range of investment choice for their own contributions, ENRON matched employee contributions (up to 6%) in ENRON stock (that had to be held until age of 50). Such stock contribution is not unusual in US 401(k)s. Some estimates suggest that up to one third of 401(k) investments are in the stock of employing companies.
- When changing employers, there are three options: cash out (incurring tax and a penalty 10% charge if under 59½), leave the money with the existing fund (not an automatic right for account balances of less than \$5,000), or move it into a new 401(k) or a rollover Individual Retirement Account (IRA).

CHARGES

- Overall charges vary a great deal according to the kind of 401(k) vehicle offered by employers, and according to the asset allocation chosen by the individuals/ employers default fund. US mutual fund expense ratios tend to be around 1.5%. Clearly, large firms can benefit from access to cheaper institutional pooled vehicles etc., and also administrative economies of scale. The most recent Deloitte benchmarking survey (with 426 plan sponsor respondents) illustrated a clustering of expense ratios around 0.51-0.85 basis points. However, other evidence points to higher charges.⁷⁷

⁷⁷ See Walter (2004), p.33, which cites a study that suggests expense ratios may be as high as 1.43%

Table 22: Those employers responding to question: 'What is your plan's average fund expense ratio?'

Up to 0.5%	19%
0.51-0.85%	35%
0.86-1.25%	26%
>1.25%	1%
Don't know	19%
TOTAL	100%

Source: Deloitte Consulting (2004)

- Charges to individual participants further vary according to the extent to which administration expenses are passed through to participants via charges on the fund. In many, but not all cases, the company pays a large proportion of the administrative expenses. The Table below illustrates the division of cost burden.

Table 23: Division of administration expenses in 401(k) schemes (2003)

	Company Pays Fee	Employee pays fee by direct charge	Employee Pays Fee by Reduction to Investment Return	No fee	Service not used
Recordkeeping /administration	57%	8%	16%	18%	0%
Audits	84%	4%	7%	3%	2%
Audits	28%	5%	5%	18%	45%
Investment management	37%	4%	20%	19%	20%
Legal/design fees	86%	2%	5%	6%	2%
Communication	62%	3%	8%	27%	1%
Trustee	59%	4%	14%	20%	3%
Consultant	69%	2%	6%	10%	13%
Loan fees	8%	71%	8%	7%	6%
Other	19%	16%	10%	15%	39%

Source: Deloitte Consulting (2003)

ABBREVIATIONS

AFP	Chilean private pension providers (Administradores de Fondos de Pensiones)
AP7	Swedish Seventh Pension Fund (runs Premium Savings Fund)
APRA	Australian Prudential Regulatory Authority
AUM	Assets Under Management
AVC	Additional Voluntary Contribution
CPF	Singapore Central Provident Fund
CPF-OA	Central Provident Ordinary Account
CPF-SA	Central Provident Fund Savings Account
CPFIS	Central Provident Fund Investment Scheme
EEE	Pensions exempt from tax on contributions, investment income and benefits
EET	Pensions subject to taxation at the point when benefits are received
ETT	Pensions subject to taxation on both investment income and benefits
GPP	Group Personal Pension
IRA	Individual Retirement Account
NPRF	National Pension Reserve Fund (Ireland)
PPM	Swedish Premium Pension Authority (Premiepensionsmyndigheten)
R&C	Record-keeping and Communication
TER	Total Expense Ratio
TSP	Thrift Savings Plan
TTT	Pensions subject to taxation on contributions, investment income and benefits
401(k)	Section 401(k) of the US tax code allows employees to put part of their pre-tax income into employer-run retirement savings plans

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