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Administrative Costs in Public and Private Retirement Systems

Olivia S. Mitchell

Literally every dollar which is unnecessarily or uneconomically expended on administration is a dollar which could otherwise go to the plan participants. (Hoexter 1970, 134)

The question may well be raised as to whether the administrative expenses are too low, with the result that the insured persons are not receiving adequate service. . . . [Social security] beneficiaries deserve better service and could well be willing to bear the slight additional amount needed. (Myers 1992, 16)

Looking across countries, government-managed old age social security systems differ widely in the level of benefits they provide, their methods of financing, and their overall extent of redistributiveness. Despite these differences, a feature common to most of these old age income programs is that they are heading toward insolvency. As a result, there is increasing interest in and support for moving toward a mostly private retirement system, one that relies at least in part on investing retirement assets in private capital markets.¹

This paper addresses a possible concern arising from a move toward a privatized retirement system, namely, whether administrative costs in a privately managed system would be expected to be higher or lower than those found in national, centrally run social security systems. The particular focus I take is that of the U.S. social security system, asking the following questions: What are the administrative costs of the current U.S. retirement system? Does the United States spend too much on administering its old age social security system? What are the administrative costs of prominent alternatives to social security systems? Would a privately managed retirement system cost more or less than the current old age income system?

I analyze available evidence on costs associated with the U.S. and other

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1. In the United States, this topic was the subject of a Senate Finance Committee hearing (on 25 March 1996) that reviewed options for privatization as described by members of the Social Security Advisory Council as well as the chairs of the technical panels reporting to the council (see also Quinn and Mitchell 1996).

national social security systems and compare them to expenses reported by various other institutions that might be seen as alternative means to supply retirement protection.

To preview the conclusions, I find that administrative costs of publicly run social security systems vary greatly across countries and institutional settings. Some are less expensive to manage than others, and it is clear that scale matters: larger publicly managed old age programs cost less than do smaller public plans. It is also clear that quality varies across programs: some public systems have low expenses but deliver few and/or poor-quality services. While public-system administrative costs could in some cases be reduced, cutting expenses cannot save an insolvent plan, and cost pressure could lessen service quality. I also examine the possibility of replacing a publicly managed retirement system with privately managed alternatives in the United States and conclude that a privately managed old age retirement saving program would probably be more costly than the current publicly managed social security program. Nevertheless, a privately managed system is likely to offer better and more diverse services in exchange for these higher costs, including the opportunity to self-direct pension asset investments, the possibility of investing in higher-return assets, the likelihood of more frequent reporting to participants, and possibly greater satisfaction with the system as a whole.

10.1 An Overview of Government-Run Social Security System Administrative Costs

It is useful to begin by recalling the objectives of a national social security system before hoping to understand whether the costs associated with managing one can be altered or reduced. Looking across countries, it is clear that two (at times competing) objectives are common to most countries' programs: providing earnings replacement for retirees and providing welfare support for the elderly indigent. In this section, I first review available data on publicly run, government-managed social security systems from developed and developing countries; I then turn to a more detailed look at the U.S. old age retirement income system.² Finally, I offer an evaluation of the factors that influence social security administration costs in a multivariate framework.

10.1.1 International Perspectives on Social Security Costs

Social security systems around the world approach the twin goals of welfare and earnings insurance in numerous ways and with weights that differ across countries. For instance, in the United States, the social security program concentrates mainly on old age, survivor, and disability benefits, while, in Europe,

2. This section draws on Reid and Mitchell (1995) and Sunden and Mitchell (1994). It should be emphasized that the present paper focuses on the provision of retirement income, not health care and welfare/social assistance. Also, disability benefits are treated only in passing.

medical and unemployment insurance programs are also included under the social security umbrella.³ The form of the benefit varies a great deal across countries, too; some follow a defined-benefit formula, wherein the benefit payment is linked to years of service and earned income, while others follow a defined-contribution approach, tying payments to assets accumulated in an investment account.

Because my focus is on the expenses associated with running a retirement system, it is useful to define *social security administrative expenses* as the costs of providing these retirement benefits. That is, I focus, not on the tax and/or investment revenue used to pay benefits, but rather on the expenses incurred in collecting the funds, managing the records, investing the money, determining eligibility, and paying out benefits.

An economic measure of this concept would include the full resource costs of producing these services, which is not necessarily the charges that government agencies report. A discrepancy sometimes occurs because government services are often not valued at their economic resource cost—particularly when public agencies do not purchase their inputs in a competitive market.

As an example, many government-managed social security systems use public buildings and land. Reported social security administration costs under such a system will not reflect economic scarcity values. Nor will reported public-sector provision costs be an accurate estimate of the likely costs that private-sector counterparts would charge in performing the same services. Similarly, government contracts to install computer systems are awarded on a noncompetitive basis in many countries, and, in other cases, the public pension agency may obtain its mail and telephone services at a subsidized rate. Depreciation and fringe benefits often do not appear on a government agency's budget, and costs of collecting the payroll tax are often shouldered by the central tax authority.

For all these reasons, publicly managed old age programs would be expected to appear less expensive than they actually are, relative to privately managed plans. Conversely, when services are contracted through private firms, administrative costs will probably appear higher than in public plans because market prices for inputs will have to be paid. The resulting public/private cost differential may therefore be more apparent than real.⁴

Keeping these caveats in mind, I next review reported social security administration costs from almost fifty developed and developing countries around the world.⁵ Table 10.1 reveals that OECD countries spent an order of magni-

3. A discussion of the rationale for retirement systems is offered by Atkinson (1987, 1989) and Barr (1992), among others.

4. Private pension plans must also recognize a premium to cover the longevity, inflation, and interest rate risks they assume, whereas most government-run retirement systems will instead implicitly bear the costs and raise taxes if the need arises (see Mitchell and Sunden 1993; Mitchell, Sunden, and Hsin 1994; Reid and Mitchell 1995).

5. Where possible, only old age retirement programs were included in table 10.1, but social security costs were not always broken down by type in developing countries.

Table 10.1 Administrative Costs as a Percentage of Social Security Benefit Expenditures

Latin America/Caribbean		OECD	
Mean	27.78	Mean	3.12
Standard deviation	31.16	Standard deviation	1.28
Argentina	2.30	Australia	1.22
Bahamas	30.75	Austria	2.48
Barbados	5.56	Belgium	4.55
Belize	89.49	Canada	2.80
Bolivia	21.39	Denmark	2.98
Brazil	7.00	Finland	3.36
Chile	8.00	France	4.18
Colombia	81.80	Germany	2.86
Costa Rica	4.75	Greece	6.72
Dominica	46.97	Iceland	1.71
Dominican Republic	31.72	Ireland	4.88
Ecuador	13.55	Italy	2.20
El Salvador	33.40	Japan	1.79
Grenada	9.85	Luxembourg	2.74
Guatemala	12.72	Netherlands	3.10
Guyana	22.66	New Zealand	2.42
Honduras	18.25	Norway	1.00
Jamaica	6.40	Portugal	4.86
Mexico	23.55	Spain	2.81
Panama	5.88	Sweden	4.24
Peru	130.98	Switzerland	3.04
St. Lucia	48.31	Turkey	2.62
Trinidad and Tobago	15.29	United Kingdom	3.10
Uruguay	6.51	United States	3.28
Venezuela	17.46		

Source: Mitchell, Sunden, Hsin, and Reid (1994).

Note: Data may reflect expenditures on pensions in all cases; in some, additional functions as the provision of health services are included.

tude less on social security costs at the end of the 1980s—3 percent of their annual system budgets—as compared to the developing nations of the Latin American and Caribbean (LAC) region, where administrative costs ran 28 percent of annual expenditures.

One of the least costly programs on the list in table 10.1 is the U.S. old age program, whose reported administration costs in 1990 stood at less than 1 percent (0.7 percent) of old age benefit expenditures, after falling by a third during the 1980s. By contrast, the LAC countries with the lowest reported administration costs as a fraction of benefit expenditures included Argentina, with reported administration costs for its public plan at 2.3 percent of benefit expenditures, Costa Rica, with 4.8 percent of benefit expenditures devoted to administration costs under the old age and disability insurance, and Chile, with

an 8 percent expense rate for its public plan overall (Sunden and Mitchell 1993).

Part of the explanation for the marked differences in social security administrative costs across countries is that program objectives vary internationally, in terms of the particular mix of social assistance (benefits tied to need) and insurance (benefit tied to contributions), the degree to which the programs are government run or privately managed, and even the types of payments offered, including cash and in-kind transfers to the elderly, survivors, the disabled, the sick, new mothers, the unemployed, and so forth. For example, in both Argentina and Chile, the range of government programs is wide and includes old age, survivor, and disability benefits, cash sickness and maternity benefits, medical care and work injury coverage, an unemployment insurance system, and a family allowance plan. In Costa Rica, by contrast, unemployment and family allowance plans are not included in the social security system design. For this reason, cross-national data on administrative costs are somewhat treacherous to interpret.⁶

A related issue is how one should handle measurement problems that arise when assessing social security costs. Ideally, the administration costs would be normalized by a direct measure of the service being provided—namely, social security administration. Unfortunately, there is no simple measure of this multidimensional service. Normalizing by total benefit expenditures, as in table 10.1, tends to make costs look lower in more generous systems as well as in mature systems with more beneficiaries than contributors. Conversely, costs appear lower in systems paying high benefit levels when one normalizes program expenditures by beneficiaries. Normalizing by assets is meaningless when the publicly managed plan has few assets (as in pay-as-you-go systems), although this is the statistic of choice often given by private pension plans and mutual funds. Normalizing program expenditures by per capita income tends to make richer countries with more generous programs look more cost effective. Clearly, there is no perfect or universally accepted normalization method to use in reporting retirement system costs.

At least one useful approximation to a measure of social security administration services is the number of clients a system serves. In other words, one could sum contributors and beneficiaries, ideally appropriately weighted to reflect the relative contribution of each client type to the administrative service demands placed on the social security agency. Lacking a simple, defensible method of assigning weights to client types, the common practice is simply to assign equal weights.

The effect of using different cost measures across social security administering agencies is not trivial. Table 10.2 offers data on administrative retirement

6. I do not investigate here whether a social security program is consistent with national goals of growth and income distribution, although some systems are probably more conducive than others to these objectives (see World Bank 1994).

Table 10.2 Annual Social Security Administrative Costs per Financial Flow Measures (%)

Year	Chile		Costa Rica: CCSS, Admin. Costs per Benefit	Argentina: ANSeS, Costs per Benefit		United States: SSA, Cost per Benefit	
	AFP, Admin. Charges per Contribs.	INP, Admin. Costs per Benefit		Without Collection Costs	With Collection Costs	OASI	Disability
1980						1.1	2.0
1981							
1982							
1983							
1984							
1985				1.7		.9	2.8
1986				1.8			
1987	25			2.7	5.3		
1988	24			2.2	4.1		
1989	20			2.3	5.5		
1990	18	1.1		3.3	5.6	.7	2.4
1991		1.3		2.7	5.1	.7	2.4
1992	17	1.6	5.1	4.7	7.4		
1993		1.9					

Source: Reid and Mitchell (1995).

Note: Data in this table reflect only pension-related social security functions.

system costs in Chile, Costa Rica, Argentina, and the United States normalized by financial flows (either contribution or benefit payments). Data on four public plans were developed by Reid and Mitchell (1995), namely, Chile's public-sector INP (Instituto de Normalizacion Previsional) system, Costa Rica's public CCSS (Caja Costarricense de Seguridad Social) system, Argentina's publicly run (Administracion Nacional de la Seguridad Social) ANSeS system, and the U.S. OASI (old age and survivors insurance) system. Across these four public systems, administrative costs range from about 1 to 7 percent of benefit payments, with the lowest being for the U.S. OASI program.⁷ In addition, data are provided on Chile's private-sector pension agencies, known as the AFP funds. These have been criticized as having high administrative costs, and certainly table 10.2 indicates that they are the most costly of those shown, with 1993 administration costs equaling 17 percent of contributions. However, it should be noted that these AFP costs have fallen steadily from a high of 25–30 percent of contributions at the system's inception in the early 1980s.⁸

To show how different normalization methods change perceptions of system expenses, table 10.3 offers other variants. During the early 1990s, for example, expenses under Chile's privately managed AFP program were roughly equivalent to those incurred by that country's public social security system (INP) on an active contributor basis—around U.S.\$50.00 per year. The figures would be even lower if one used total rather than active contributors since there are many inactive accounts under the Chilean AFP system. On a total contributor basis, the administrative costs of Chile's privately managed pension plan stood at between U.S.\$23.00 and U.S.\$45.00, only two-thirds the level of Chile's public INP per member costs (1992 U.S. dollars).⁹ Clearly, privately managed retirement systems are not necessarily more expensive than their public-sector counterparts.

Another interesting finding from table 10.3 concerns the wide range of public-system costs. At the low end of the range are U.S. retirement system costs at \$12.00–\$14.00 per covered worker per year and the Costa Rican system's reported expenses of less than \$10.00.¹⁰ At the upper end among the

7. In the case of Argentina, there was some question as to the proper cost to assess for payroll tax collections. The data given assume that average tax collection costs should be charged to the public pension system for the collection of social security taxes; while this is probably too high a charge, no other figures are available (see Reid and Mitchell 1995).

8. High administrative expenses have also been experienced under Argentina's new private defined-contribution system modeled after the Chilean regime; here, administrative charges currently amount to 32 percent of contributions (personal communication, Rafael Rofman, 1996). However, the Argentine private pension system is only in its second year of operation, and charges would be expected to decline over time.

9. It should also be noted that there are important differences in services rendered across systems in Chile; most private pension (AFP) members are not retired, while most public plan (INP) participants are.

10. It should also be evident that system cost comparisons are sensitive to the measure of participants used. For instance, normalizing by beneficiaries yields U.S. system cost estimates more than three and a half times higher than those generated by normalizing with contributors.

Table 10.3 Administrative Costs per Participant Measures (constant 1992 U.S. dollars)

Year	Chile			Costa Rica: CCSS, per Plan Member	Argentina: ANSeS, Cost per Member	
	AFP		INP, per Plan Member		Without Collection Costs	With Collection Costs
	Per Active Contributor	Per Contributor				
1980						
1981						
1982	71.0	44.7				
1983	55.0	35.8				
1984	50.0	29.5				
1985	43.0	24.9			6.7	
1986	42.0	24.2			8.9	
1987	39.0	22.6			11.0	21.5
1988	44.0	24.5			8.5	15.7
1989	42.0	23.2			5.4	12.9
1990	45.0	31.8			16.8	28.4
1991	46.0	27.8	44.2		20.7	39.1
1992	49.0	29.8	47.7	7.6	46.0	72.6
1993			40.8		39.2	65.2

United States: SSA				
	OASI Cost Per:		Disability Insurance Cost Per:	
	Pensioner	Covered Worker	Beneficiary	Covered Worker
1980	62.2	17.0	114.9	5.5
1981				
1982				
1983				
1984				
1985	58.6	16.2	175.9	6.5
1986				
1987				
1988				
1989				
1990	43.8	11.7	151.7	5.7
1991	47.7	13.0	148.2	6.1

Source: Reid and Mitchell (1995).

Note: For similar data on forty-two countries worldwide, including some of the above, see World Bank (1994, table A.9).

cases studied is the Argentine public system, where annual per member costs total about \$70.00 (1992 U.S. dollars).¹¹ In any event, the Chilean public as well as private system figures appear to be about mid-range in absolute dollars and certainly not outliers in terms of available data.¹²

Some lessons may be drawn from the discussion thus far. First, data problems limit comparisons that can be made across systems, and no cost normalization is ideal for all purposes. When comparing costs across countries, it is likely that normalization by the number of participants comes closest to capturing trends in the levels of administrative expenses, although it cannot account for differences in the services provided—a flaw shared by all the typical normalization procedures. Second, it would be useful to have service-specific cost accounting, identifying the specific functions performed by a social security system as well as the costs incurred in undertaking them.

10.1.2 A Closer Look at U.S. Social Security System Functions and Administrative Expenses

The U.S. social security system is a large and complex institution. Its four main programs include the old age (OA) retirement program, the disability insurance (DI) program, the hospital insurance (HI) program, and the supplemental medical insurance (SMI) program (Social Security Administration 1995). Most proposals to privatize the retirement portion of the social security system have focused almost exclusively on the OASI program; hence, the discussion here will be mainly concerned with the costs of administering that program. In contrast, the Medicare and disability components will not concern us further except when data limitations require it.

Turning to table 10.4, it is useful to gain a working familiarity with the size and scope of what is generally known as the retirement component of the social security system in the United States. The OASDI program is a mandatory, virtually universal program, collecting tax revenues in 1994 from some 139 million workers annually, and paying benefits to 37 million retired plus 6 million disabled persons each year. OASDI system revenues in 1994 totaled \$380 billion, or about 12 percent of covered earnings (\$2,700 in contributions and interest per covered worker per year in 1994). OASDI system benefits came to \$317 billion in 1994, paying an annual retired-worker benefit averaging \$8,400—approximately 35 percent of covered payroll—and a disabled-worker benefit of about \$7,900. Because the nation's social security system is mostly

11. This high figure assumes that average rather than marginal tax collection costs should be assessed against the public plan. While this is no doubt unrealistic, more precise data do not exist.

12. Salvador Valdés-Prieto notes that the figures for Chile are not exactly comparable with those reported in other countries since Chile's system exacts a one-time fee when the defined-contribution monies are contributed and no additional fees are charged on the accruing assets (personal communication, 1996). Larry Kotlikoff argues that it is more appropriate to spread the Chilean one-time up-front fee over the pension accrual phase in order to determine its effect on annualized returns, which he estimates at approximately eighty basis points per year for younger contributors (personal communication, 1996).

Table 10.4 Facts and Figures about OASDI (1994 dollars)

	Quantity	Source
Revenues and tax base:		
OASI revenues (\$million)	328,271	SSA 1995, table 4.A1
DI revenues (\$million)	52,841	SSA 1995, table 4.A2
Workers with taxable earnings (million)	139	SSA 1995, table 4.B1
Workers fully insured (million)	173	SSA 1995, table 4.C1
Covered earnings (\$million)	3,229,100	SSA 1995, table 4.B1
Average earnings/covered worker (\$)	23,231	Author's calculations
OASI revenues/covered worker (\$)	2,362	Author's calculations
OASI revenues/covered earnings (%)	10	Author's calculations
OASDI revenues/covered worker (\$)	2,742	Author's calculations
OASDI revenues/covered earnings (%)	12	Author's calculations
Beneficiaries and benefits:		
OASI benefits paid (\$million)	279,068	SSA 1995, table 4.A4
DI benefits paid (\$million)	37,704	SSA 1995, table 4.A4
OASI recipients (million)	37	SSA 1995, table 5.A4
DI recipients (million)	6	SSA 1995, table 5.A4
Average annual retired worker benefit (\$)	8,368	SSA 1995, table 3.C4
Average retired worker benefit/average covered earnings (%)	36	Author's calculations
Average disabled worker benefit (\$)	7,940	SSA 1995, table 5.A1
Covered workers + OASDI recipients (million)	182	Author's calculations
Trust fund accumulation:		
OASI fund year end 1994 (\$million)	413,460	SSA 1995, table 4.A1
DI fund year end 1994 (\$million)	22,925	SSA 1995, table 4.A2
OASI fund/revenues (%)	126	Author's calculations
OASDI fund/revenues (%)	115	Author's calculations
OASDI funds/participants (\$)	2,399	Author's calculations
Annual OASDI administrative costs:		
Administrative costs (\$million)	2,600	SSA 1995, 14
Administrative costs/covered worker (\$)	19	Author's calculations
Administrative costs/participant (\$)	14	Author's calculations; active and retired workers
Administrative costs/benefits paid (%)	.93	Author's calculations
Administrative costs/trust fund (%)	.63	Author's calculations
Administrative costs/contributors (%)	.68	Author's calculations
Annual OASI administrative costs:		
Administrative costs (\$million)	1,600	SSA 1995, 14
Administrative costs/covered worker (\$)	12	Author's calculations
Administrative costs/participant (\$)	9	Author's calculations; active and retired workers
Administrative costs/benefits paid (%)	.57	Author's calculations
Administrative costs/trust fund (%)	.39	Author's calculations
Administrative costs/contributors (%)	.42	Author's calculations
Administrative data (all OASDHI included in counts):		
No. of SSA employees	64,234	SSA 1995, table 2.F2

(continued)

Table 10.4 (continued)

	Quantity	Source
No. of SSA offices:		
Field and regional offices	1,412	SSA 1995, table 2.F1
Appeals/hearings offices	146	SSA 1995, table 2.F1
Service centers	6	SSA 1995, table 2.F1
Data operations center	1	SSA 1995, table 2.F1
Claims information:		
Processed claims/year (thousands)	3,206	SSA 1995, table 2.F4
Accuracy rates, OASI (%)	99.80	SSA 1995, table 2.F7

a pay-as-you-go account, the difference between system revenues and annual outlays is quite narrow. The excess revenue has been deposited into so-called trust funds projected to grow and then be depleted as the baby boom cohort ages. In 1994, the OASI trust fund amounted to only about 125 percent of one year's annual outlays, or \$2,270 on a per participant basis. Thus, the OASI trust fund could not guarantee a robust flow of retirement income if it were to be allocated among participants covered by the system today, contrary to some popular opinion.

In approaching the question of how expensive the current social security system is to administer, table 10.4 shows that costs totaled \$1.6 billion in 1994. This may be broken down to an annual \$12.00 per covered worker (or \$9.00 per participant, including retirees). As a fraction of benefits paid, these administrative costs equaled 0.6 percent of benefits paid, or 0.4 percent of contributions. Computed administrative costs as a fraction of system assets would amount to 0.39 percent, or thirty-nine basis points; although this computation is the usual one reported for mutual funds, it is meaningless to report figures this way since the system is mostly unfunded.¹³

One fact to point out regarding social security administrative costs is that they have apparently fallen over time quite substantially. This pattern is explained partly by the fact that, as a system grows, fixed costs can be spread over larger participant pools and partly by the fact that benefit payouts and retiree numbers rose over time. Robert Myers (1992) traces the time path of administrative expenses since the social security program's inception, concluding that costs in the early days of the program were over ten times greater than they are now. His analysis used total OASDHI costs, which during the period 1940–44 amounted to 22 percent of benefits; at the beginning of the 1990s, these total costs stood at just 1 percent of benefits paid (Myers 1992, 16). This

13. For the combined OASDI program, total administration costs amounted to \$2,600 million in 1994, or \$19.00 per worker (and \$14.00 per participant). As a percentage of benefits paid, administrative costs for this segment of social security came to 0.93 percent of benefits, or 0.68 percent of contributions, and 0.63 percent, or sixty-three basis points, of the combined OASDI trust funds.

trend conceals cross-program differences, however (table 10.5). Costs for the old age and survivors program were halved between 1980 and 1994, falling from 1.07 percent of benefits paid to 0.59 percent. In contrast, administrative expenses for the DI program rose substantially over the same period, from 2 to 2.7 percent of benefits. It seems fair to conclude that the retirement component of the social security system has become more cost effective over the period but that the disability program has not.¹⁴

A different approach to measuring costs under the U.S. retirement system is to assess the ways in which the system allocates its administrative expenditures (Mitchell and Sunden 1993). It is probably not surprising to learn that the OASI system devotes the lion's share—93 percent—of its administration expenses to the benefit function. This benefit function entails the determination of eligibility for prospective retirees, spouses, and survivor recipients, along with the actual payment of benefits. Because most of the payroll tax revenue is collected by the Internal Revenue Service, a relatively small amount—on the order of 7 percent of administrative expenses—is devoted to revenue collection. In this sense, the social security system benefits from substantial externalities by piggybacking on the IRS collection mechanisms and enforcement structure. Finally, a tiny fraction of expenses—less than one one-hundredth of a percent—is currently allocated to the money-management function. This is because the social security system's trust funds are by law required to be invested in special issue Treasury bills. Clearly, under current regulations, there is no need for a large financial management staff, and the system's costs are held down because of this condition.

10.2 Determinants of Social Security Retirement System Administrative Expenses

10.2.1 Measuring Inputs and Outputs

The question of whether social security expenses are at the “right” level (or too high, or too low) is a difficult one to address since often a nation's social security system is run as a government monopoly producing outputs that are not competitively priced. As a result, it is difficult to determine whether levels of output produced, costs incurred, and services generated by the government agency are comparable to or differ from what one might anticipate if the system were operated by the private sector.

As an example, the U.S. social security retirement program currently provides benefits that are in part earnings insurance and in part redistributive welfare payments. It is debatable whether a private market could, and would, substitute for a mandatory system with an equally strong redistributive bent,

14. The fact that disability claims require the collection of medical data and subsequent medical assessments probably helps explain why the process is more cumbersome.

Table 10.5 U.S. Social Security Administration Costs over Time (per capita, 1994 dollars)

Program	Administrative Cost per Beneficiary	Administrative Cost per Covered Worker
OASI:		
1980	65.72	35.95
1985	61.91	17.13
1990	46.25	12.35
1994	44.10	11.83
DI:		
1980	121.43	5.77
1985	185.85	6.86
1990	160.28	5.98
1994	259.19	7.40
HI:		
1980	136.34	8.16
1985	165.39	9.25
1990	129.59	6.20
1994	164.03	9.09
SMI:		
1980	61.59	9.68
1985	58.00	10.45
1990	63.55	12.95
1994	57.56	12.22

Sources: 1980–90 figures from Mitchell and Sunden (1993). 1994 data from SSA (1995, tables 4A1 and 2, 4B1, 5A4, 8B1 and 2).

particularly if participation were voluntary (Mitchell and Zeldes 1996). If one thought that private producers could replicate the social insurance program, then private-sector costs could be used to compare with government costs, in order to assess whether the government program was paying an appropriate level of administrative expenses. On the other hand, if no private group could replicate the government program, it might be impossible to ascertain whether current levels of administrative costs are equal to those that would prevail in a competitive market.

In addition, of course, social security system expenses should properly be assessed in the context of a model that specifies production inputs, constraints, and the available technology with which these can be combined to produce desired outputs. In practice, it is difficult to develop such a model using real-world data since the system produces many outputs using a range of inputs, all of which are difficult to measure empirically.

To illustrate this point, it is helpful to turn to some aggregate output data on the U.S. retirement system. Annually, some 43 million recipients receive OASDI benefit checks, and about 4.8 million new cases are filed (Social Security Administration 1995, table 2.F). The Social Security Administration (SSA)

also collects contributions for 139 million workers and tracks the earnings records of more than 200 million people over time.

These aggregate performance measures aside, it is far more difficult to determine whether the system is providing optimal levels of service for the costs incurred. In particular, the retirement-system portion of the SSA has several different responsibilities, including issuing all workers (and, most recently, children) social security numbers, maintaining earnings records, and determining eligibility and paying benefits in a timely manner. The agency has set itself internal standards, which it has been meeting to a greater or lesser degree. For example, as table 10.6 notes, 98 percent of applicants filing for social security numbers receive them within twenty-four hours and obtain their cards within five days; there appears to be little error in this process. This is a massive task, inasmuch as the SSA issued 17 million new numbers per year in the early 1990s (personal interviews with SSA staff). (That the system has upgraded service from the early 1980s is evident from the fact that, a decade ago, obtaining a social security number took six weeks [Sunden and Mitchell 1994].)

Nevertheless, the system seems to be slow in tracking earnings and contributions. Under current law, employers furnish reports of wage earnings to the SSA (the self-employed report pay via their income tax reports). Annually, something on the order of 227 million earnings reports are received. Of late, there has been some delay in the recording of earnings within the agency's own recommended time line; for example, only 70 percent of earnings were posted within six months of the tax-year end in 1991 (although accuracy rates were 99.2 percent [as per Mitchell and Sunden 1993]). This performance is within the agency's standards and is certainly a vast improvement since the early 1980s, when updating of earnings records took two to three years (Doggette 1988). Nevertheless, it might be suspected that delays in posting earnings would be quite problematic if the system were to move toward an individual account-type program. Indeed, when lags of ninety days were recently detected for privately sponsored 401(k) accounts, the U.S. Department of Labor deemed this period unusually and unacceptably long (Limbacher 1995).

Since benefit payments are the major activity of the SSA, it is here that performance data are most critical. One performance statistic (see table 10.6) indicates that about 95 percent of all initial benefit payments are correctly determined each year. Overall, around 7 million new claims are registered per year (counting all OASDHI applicants), and meeting this workload is a substantial task. A different way the SSA judges its performance is by its new claims accuracy rate, which in 1993 stood at 99.8 percent for OA benefits and 94.2 percent for DI benefits (Social Security Administration 1995, table 2.F7). A further performance standard is the computed "accuracy of lifetime benefits per award," which has been reported at close to 100 percent for some time. Finally, the agency monitors whether benefits are received on time. On average, it takes seventeen days from the time a retiree files for benefits for the first

Table 10.6 U.S. Retirement System Performance Standards and Quality Measures

Service Provided	Output Measure	Standard	Quality of Service
Issue social security numbers	Approximately 7–8 million issued per year	Assign social security number within 24 hours of receiving documentation	98% get social security number in 24 hours, cards within 5 days
		Issue social security number correctly	99.8% of social security numbers correct
		Correct social security problems in under 30 days	Not measured
Pay benefits correctly	Benefit expenditures	100% accuracy goal, initial payment	94.8% of initial payments correct
		100% accuracy goal, lifetime payment	99.8% of lifetime dollars correct
		Accurate DI determinations	96.7% DI accuracy rate
Pay benefits on time		First benefit check within 15 days of filing for old age benefits	17 days average payment time
		Regular old age benefits paid on schedule	99.9% of regular payments on schedule
		DI benefits paid within 6 months of disability or 60 days of filing	90 days average to process disability cases
		Denied claims noticed within 60 days, 120 days for hearings, 90 days for review of appeal	229 days average to process hearing, 239 for appeals case; 13.2% of hearings with decision within 120 days of filing

Personal contact	Number of telephone calls, letters, visitors	15 minutes or less waiting time in field office with appointment, 30 minutes without	87.5% with appointment seen in 15 minutes or less, or else 82.3% seen in 30 minutes or less; 4.7% without appointment seen in 30 minutes or less
		Accurate handling of phone calls within 24 hours	92.9% of callers can access 800 number in 24 hours or less; 12.5 days for handling inquiries
Maintain accurate earnings records	Number of contributors, amount of contributions	Post earnings accurately Earnings posted within 6 months of end of tax year Resolve earnings differences within 30 days	99.2% of reported earnings posted accurately 70% of reported earnings posted within 6 months of tax year end Not presently measured

Source: Adapted from Sunden and Mitchell (1994).

payment to be received, a figure slightly higher than the performance target of fifteen days. The agency also reports that it makes 99.9 percent of retirement benefit payments on the scheduled delivery dates, a statistic that is certainly consistent with reliable service.

In providing these services, the agency is aware of and seeks to reduce system fraud. As in all programs, some level of investigation is required to determine whether new applicants are in fact eligible for benefits and whether current beneficiaries should continue to receive payments. Common forms of deception include failure to notify the agency when recipients change eligibility status (owing to marriage or death, e.g.); also, some participants have more than one social security number, potentially enabling them to receive multiple benefit checks. As the SSA has upgraded its computer files and systems in the last decade, more careful and extensive cross-checks have become feasible. In addition, in recent years, the SSA has required beneficiaries to recertify their eligibility periodically and actively pursues allegations of fraud through the office of the inspector general (Sunden and Mitchell 1994).

Whether the optimal level of output (including service and fraud control) is being expended by the SSA is difficult to determine given available data. What we do know is that the agency has faced substantial cutbacks in its workforce over the last decade, now employing some 64,000 full-time employees, or 0.37 employees per 1,000 active participants, down from 0.68 workers per 1,000 insured in 1980 (table 10.4 above; and Sunden and Mitchell 1994). Downsizing was made possible by the introduction of a new computer system that helped reduce reported administrative costs by about one-third over the last couple of decades (Doggette 1988). Computerization also permitted better cost accounting for each separate agency function, including tracking of personnel salary and benefits (accounting for approximately 60 percent of SSA expenses). One potentially troublesome area identified by the U.S. General Accounting Office is the fact that it is not always possible to detect poorly performing SSA employees; hence, federal government employees' tenure is not readily rescinded in such cases (U.S. General Accounting Office 1989).

How do U.S. system performance levels compare to those of other nations?¹⁵ With regard to collecting tax contributions, for instance, the Chilean private system reports an error rate of 0.8–1 percent in posting contributions to individual accounts, similar to the U.S. SSA's error rate of 0.8 percent in posting contributors' summary earnings records.¹⁶ The Chilean private pension system appears to do better updating accounts, reporting only 6 percent delayed accounts within a one-month window (in the United States, there is a 30 percent incidence of nonupdated accounts within six months of the close of a tax year).

15. The data in this and the next two paragraphs are taken from Reid and Mitchell (1995).

16. As might be expected, many developing countries' national social security systems do not regularly provide data on the accuracy and timeliness of tax and benefit functions. This was true, e.g., in a recent analysis of the Costa Rican national retirement system (the CCSS), the Argentine program (the ANSeS), and the Chilean public retirement system (the INP).

Another issue is system evasion, an increasingly serious problem around the world. Argentina reports that as many as half of all eligible contributors do not pay into the system, and, in Uruguay, the figure is estimated at 44 percent (Reid and Mitchell 1995). Having a computerized database of covered earnings greatly facilitates this supervisory task, as in the United States and many other developed nations. It is likely that a system will be more efficient when the revenue collection and record-keeping functions are handled by a single agency, and, thus, when Mexico developed its new individual account retirement system, it opted for centralized computer technology to track taxes paid and benefits delivered.

Performance can also be compared with regard to the effectiveness of delivering retiree benefits. This complex of tasks is handled rather inexpensively by the U.S. social security system since initial payments are in error only 5 percent of the time and a mere seventeen days are required to process an old age pension claim (it takes ninety days to process a disability claim). In contrast, the Chilean privatized pension system reports a 27 percent error rate in benefit determinations, and processing of normal retirement pension determinations requires seventeen days, that of early retirement and survival pensions sixty-five and seventy-four days, respectively, and disability pensions 146 days. Public plans in other countries fare poorly on this criterion as well: in Costa Rica, 20–50 percent of old age pension determinations are appealed annually, after 60–150 days to process an old age pension and 150–80 days to process an invalidity pension. The public pension system in Argentina, ANSeS, requires 60–150 days to process pension claims, and almost one-third of all benefit determinations are appealed. One positive finding is that the Chilean public pension (INP) system was successful in its effort to halve its determination times between 1990 and 1993, as a result of concerted effort on the part of the government and international lending agencies. In general, both privately and publicly run retirement systems could improve service quality to program beneficiaries (Reid and Mitchell 1995).

A third function that both public and private retirement systems bear responsibility for is the management of contributed funds. It seems reasonable to expect that assets held in a partially (or fully) funded system should be invested prudently, following accepted money management (and possibly fiduciary) practices. By law in the United States, social security trust fund investment practices are sharply constrained, but, in other countries, more flexibility is evident, and performance has been widely variable. Overall, it appears that private pension system managers subject to competitive market pressures often tend to generate higher real rates of return on average than do publicly managed funds. For example, the Chilean private defined-contribution system reported returns of 13 and 9.2 percent over the periods 1980–85 and 1985–90, respectively (Valdés-Prieto 1994); this exceeded returns of 7.7 and 9.6 percent achieved by the U.S. SSA fund over the same periods as well as the 7.8 percent return in large U.S. private pension funds and the 9.2 and 7.3 percent returns

earned by public funds in eight industrial countries.¹⁷ Even worse, Costa Rica's and Peru's public pension funds reported negative real rates of return over the decade of the 1980s—as have large numbers of other public pension systems around the world (World Bank 1994).

To sum up thus far, assessing the efficiency of the U.S. government-run social security system is problematic because it is a government monopoly, providing services for which there are no precise private market counterparts. In any event, administrative expenses for the U.S. Social Security Administration's old age retirement program are moderate in terms of international comparisons and also have declined over time. U.S. annual retirement system administration costs currently run under \$15.00 per worker; these equal 0.42 percent of contributions, or 0.57 percent of benefits paid. As a percentage of system assets, costs sum to 0.39 percent, or thirty-nine basis points; this figure is not directly comparable with privately managed plans, however, since the system is only very partially funded. Also, inasmuch as social security taxes are collected by the IRS and the SSA trust funds are invested in treasuries, the majority of administrative costs can be attributed to the benefit function.

Although it is debatable whether the system spends “enough” or “too much” on administrative expenses, it seems clear that determination of eligibility for old age benefits is handled with alacrity and that payments are made on time. These costs have trended down in part because fixed costs are now amortized over a larger participant pool and also because of computerization and the subsequent downsizing of the agency. The fact that workers' earnings take a while to be posted to their social security earnings file does not materially influence the system as it is structured now; however, such a delay would certainly be more troublesome in an individual account system. The DI system appears to be experiencing relatively more administrative difficulties; costs including DI are under \$20.00 per worker, 0.68 percent of contributions, 0.93 percent of benefits, and 0.63 percent of the combined OASDI trust funds.

10.2.2 Multivariate Models of Social Security Costs

A more systematic assessment of social security costs is facilitated with a multivariate model linking production costs to output. While a cost function methodology is most familiar to those examining firms operating in a competitive market framework, it has also been applied to the study of government units in order to determine whether scale economies exist in the production of government services and to ascertain which technological factors most influence measured costs.¹⁸

17. Some would argue that the Chilean market's return should not be compared to those of developed countries since the Chilean AFPs were initially restricted to holding mainly government paper and still are very heavily concentrated in Chilean firms. Hence, their investment universe had very different risk/return characteristics than U.S. or European markets.

18. For examples of this literature, see Borcharding, Pommerehne, and Schneider (1982) and Mehay and Gonzales (1985), among others.

In the context of the social security question, analysts have used a general cost model relating system administrative costs to output levels, input prices, and indicators of program characteristics and technology, as follows:

$$(1) \quad \text{social security costs} = f(\text{output, input prices, program characteristics, technology}).$$

The idea is that social security costs, usually measured as reported administrative expenses somehow normalized, should be influenced by output (proxied by benefit measures such as system expenditures), holding constant other factors. Depending on the country and system under study, one would want to control such other factors as input prices (for labor, land, and capital) and program characteristics varying by locale (including, e.g., whether the program is means tested, whether it is centrally run or decentralized, and other related aspects of the program itself). Additionally, when one looks across systems and countries, it is clearly important to try to control for differences in technology, including the degree to which computerization has been achieved by the system, the degree to which the system relies on a modern communications and banking infrastructure, and the overall literacy (and perhaps financial literacy) rate in the population. Finally, as Valdés-Prieto (1993, 1994) has pointed out in a case-study analysis of Chile, the United States, Malaysia, and Zambia, it is important, but extremely difficult, to control for quality differences in services provided across public pension systems.

For all these reasons and others relating to data limitations, only a few studies have estimated a multivariate model of social security administration costs. The few economic studies that do adopt a simple Cobb-Douglas cost specification, relating social security administration expenses across a set of developed and developing nations to output measures (Mitchell, Sunden, and Hsin 1994; Mitchell, Sunden, Hsin, and Reid 1994; Palacios 1994). In this framework, both costs and output are measured in natural logs so that the estimated coefficient a_1 in the following equation is interpreted as a measure of scale economies:

$$(2) \quad \begin{aligned} \text{social security expenses} = & a_0 + a_1 \text{ output measures} + a_2 \text{ input prices} \\ & + a_3 \text{ program characteristics} \\ & + a_4 \text{ technology} + \varepsilon. \end{aligned}$$

That is, if a_1 proves to be less than unity, it would be concluded that larger systems would be less expensive to operate than smaller systems. One problem with this prediction is that only rarely do countries report expenses for their old age programs separately from their other programs and that overall costs would therefore be anticipated to rise when the social security system has many different social insurance program obligations. Hence, the empirical models seek to control for the fact that in some countries the social security agency is

responsible for retirement payments as well as the provision of health care, unemployment insurance, maternity care, etc. It is likely that cash payments to general retirees are less costly to deliver than are means-tested and noncash benefits like health care and food stamps.

Another hypothesis tested with this framework is that social security systems may be more costly to operate when more agencies are involved. Unlike in the United States, in some countries the federal, state, municipal, and even smaller units of government are involved in the collection of revenue and the disbursement of social security benefit payments. Looking across countries, it is also important to control the degree to which the population is integrated into a national financial system; in practice, this is often done with a proxy variable measuring the fraction of the population that is rural dwelling, which probably is inversely correlated with computerization, integration into a banking system, literacy, and so forth. Finally, it is useful to control differential input prices across countries, although in practice obtaining a good measure of this proves difficult; one approach is to include a measure of GDP per capita to capture cross-country differences in pay.

Turning to the empirical findings, Mitchell, Sunden, Hsin, and Reid (1994) use as a dependent variable social security administration costs expressed as a percentage of GDP (to control for exchange rate differences) and regress this against social security benefit expenditure (also standardized by GDP).¹⁹ The analysis uses cross-sectional data for forty-three countries, including all the OECD nations as well as those in the Latin American and Caribbean region. For this sample, the authors find evidence of substantial scale economies, irrespective of the other control variables included in the equation. Across the sample as a whole, a 1 percent increase in output measured by benefit expenditures is found to be associated with 0.5 percent increase in system administration costs. Further refinements indicate that a modification of this overall conclusion is required. One is that the OECD nations have very large social security systems and appear to face constant returns to scale; hence, only the Latin American and Caribbean nations in this sample face increasing returns given the small social security programs they currently support. Second, for the subset of nations able to furnish cost data on the national retirement system separately from their overall social security program, the evidence is consistent with constant returns to scale, rather than increasing returns. These findings are robust to the inclusion of controls for other program characteristics, and none of the other factors is consistently significant in the empirical analysis.

As far as I know, the only other multivariate study of social security costs is that of Palacios (1994; summarized in James and Palacios 1995). Here, the focus is on system administrative costs for forty nations surveyed by the International Labor Organization around the year 1986. Social security system ad-

19. Benefits and system membership were too collinear to permit including both in the same equation.

ministrative expenses are regressed on the size of the participant pool, a parameter indicating whether the system offers a universal demogrant sort of benefit versus an earnings-related benefit, and a special variable to account for unusual costs experienced under Chile's privately managed national defined-contribution system. Of most interest is the finding of scale economies once again: a 1 percent increase in participants raises social security retirement system costs by only 0.6–0.9 percent. There is also evidence that a universal, demogrant system is significantly less costly to administer than a means-tested or earnings-related program. Controls measuring the country's level of technology include energy consumption, which proves to be strongly negatively correlated with costs, suggesting that more developed countries manage their systems less expensively. Finally, the "Chile effect" is positive but only marginally significant (at the 10 percent level), suggesting that, given the small size of the system, costs are not terribly out of line.

10.2.3 Further Considerations Regarding Social Security System Costs

After reviewing social security costs around the world, I find that U.S. system administrative expenses are in the middle of the range for developed nations, at 3 percent of total expenditures, and are on the order of ten times lower than the developing-country average. The U.S. system's costs per active participant appear to be quite low (under \$15.00 per worker per year) compared to those of many other countries. For example, in Chile, annual per contributor costs totaled about \$30.00 under the private system and \$41.00 under the public system, and, in Argentina, the public system expenses ran \$40.00–\$60.00 annually.

Nevertheless, there are important, and very difficult to answer, questions about whether the funds are well spent and whether output levels and output quality are as good as they could be given available funds and technology. In many countries, including the United States, for instance, service could be improved by cutting the delays experienced in posting earnings to the social security records. In many countries' systems, evasion of social security taxes is an important and growing problem, as in Japan and in Chile, where some 30–50 percent of earnings are believed to be outside the purview of the payroll tax (Watanabe 1996; Valdés-Prieto 1994). Another difficulty is that plan participants are beginning to expect private market rates of return on their contributions to the social security system, despite the fact that usually most government old age pensions are defined-benefit rather than defined-contribution promises. This expectation has not been met by public pensions around the world producing zero or negative real rates of return on assets over the last decade (World Bank 1994).

As a result of these issues, serious questions are now being raised about the ability of conventional government-run social security programs to produce high-quality money management, benefit delivery, and other services in countries around the world. Therefore, I turn next to an examination of costs of

possible alternatives to a publicly managed social security agency, with the intention of comparing potential costs across sectors.

10.3 Administrative Costs of Alternatives to Social Security

One reason to assess expenses incurred in running the government-run social security system is that market alternatives might be expected to result in lower costs and/or greater services provided. Costs could be high in publicly provided plans if, for example, there were diseconomies of scale in production or if private institutions could select more efficient technologies and inputs than government bodies. Also, under some scenarios, privately managed financial institutions might generate outputs more to participants' liking than did the public sector. In this sense, it is of interest to ask whether financial institutions such as mutual funds, pension funds, and/or life insurance companies might be able to provide lower-cost (but equivalent or better) service than the government-managed program.

To address this question, I examine what is known about some of these alternative financial institutions and offer some tentative conclusions about the findings. The specific institutions analyzed are the mutual fund industry, the pension industry, and the life insurance industry.

10.3.1 Mutual Fund Industry Costs

The U.S. mutual fund industry has been in existence for at least five decades: recently, mutual funds have become the second largest financial intermediary after commercial banks (ICI 1995b). In mid-1996, the industry held over \$3 trillion in assets.

As U.S. mutual funds have grown in size and influence, financial market analysts have devoted substantial attention to assessing their investment performance, ranking individual funds, and exploring anomalies.²⁰ Analysts agree that understanding mutual fund costs requires delving into two general categories of charges, namely, loads and expenses.²¹ *Loads* refers to commissions that are levied at the time the investor purchases or sells fund shares or that may be exacted when the investor reallocates fund shares across holdings in a "fund family." For example, a fund's front-end load is computed by subtracting the price at which one may purchase a fund share (the buy price) from the price at which one may sell the fund share (the sell price); this figure divided by the buy price equals the front-end load. Commonly seen loads or commissions range from 4 to 8.5 percent of invested assets; no-load funds do not charge this fee. In *back-loaded* funds, the term generally refers to a commission associated with redeeming a fund investment, which may be a flat rate or a percentage of

20. For example, a compilation of mutual fund returns and expenses appears weekly in the *Wall Street Journal*, and frequent updates are available from Lipper Analytical Services and Morningstar Mutual Fund Reports, among others.

21. The discussion in this paragraph draws on Vanguard (1995a, 2).

Table 10.7 Mutual Fund Expense Ratios by Fund Type (funds with assets above given levels)

Type of Fund	Dollar-Weighted Average Expense Ratio (%)			Average Account Size (\$)
	Average	Lowest Quartile	Highest Quartile	
Equity index (assets above \$100 million)	.324	.150	1.640	20,968
Money market (assets above \$1 billion)	.613	.150	1.000	43,276
Fixed income (assets above \$1 billion)	.876	.280	2.000	34,530
Growth (assets above \$500 million)	1.043	.500	2.460	16,800
Growth and income (assets above \$500 million)	.834	.390	1.840	22,027
Balanced (assets above \$250 million)	.895	.350	1.910	15,360
Global (assets above \$250 million)	1.250	.840	1.380	14,686

Source: Lipper Report, dollar-weighted expense ratios for samples of mutual funds of designated size, fiscal years ending 1994–95. Expense ratio defined as fraction of assets devoted to fund administrative expenses annually.

assets. A mutual fund employing this type of load may levy a 5–6 percent charge if the funds are withdrawn during the first year of the investment, with the rate declining to zero over six or seven years. Additionally, some funds charge an exchange or transaction fee when dividends are reinvested and/or impose a fee when assets are shifted across different fund types.

These loads are reported in fund prospectuses in accordance with regulations devised by the Securities and Exchange Commission but are typically not included in expense ratio information. Instead, *expense ratio* refers to the fraction of investor assets expended annually in fees and charges. Included in this tally are operating expenses attributable to investment advisory/management fees and costs attributable to fund administration. In addition, mutual funds must report so-called 12b-1 expenses, or distribution costs that may be charged to fund assets. Under SEC rules, such fees and charges must be included in the expense ratio information reported by mutual funds. However, the fact that loads are not incorporated in expense ratio data should be kept in mind when comparing expense ratios across funds, particularly in the retail or individually purchased mutual fund arena. (No-load funds are more common in the institutional market.)

Table 10.7 summarizes categories of fund expenses from a recent Lipper Analytical Services survey of individually purchased mutual funds. Expense ratios for some of the larger mutual funds in this class appear in table 10.8, again for the retail market. Perhaps not surprisingly, table 10.7 indicates that the “index fund” group reports the lowest expense ratios of all those repre-

Table 10.8 Large Mutual Fund Portfolio Expense Ratios and Other Data

	Expense Ratio (% of assets)	Size of Fund (\$million)	Turnover Rate (%)
Fidelity funds:			
Market Index ^a (S&P index)	.45	288	2
Blue Chip ^b (blue chip stock fund) ^c	1.02	2,229	182
Fidelity Fund ^d (long-term capital growth)	.64	1,592	157
Disciplined Equity ^e (undervalued S&P)	.96	2,088	221
Contrarian ^f (undervalued stock)	1.00	8,694	235
Vanguard funds:			
Total stock portfolio (Wilshire 5000 index)	.25 ^g	786 ^h	2 ⁱ
500 Portfolio (S&P index)	.20 ^j	9,356 ^k	6 ^l
Value Portfolio (large-cap index)	.20 ^m	297 ⁿ	32 ^o
Balanced Index (60/40 stocks/bonds)	.20 ^p	403 ^q	16 ^r
Total bond portfolio (bonds)	.20 ^s	1,731 ^t	33 ^u

^a*Fidelity Market Index Fund Prospectus*, June 1995. Also an additional \$10.00 account fee charged per account per year and a 0.50 percent redemption fee charged on shares held less than 180 days. Redemption fee not included in returns figure given.

^bAssumes annual account larger than \$2,500, else \$12.00 annual account maintenance fee charged. Total returns do not include one-time sales charge.

^c*Fidelity Blue Chip Growth Fund Prospectus*, November 1995.

^d*Fidelity Fund Prospectus*, August 1995. See also note a.

^e*Fidelity Disciplined Equity Fund Prospectus*, December 1995 See also note a.

^f*Fidelity Contrarian Fund Prospectus*, February 1995.

^gVanguard (1995a). Includes \$10.00 annual account maintenance fee charged to account smaller than \$10,000.

^h1994 year end (*Vanguard Index Trust Prospectus*, revised September 1995).

ⁱ1994 year end (*Vanguard Index Trust Prospectus*, revised September 1995).

^jVanguard (1995a). Includes \$10.00 annual account maintenance fee charged to account smaller than \$10,000. Also portfolio transaction fee of 0.25 percent per dollar invested assessed in 1995 (not included in expense ratio).

^k1994 year end (*Vanguard Index Trust Prospectus*, revised September 1995).

^l1994 year end (*Vanguard Index Trust Prospectus*, revised September 1995).

^mVanguard (1995a). Includes \$10.00 annual account maintenance fee charged to account smaller than \$10,000.

ⁿ1994 year end (*Vanguard Index Trust Prospectus*, revised September 1995).

^o1994 year end (*Vanguard Index Trust Prospectus*, revised September 1995).

^pVanguard (1995a). Includes \$10.00 annual account maintenance fee charged to account smaller than \$10,000.

^q1994 year end (*Vanguard Balanced Index Fund Prospectus*, revised April 1995).

^r1994 year end (*Vanguard Balanced Index Fund Prospectus*, revised April 1995).

^sVanguard (1995a). Includes \$10.00 annual account maintenance fee charged to account smaller than \$10,000.

^t1994 year end (*Vanguard Bond Index Fund Prospectus*, revised September 1995).

^u1994 year end (*Vanguard Bond Index Fund Prospectus*, revised September 1995).

sented: these funds reported average costs of 0.32 percent of investor assets.²² This relatively low expense ratio may be compared to several benchmarks, one being the next lowest rate in the table, which is for money market funds. This latter group reported almost double the index fund level of costs (0.61 percent of assets). Another comparison group is the all-fund average of 1.05 percent of investor assets reported for 1994 (Vanguard 1995b, 4). These cost differentials are striking because of the fact that index funds are relatively new and hence relatively small: index funds on the Lipper list start at asset levels of \$100 million, with an average account size of \$21,000, whereas there are numerous money market funds on the list with over \$1 billion, and average account size is double the index fund amount (\$43,000 in 1994).

To the extent that there are scale economies (and Baumol et al. [1990] have reported that there are—costs rise by only 0.4–0.9 percent as assets grow in the mutual fund industry), one might expect the much larger money market portfolios to be more cost effective than index funds. However, at least at this aggregate level, expense ratios for larger, more actively managed funds are higher than those for the smaller, more passively managed set. Expense ratios reported for so-called growth and global funds are even higher, at over 1 percent of assets per year. A possible explanation for these higher expense ratios is that the more actively managed funds tend to provide different service levels and restrictions over investor behavior, as compared to the passive index funds. These include differential access to check-writing privileges, limits on trades over given time periods, and other such factors.

A cost metric that appears to generate somewhat different rankings uses annual dollar expenses per account, figures appearing in the last column of table 10.7. Not surprisingly, the equity index fund again comes in with the lowest costs, at \$68.00 per account per year. But now the per account costs of money market and fixed-income funds are far higher, between \$265 and \$300 annually, a result stemming from their higher expense ratios and larger average account size. Even costs for the “balanced” portfolio totaled around \$140 per year (these funds seek a mix of equity and fixed income).

One possible explanation for the relatively low index fund costs is that managers in this fund group hold broadly diversified portfolios designed to match the investment returns of the overall market; on the whole, they devote relatively little time and effort to stock picking.²³ This does not directly explain the differences because commissions tend not to be reported in the administrative cost figures (rather, lower commissions from a more passive management style would be capitalized in the mutual fund’s share price). Nevertheless, it

22. Between 1981 and 1994, the expense ratio for the lowest-cost family of mutual funds fell 48 percent, from 0.58 to 0.30 percent, although for the mutual fund industry as a whole expense ratios rose 42 percent, from 0.65 to 0.92 percent of assets (Vanguard 1995b, 3).

23. Mutual funds as a whole averaged yearly portfolio turnover rates of 76 percent, much higher than the 2–6 percent rates for prominent index funds such as Fidelity’s Market Index, Vanguard’s Total Stock Portfolio, and Vanguard’s 500 Portfolio (Vanguard 1996, 2; see also table 10.8).

appears that, as turnover rises, so do fund expenses: thus, a positive (but not precisely measured) response of turnover on expenses is also reported by Baumol et al. (1990, 185).

This matters because higher expenses would be expected to lower *net* rates of return on the more actively managed funds, to the extent that markets are efficient. Evidence supportive of an inverse expense/returns relation was offered in an analysis of U.S. retail mutual funds that concluded that better-than-average returns earned by high-performing mutual funds were offset by higher fund expenses (Ippolito 1989). More extensive trading and investment research did appear to generate higher returns, but higher costs were associated with generating these returns.²⁴

A far lower estimate of mutual fund expenses appears to characterize those funds serving the institutional market, targeted to large investment pools such as employer pension plans. Because of their considerable size, these plans would be expected to benefit from some economies of scale. Nevertheless, obtaining clearly comparable estimates of expenses in this market is difficult since the larger mutual funds tend to tailor an institutional plan to a particular employer's specification and each custom component can alter expenses in important ways. Two examples for which data were gathered include the Institutional Index Fund at Vanguard, which reported a 1995 expense ratio of six basis points for a minimum \$10 million investment (down from seven to eight basis points the previous four years), and the same firm's Employee Benefits Index Trust (EBIF), which charges an initial ten basis points in expenses down to one basis point for funds over \$200 million (a transaction fee is also charged of 0.15 percent on net cash flows over \$4 million) (Vanguard, *Prospectus*, 23 April 1996; Joel Dickson, personal communication, May 1996). After reviewing similar figures, Dickson concluded that the marginal cost of money management would be even smaller for a large, centrally held mutual fund invested primarily in equities: "Total fees charged by an investment adviser for managing a broad equity index . . . would be considerably less than 1 basis point per year. If the money manager were allowed to earn profits through securities lending activities, investment management expenses would be bid down to zero. If securities lending were prohibited, then management fees might total $\frac{1}{4}$ to $\frac{1}{2}$ of 1 basis point per year" (Dickson 1996, 9). To these money-management costs must be added annual per capita record-keeping fees for individual accounts of around \$30.00–\$35.00 (Dickson 1996).

In sum, data on mutual fund administrative expenses suggest several conclusions: (1) The least costly retail mutual funds report expense ratios of twenty to thirty basis points at their current level of operation. They appear to be those

24. The Ippolito data were reanalyzed by Elton et al. (1993), who conclude that mutual funds did not earn higher-than-average returns. Analysis by Lakonishok, Shleifer, and Vishny (1992) suggests that average mutual fund performance lagged behind index fund performance by seven to eighty basis points over the Ippolito study period (1964–85) but detects evidence of better mutual fund performance over the period 1983–89.

offering a portfolio consisting of a broad cross section of the capital market. (2) Mutual fund products aimed at the institutional market report significantly lower expenses, at under ten basis point annually for money-management fees (excluding administrative expenses, thought to be around \$30.00–\$35.00 per year per participant). (3) Until very recently, mutual funds have perceived their mission as investment companies rather than full-service retirement plan administrators, so their expenses may fall as they learn the new market.²⁵

10.3.2 Costs of Managing Pension Plans

Employer-sponsored pension plans are an institution that some believe of a viable and cost-effective alternative to a government social security retirement program. Like the government system, a pension plan collects contributions, manages funds, keeps records, and is in charge of disbursing benefits. Pension plans also have functions and responsibilities that differ from those of a social security system, which in the United States include reporting and disclosure requirements to plan participants, the government, and shareholders (in publicly held firms) and monitoring and compliance with nondiscrimination laws; in the case of a defined-benefit pension, the plan must also pay annual premiums to the Pension Benefit Guaranty Corporation (see Husted, in press).

Private-Sector Pension Plan Cost Levels

Establishing pension plan total expenses has been an interest of regulators for many decades, although it remains the case that it is much more difficult to obtain good data on the investment fees and record-keeping costs of pensions than on those of mutual funds. The standards for reporting are less clear, and employers sponsoring a single-firm pension plan tend to underreport their pension costs since much of the record-keeping, payroll, and benefits-payment work is handled in house and not necessarily billed to the pension plan as an expense (Hoexter 1970).

It is sometimes argued that pension costs are most reliably reported in the case of multiemployer pension plans since these plans are run by a joint union/management board that pays expenses centrally. Early evidence supportive of this notion was offered by Hoexter (1984), who found that per member total expenses for the multiemployer plans were over six times higher than for single employer plans. She also found substantial scale economies among these plans, such that costs grew by only 2.5 when membership rose by 100 and costs grew by two-thirds when assets were 20 times larger (Hoexter 1984). Expense ratios stood at 1.6 percent of assets for multiemployer plans with under \$2.5 million but only 0.4 percent for plans with assets over \$50 million.

25. Within the last year, Fidelity Investments announced that it would be the first mutual fund group to provide a full menu of benefit offerings for companies considering benefits outsourcing (see Shutan 1995).

More recently, the U.S. Department of Labor has released tabulations on private-sector pension plans from form 5500 data (U.S. Department of Labor 1996). Required to be collected by law, the form includes reports on plan expenses, participants, assets, and liabilities. Here again, it must be kept in mind that single-employer pension plan expenses will tend to be underreported, inasmuch as the sponsoring companies absorb some portion of the plan's administrative costs rather than charging them directly to the pension plan. Among multiemployer pensions, where the pension plans cover employers of several different companies, reported expenses would be expected to be higher partly because a fuller accounting of costs is ensured in the multiemployer group. On the other hand, multiemployer pension costs may be unduly high inasmuch as these plans have recently faced substantial legal expenses, incurred as they seek to obtain delinquent contributions from small employers.

Private-sector pension plan total expenses are summarized in table 10.9 for plan year 1992, which reports expenses for pensions with at least one hundred participants.²⁶ Single-employer plans in the sample held approximately \$1.6 trillion in assets, versus \$214 million for the multis in 1992. Nevertheless, because 63 million participants were in the single-employer plan pool and 10 million in the multiemployer pool, net assets per participant were similar, at \$26,000 and \$21,000, respectively. Annual contributions were quite different, standing at \$1,500 in the single-employer plan and around half that, \$900 that year, in the multiemployer pension system. Defined-benefit pensions for both employer types held more assets than did the defined-contribution plans, although contribution levels in both sectors were higher than for the defined-benefit plans, attesting to the relatively mature status of the defined-benefit plans in both cases (generally, contributions decline as the workforce matures and moves into retirement).

Turning now to expenses, the data reveal that, among defined-benefit pensions, reported per capita total expenses were between \$90.00 and \$150 per participant per year (1992 dollars). By contrast, defined-contribution plan expenses were much lower, at \$31.00 per year for singles and \$97.00 per year for multis. The fact that they were lower is due in part to lower actuarial costs and in part to the fact that defined-contribution plans do not pay premiums to the Pension Benefit Guaranty Corporation (PBGC) for pension insurance. These expenses totaled 11 percent of contributions for single defined-benefit plans and 17 percent of contributions for multiemployer defined-benefit plans. Defined-contribution plans experienced lower expense rates, but again a sectoral difference is evident: expenses came to 2 percent of contributions for single-employer defined-contribution plans and 10 percent for the multis. In terms of assets, expenses came to 0.65 percent and 0.82 percent, respectively, for multiemployer defined-benefit and defined-contribution plans.

The data also show that both types of plans devoted a similar proportion of

26. Under ERISA, small plans do not face the same annual reporting requirements.

Table 10.9 Private Pension Plan (over 100 participants) Administrative Expenses (1992)

	Single Employer Plans			Multiemployer Plans		
	Total	Defined Benefit	Defined Contribution	Total	Defined Benefit	Defined Contribution
Expenses (\$million):						
Salaries and allowances	70	41	29	161	140	21
Accounting fees	176	36	140	41	33	8
Actuarial fees	287	269	18	59	55	4
Contract administrator fees	188	103	85	142	123	19
Investment advisory and management fees	1,471	1,159	312	566	508	58
Legal fees	39	26	13	89	76	13
Valuation/appraisal fees	15	7	8	2	1	0
Trustee fees/expenses	463	293	169	20	17	4
Other administrative expenses ^a	1,073	835	238	352	286	66
Total Expenses	3,782	2,769	1,012	1,432	1,239	193
Expenses as % of:						
Contributions	4.00	10.76	1.47	15.76	17.20	10.27
Total assets	.23	.30	.15	.67	.65	.82
Net assets	.24	.30	.16	.68	.66	.83
Expenses/participant (\$)	60.30	91.48	31.18	141.59	152.36	97.33

Source: U.S. Department of Labor (1996): assets: table C5, single; table C6, multis; expenses and contributions: table C10, single; table C11, multis; participants: table B.4.

the overall total expense to investment advisory and management fees—on the order of 40 percent of the total. Single-employer defined-benefit plans reported costs almost 20 percent lower than multiemployer plans. For defined-contribution plans, the single-multiemployer differential was even larger, with single-employer plans reporting costs about one-third those of the multiemployer plans. One reason that these costs differed so is that multiemployer plans spend more on legal fees, for reasons already explained. They also devoted more money to contract administration and salaries, as compared to single-employer plans.

More systematic studies of private pension plan administrative costs have been conducted by two research teams that focused on multiemployer pension fund expenses (Caswell 1976; Mitchell and Andrews 1981). Using multivariate econometric analysis, both studies concluded that economies of scale were prevalent in the pension industry. The former was limited to the construction industry; the latter examined a broader range of multiemployer plans using a cost function of the form

$$(3) \quad \text{expenses} = f(\text{participants, assets, \% retired, \% pooled}),$$

where annual plan expenses were regressed on the number of plan members and dollars of plan assets as well as the fraction of members retired and the fraction of the assets held in pooled funds. Data from the late 1970s were obtained from reporting forms filed under the Employee Retirement Income Security Act of 1974.²⁷ The results provided evidence of statistically significant scale economies in this set of defined-benefit plans. Specifically, holding constant the number of plan participants, increasing the plan's asset size by 1 percent (holding participants constant) was predicted to increase costs by only 0.27 percent; in other words, adding to existing pension plan asset pools is relatively inexpensive. Mitchell and Andrews (1981) also showed that, raising the number of plan participants by 1 percent (holding benefits payable constant) would raise pension administrative costs by 0.8 percent, or less than 1 percent. In other words, increasing the size of the participant pool by adding new members with comparable assets would raise costs less than proportionally.

An important reason to ask about variation in pension plan costs, of course, is because such variability in costs might correlate with fund performance. A multivariate regression study relating equity management fees to five-year annualized pension fund performance found that lagged strong returns were only weakly associated with higher subsequent fees (Lakonishok, Shleifer, and Vishny 1992). Nevertheless, the same study concluded that the equity portion of pension portfolios underperformed mutual funds by fifty to one hundred basis points between the mid-1960s and the mid-1980s, suggesting that high expenses might reduce fund performance.

27. Because the market for pension professionals was assumed to be national in scope, the lack of cross-sectional data on input prices was not deemed critical.

Costs of 401(k) Pension Plans

Over the last decade in the United States, a new breed of retirement saving vehicle has grown up, namely, 401(k) pensions. These plans are often thought of as a type of defined-contribution pension but have in fact become increasingly distinct in character from the old employer-directed defined-contribution pension accounts.

In a 401(k) plan, generally the sponsoring employer will select a set of investment vehicles to which participating contributors may direct their contributions; individual plan participants often have substantial flexibility over subsequent asset allocations. For example, many funds permit participants to inquire about their account balances and alter their accruals as well as new contribution flows via a twenty-four-hour telephone service center. In addition, many employers allow participants to take loans from their 401(k) plans, a feature that increases these plans' popularity but one that would also be expected to raise their operating expenses (Mitchell 1992). In addition, the 401(k) rubric encompasses a wide range of plan types and structures, including those funded by profit sharing, those with or without employer pretax match amounts, and thrift plans. Finally, given the fact that employers are concerned about liability for participants' investment choices, substantial funds are devoted to investor education efforts as well as periodic statements of accounts to participants.

In contrast to the old corporate (and public-sector) pension model, at the time of retirement participants in a 401(k) plan may select from a variety of different payout options (Mitchell 1992). One is to take the accruals in a lump sum (and perhaps roll it over into a tax-qualified individual retirement account); another is to use the funds to purchase an annuity; and a third is to accept a graduated payout in accordance with IRS requirements. Because these and other feasible payout options are tailored to the individual retiree, one might anticipate that 401(k) administrative costs would exceed those of conventional defined-contribution plans.

Evidence on the cost effect of plan flexibility is as yet preliminary. Assets in 401(k) plans total more than half a billion dollars. The ICI (1995a) data indicate that 401(k) plans have on the order of 18 million participants, with assets per participant running about \$26,000 (median \$16,000) and median overall contribution rates of \$2,286 per year (with 35 percent contributed by employers). Median record-keeping expenses reported by 401(k) plans in 1993 totaled \$66.00 per account per year, or 3 percent of annual contributions. Of course, to the extent that administrative fees are sometimes charged to the 401(k) plan sponsor, reported administrative expenses may appear unduly low (ICI 1995a). Nevertheless, one might anticipate that 401(k) plans would require somewhat more administration than individually purchased mutual funds, inasmuch as the tax-qualified plans permit participant involvement in the asset-allocation process and also require monitoring for tax purposes. On average, 20 percent of the 401(k) plans permit daily reallocation of accruals or new contributions; 12 percent permit monthly exchanges; 40 percent permit quarterly adjust-

ments; and only 20 percent limit changeovers to once or twice a year (ICI 1995a, 10). While permitting more transactions is attractive to many participants, industry experts point out that the practice raises costs. Also, almost three-quarters of the plans give out quarterly statements of participants' asset allocation and performance, and most devote substantial effort to marking their assets to market, many on an hourly basis.

Table 10.10 indicates average total expenses charged by 401(k) pension plans, costs generally attributable to start-up fees, annual per person service charges, loan fees, annual reporting fees, transaction charges, and approximately five to ten basis points for trustee charges, presumably mostly insurance (ICI 1995). As a matter of practice, money-management fees are not included in these tallies and must be added to obtain total expenses. The data indicate that average record-keeping expenses range from a low of 80 basis points in the short-term bond fund to 188 basis points in international equity funds, with the mid-range for equity funds around 140–150 basis points per annum. On an annual basis, the average per participant cost of administering a 401(k) plan appears to be between \$5.00 and \$55.00 annually, including nondiscrimination testing, quarterly statements, and investor information.²⁸

One of the most difficult issues in the 401(k) field is that the 401(k) plans often offer a life annuity at retirement, with the result that the product provided is distinct conceptually from a simpler money-accumulation plan. Figuring out what additional expense the insurance annuity adds, as distinct from the money-management and record-keeping costs, is not a simple matter. Some modest evidence in this direction compares expense ratios for small and mid-sized 401(k) plans with and without an annuity product embedded in the offering (see table 10.11). (Not reported are record-keeping and administrative fees, which are similar for both plan types.) Not surprisingly, it appears that administrative expense ratios are higher for 401(k) plans offering insurance annuities: the additional asset-based charge over the mutual fund investment options appears to be six to thirty-two basis points.²⁹

Public and International Pension Plan Administrative Cost Comparisons

It is useful to compare the private pension plan costs reported thus far with a range of other plans, as a method of gaining some perspective on the range of figures. Comparing expenses of large U.S. corporate plans with U.S. public-sector pension plans and endowment/foundation funds shows that fees paid to

28. The range of record-keeping costs for 401(k) plans suggested by industry experts is \$15.00–\$30.00 per year.

29. What is interesting is that, in the 401(k) plan containing only an index fund, adding the annuity costs increases costs by thirty-two basis points, while the annuity raises costs by only three to eight basis points for the money market, balanced, and equity accounts. This may be explained by the fact that few mutual funds offer an annuity product in the large institutional 403(b) marketplace and that reported data may therefore be skewed by an overweighting of smaller retail plans. Hence, adding the annuity charge appears to raise expense ratios by a low of 4 percent to a high of double, depending on the fund.

Table 10.10 Expenses for 401(k) Plans Holding Mutual Funds

	Exp. Ratio (%)	Assets (\$billion)
Short bonds	.84	46
Intermediate bonds	1.01	131
Long bonds	1.16	71
Balanced/total return	1.41	132
Income/utility	1.36	99
Growth/income	1.27	290
Long-term growth	1.44	340
Aggressive growth	1.58	136
Global bonds	1.54	39
International/global equity	1.88	175

Source: "Fund Scoreboard" (1996).

Table 10.11 Expense Ratios* for Small and Midsized 401(k) Pensions with and without an Annuity Product (basis points)

Type of Fund	Life Insurance Fund (401[k] with annuity) (1)	Mutual Fund (401[k], no annuity) (2)	Difference (1) - (2)	Ratio (1)/(2)
Equity	1.13	1.07	.06	1.06
Balanced	.85	.82	.03	1.04
Fixed income	.84	.66	.18	1.27
Money market	.5	.42	.08	1.19
International	1.53	1.32	.21	1.16
Index	.6	.28	.32	2.14

Source: Driscoll and Springsteel (1995).

*Asset-based charges (investment expenses) equal fiscal year operating expenses divided by average net assets. Both plans also levy record-keeping and administrative fees on plan sponsors.

outside managers totaled thirty-four basis points among public funds, as opposed to forty-five among the larger corporate funds in 1994 (Greenwich Associates 1995a, 1995b, 1995c). While the government-run plans are somewhat less expensive, there is little evidence of scale economies among this set of public plans examined: public funds with over \$1 billion in assets paid thirty basis points, as opposed to thirty-seven basis points for plans with less than \$100 million, whereas, in the corporate sector, plans with over \$1 billion in assets paid thirty-three basis points in expenses, as opposed to those with under \$100 million in assets, which paid fifty basis points (Greenwich Associates 1995a, 26). Nevertheless, no formal model was used in that study holding other factors constant; more will be said on this below.

As has been noted, corporate plan sponsors are not required to account for

all pension expenses separately, in contrast with more complete reporting in public plans. For instance, in 1994, 68 percent of U.S. corporate pension plans reported that the plan sponsor (typically a private employer) directly paid a portion of pension plan staff costs rather than charging the pension plan, but only 42 percent of public-sector plan sponsors devoted staff time to pension fund activities (Greenwich Associates 1995a, 35). The smallest public/private reporting differential found is in the area of investment-management fees, where 76 percent of the private pension funds and 77 percent of public plans reported that their investment-management fees were charged to the pension plan (Greenwich Associates 1995a, 35). Overall, fewer corporate funds charge actuarial fees, pension-consulting fees, and performance-measurement fees to the pension fund, as compared to the public plans. In general, then, the higher fees paid by U.S. private plans are probably still underreported.

Other data sets offer distinct comparisons between U.S. corporate funds and Canadian and British pension plan costs. Across these three groups, the U.S. mean (median) private pension expenditure on annual money-management fees is systematically the highest, at forty (thirty-eight) basis points, compared to Canadian corporate funds, which pay thirty (twenty-eight) basis points, and U.K. private funds, where the mean is twenty-two (eighteen) basis points. An examination of these countries' corporate pension fund-management expenses reveals that U.S. plans had higher average expenses, as compared to the two comparator nations (where funds reported expenses over fifty basis points only rarely) (Greenwich Associates 1995a, 26).

Other places to seek evidence on pension expenses are in the nonprofit as well as government pension plans. In the former case, complete expenses are reported only to the extent that the plan is charged full cost for expenses incurred in its behalf. A rather interesting case is that of the College Retirement Equity Fund (CREF), the nation's largest defined-contribution pension plan, covering employees in higher education and research institutes. It is a nonprofit institution and, for historical reasons, receives special treatment under ERISA law. CREF is a national plan, covering people in many different institutions, and employers participating in the system tend to cover most of the payroll-based costs as part of their own benefits function. This suggests that the CREF plan would appear to have lower costs as compared to a plan where all benefits and payroll-related costs were charged to the plan. The system is also quite responsive to individual participating employers, permitting cross-employer differences in contribution levels, rules regarding lump sum versus annuity payouts, and asset-allocation choices; these differences may drive up expenses. Additionally, CREF contributions include the value of annuity insurance since, strictly speaking, participants in the contributory phase purchase a deferred variable annuity. For this reason, costs would not be expected to reflect or to be directly relevant to those experienced by corporate pensions. In any event, it is of interest to inquire about CREF's expense structure because of its large scale and because some have suggested that this might be a viable model if social security should be partly privatized.

CREF costs are reported in table 10.12, where it will be seen that total expenses (including money management and record keeping) ranged from 0.29 percent of assets per annum for the money market fund to 0.42 percent for the growth fund (plan year ending December 1994). This narrow differential can be attributed to CREF's application of identical administration and distribution expenses (0.21 and 0.03 percent of assets, respectively) to all funds. As a result, the only source of reported cross-fund variation is due to investment advisory fees, which vary from 0.05 to 0.18 percent. Certainly, these are low levels of cost, and the differentials narrow in light of the expenses reported for other funds described above. It is possible that these lower figures, five to eighteen basis points, would characterize money-management fees if a large-scale funded government program modeled on CREF were to replace the current, mostly unfunded, social security system.

A different pension plan outside the corporate sector is the federal government retirement system, known as the Federal Retirement Thrift Investment Fund. This civil service retirement plan is reasonably large, including over 2 million participants and \$36 billion in assets, and is a contributory defined-contribution plan that may be allocated at the participant's behest into a stock fund, a bond fund, and/or a government securities fund. The 1996 annual report indicates that administrative expense ratios in this system total nine basis points; however, this figure excludes costs associated with collections of employer and employee contributions since an individual agency's or office's payroll system handles these separately. Even more striking is the low reported level of investment expenses—computed at under one basis point. This figure is indicative of the extent of scale economies feasible in a centrally managed, large defined-contribution pension plan that restricts its investment choices to a very small set of indexes (see table 10.13).

U.S. state and local pension plans afford another data point on large pension plan costs, but here defined-benefit systems are generally the norm.³⁰ In a recent study of more than three hundred public employee retirement systems with assets of \$791 billion and 10.6 million active members in 1992, administrative expenditures for these public employee pension plans averaged 9 percent of total pension contributions; median per participant expenses were \$130 per year (1992 dollars; Hsin and Mitchell 1994). This is comparable to private plan costs reported above (yet private plan figures may be biased downward for reasons already noted).³¹

30. In the last few years, however, a handful of states and municipalities have offered a defined-contribution alternative. For example, the city of Westminster, Colorado, provides defined-contribution plans for its police, firefighters, and general city employees, holding plan assets, \$43 million, for some 770 participants. Expenses per participant are reported at \$248 per year per person (1994 dollars). On a percentage basis, annual expenses total 0.45 percent of assets, or 5.4 percent of contributions. These expenses are allocated roughly two-fifths to operational expenses and three-fifths to money management costs.

31. These public plan costs could still be understated, to the extent that public-sector pensions probably do not fully account for collection costs, the use of public land and buildings, and benefits provided by other government agencies.

Table 10.12 1994 College Retirement Equity Fund (CREF) Administrative Expenses (%)

Type of Fund	Total Expenses	Investment Advisory Fees	Administrative Expenses	Distribution Expenses
Equity index	.32	.08	.21	.03
Stock account	.34	.10	.21	.03
Growth	.42	.18	.21	.03
Global equities	.41	.17	.21	.03
Social choice	.33	.09	.21	.03
Money market	.29	.05	.21	.03
Bond market	.30	.06	.21	.03

Source: CREF (1995)—data cover year ending December 1994.

The econometric analysis recognized that public-sector pensions might not operate on the economically efficient feasible frontier with minimum possible expenditures, inasmuch as public retirement systems usually are not subject to market pressures. Hence, a frontier cost model was estimated using a general multiproduct cost function of the form

$$(4) \quad \text{administrative costs}_i = f(\text{output vector, input prices; } \alpha) + \varepsilon_i,$$

where α is a vector of parameters, and ε_i is an error term made up of two independent components ($\varepsilon_i = v_i + u_i$, where v_i captures random error, and $u_i \geq 0$). Of particular relevance to the present work is the finding of substantial scale economies: among public-sector pension plans, a 1 percent increase in the number of plan participants raised pension administrative expenditures by 0.74 percent, holding assets per participant constant, and a 1 percent increase in assets *ceteris paribus* raised costs by less than half a percent. A more troubling finding was that some 30 percent of reported administrative expenditures was attributed to inefficiencies, although this figure was lower than those reported by other public-sector agencies.

Having measured pension plan inefficiency gaps, the analysis then explores factors associated with measured inefficiencies. The evidence suggests that public plans were more efficient when investment services were contracted out to private money managers. It was also found that granting pension boards authority over their administrative budgets reduced administrative efficiency, particularly when administrative budgets were picked up by the sponsoring employer (as opposed to having the pension fund cover its own costs). In general, therefore, administrative costs of public pension plans could probably be reduced somewhat, perhaps by as much as a third, with somewhat different reporting and management structures.³²

32. In related work, Mitchell and Hsin (1994) and Mitchell and Smith (1994) found that public plan funding and investment performance was related to the composition and responsibilities of the pension boards managing the plans. Specifically, funding and returns were lower when a pension plan had more participants on the board, when in-state investments were required, and when board members were not required to carry liability insurance. (See also Hsin and Mitchell 1997.)

Table 10.13 Federal Retirement Thrift Investment Board Financial Data (1995 dollars)

Summary Data, Federal Thrift Plan (year end 1995)		Data by Fund Type	
Average account size (\$)	16,500	U.S. Government Securities Investment Fund:	
Total participants (million)	2.2	Assets (\$billion)	12.8
Investments (\$billion):		Administrative expenses (\$billion)	.024
Total investments	26.5	Administrative expenses/assets (%)	.19
Net assets	36.3	Wells Fargo Equity Index Fund:	
Contributions (\$billion)	5.6	Assets (\$billion)	11.5
Participant	3.8	Administrative expenses (\$billion)	.008
Employer	1.8	Administrative expenses/assets (%)	.07
Administrative expenses (\$billion)	33.4	Wells Fargo U.S. Debt Index Fund:	
As % of net assets	.09	Assets (\$billion)	2.2
As % of total contributions	.59	Administrative expenses (\$billion)	.002
Investment expenses (\$billion)	.002	Administrative expenses/assets (%)	.09
As % of net assets	.006		
As % of total contributions	.03		

Source: Arthur Andersen LLP (1996).

Note: Expenses associated with collection of payroll contributions not included in expense figures. Fiduciary insurance premiums set at zero in 1995. Investment expense ratio not available on a per fund basis.

Trends in Pension Administrative Costs over Time

Estimates of trends in pension plan administration costs over time are relatively few, but one source is a recently revised and updated report on defined-benefit and defined-contribution pension plans over the period 1981–96 (Hustead, in press). Table 10.14 summarizes annual defined-benefit costs on a per person basis (in 1996 dollars) as computed from an actuarial simulation for a hypothetical plan and real cost trends over time.

The results indicate that average per participant costs rose rapidly for all sizes of plans and for both plan types, particularly during the latter half of the 1980s. Whereas annual private plan expenses stood at about \$23.00–\$26.00 per participant in larger pensions in 1981 (1996 dollars), by the mid-1990s the cost has risen almost three times for the defined-benefit pension plan and by almost double for the defined-contribution plan. Similar percentage changes characterized small pension plans, although the levels of administrative expenses for both plans are much higher because the smaller plans could less ably capture scale economies. In 1981, small plans of both types experienced per participant costs of under \$200 per year per participant in 1981, but, by 1996, defined-contribution costs were \$287 and defined-benefit costs higher than \$600 per participant per year. Large plans reported administrative costs of \$68.00 (defined benefit) and \$49.00 (defined contribution) per year in 1996. (It should be noted that these administrative expenses exclude investment management fees but that they do include Pension Benefit Guaranty Corporate premiums for the defined-benefit pension plan figures.)

Several explanations have been offered for the increasing cost levels as well as the rising differential between defined-benefit and defined-contribution plans; most prominent explanations are the increasingly complex nondiscrimination rules that plan sponsors must meet and the rising cost of insurance premiums for defined-benefit pension plans (Hustead, in press; Clark and McDermed 1990).

Table 10.14 Actuarial Analysis of Defined-Benefit Pension Administrative Costs per Person (1994 dollars)

Year	Size of Pension Plan					
	15 Participants in Plan			10,000 Participants in Plan		
	DB (\$)	DC (\$)	DC/DB (%)	DB (\$)	DC (\$)	DC/DB (%)
1981	184	131	71	22	24	110
1985	456	374	82	31	32	104
1991	518	259	74	62	46	74

Source: Author's calculations from Hay/Huggins (1990), 31, 39.

Note: DB = defined benefit. DC = defined contribution.

Overview

This investigation into pension plans of different types and in different sectors suggests several conclusions regarding pension administrative cost levels, differentials, and trends: (1) Large corporate pension plans reported total administrative costs of \$68.00 (defined benefit) and \$49.00 (defined contribution) per year in 1996. These costs have risen steadily in real terms over time. (2) Scale economies are significant for pension plans. Total administrative costs are much higher—perhaps five to ten times as high—on an annual per person basis, in company pension plans with fifteen versus ten thousand participants. (3) Overall pension plan expenses appear to be split approximately two-fifths to advisory and money-management fees and three-fifths to contract administration and salaries. Paying benefits in the form of an annuity adds additional costs, roughly six to thirty-two basis points over a mutual fund investment. (4) U.S. corporate pension plans report substantially higher money-management fees than do their Canadian and U.K. counterparts, at about forty basis points instead of twenty to thirty basis points. Corporate U.S. pension plans also report higher outside management fees than do public U.S. pension funds (where the latter devote about thirty-three basis points to outside fees). (5) Public- and nonprofit-sector pension plan expenses tend to be lower than corporate plan costs. For example, the CREF plan covering employees in higher education and research institutes reports devoting twenty-nine to forty-two basis points to expenses, with a constant fraction devoted to record keeping and distribution (twenty-four basis points) across plans. The Federal Thrift Retirement plan devotes nine basis points to administrative costs and less than one basis point to money-management costs. These figures should not be directly extrapolated to the private-sector arena, however.

10.3.3 Administrative Expenses in the Insurance Industry

Another line of inquiry pertains to the question of how well insurance firms could supply retirement annuities in the event that social security benefits were scaled down substantially. In this regard, it is important to address two issues: First, how efficient are privately managed insurance firms? Second, how well does the insurance market work as a whole? Presumably, the appeal of social security privatization would increase if private firms could be anticipated to fill the gap and to do so at relatively low cost.

In terms of the life insurance business in the United States, the American Council on Life Insurance (1995, 37) reports that life insurance firms in 1994 received some \$453 billion in annual premiums and investment earnings. On a per dollar of asset basis, expenses totaled 11 percent of annual income (16 percent of annual contributions) and amounted to some 2.6 percent of the asset base of almost \$2 trillion in 1994. Some 45 percent of the total expense dollar is devoted to selling costs or agents' commissions.

To date, much of the insurance economic literature has explored efficiency

in the property-casualty market (e.g., Cummins and Weiss 1995). As a rule, these studies estimate cost functions, and the availability of firm-level panel data has permitted the estimation of quite flexible functional specifications. A persistent problem acknowledged across all these studies is that it is difficult to measure insurance firm output and quality. Hence, persistent cost differentials over time between different lines of insurance and different distribution systems for the same insurance product turn out to be quite difficult to interpret (see Berger, Cummins, and Weiss 1995). Nonetheless, looking across the available literature, it appears that firms in the U.S. property-casualty insurance sector are operating inside their efficient production frontier by significant margins, suggesting room for reductions in system administrative expenses.³³

In addition to the general efficiency question just raised is a serious concern regarding how seriously adverse selection and moral hazard pose important real-world obstacles to the privatization of retirement annuities. Allowing individuals to elect whether to take their retirement accounts as a lump sum or as an annuity suggests that there are some potentially troubling weaknesses in the market for annuities. One influential study concluded that expected annual yields on individual life insurance policies were approximately 2 percentage points lower than on group policies owing to adverse selection (Warshawsky 1988). Other evidence suggests that purchasing individual annuities costs approximately two-thirds more than group purchase (Diamond and Valdés-Prieto 1993). These findings, along with the high and not necessarily efficient annual costs reported above, suggest that privatization of the insurance portion of the system would raise costs beyond current public provision of the old age annuity.

10.4 Relating These Findings to a Privately Managed Old Age Retirement System

How these findings might be relevant to a privatized social security system in the United States depends on the exact institutional structure that would be implied under such a reform. One option, dubbed the *maintain benefits* option by members of the Social Security Advisory Council, is to simply invest a portion of the existing social security trust fund in equities. This approach would leave intact the current revenue-collection mechanism, the Social Security Administration's record-keeping and benefit-payout functions, and all else; the only change would be that the government would now invest a portion of the fund, probably in an index portfolio (Quinn and Mitchell 1996).

Whether or not purists would deem this a real step toward privatization, it is nevertheless seen by many as a viable political possibility. Supporters argue that the SSA could earn higher rates of return than on Treasury bills; detractors

33. For studies of life insurance industry costs and efficiency, see Grace and Timme (1992), Fields and Murphy (1989), Gardner and Grace (1993), Yuengert (1993), and Zi (1994).

point to the fact that system participants may be forced to confront greater capital market risk than under the current defined-benefit plan (Mitchell and Zeldes 1996). In any event, it is plausible to argue that system expenses would increase as the government took on an additional money-management function, but the additional costs would probably be relatively small. If the trust fund were simply deposited in an indexed, passively managed mutual fund, administrative expenses would rise by as little as one to as many as twenty basis points, with the likeliest number being at the lower end of the range.

This figure relies on cost figures currently experienced by large, passively managed mutual funds; it could rise if more actively managed portfolios were chosen. Some analysts have expressed concern that political pressures would be brought to bear on a government-managed pension account worth, eventually, several hundred billion dollars.³⁴ To the extent that this did occur, expenses would be higher and investment performance lower than the returns offered by competitive privately managed mutual funds (Mitchell and Hsin 1994). This estimate also assumes that the government would continue to collect revenues, maintain records, and disburse benefits as now; in other words, the investment fee would be the only incremental charge over the system's current expenses.

A different approach to social security privatization is the proposal to establish a "personal saving account" (PSA).³⁵ This plan would require all participants to deposit a portion of their payroll taxes into individual private pension accounts managed by regulated but private fund administrators.³⁶ These pension managers would then invest participants' assets and pay out benefits at retirement. An important question regarding how such accounts might work in the United States has to do with how much self-directed investment would be permitted in the PSAs and how interfund competition would be regulated since the system's inception. In Chile, for instance, private pension fund asset-allocation decisions have been heavily restricted. There, workers may change pension allocations only three to four times per year (and must hold all their funds in a single pension fund at any given time), and fund managers face extensive regulation regarding asset composition, permissible (and prohibited) commission charges, and reserves. Although early in that nation's privatization drive administrative costs were quite high (about 23 percent of contributions or 14 percent of assets), these costs have dropped more recently (to 15 and 2.3 percent, respectively). It is, of course, inevitable that costs would be higher initially; the subsequent downward cost trend results partly from competition

34. Testimony of Sylvester Schieber before the Senate Finance Committee, 25 March 1996.

35. For further discussion of the Chilean system, see Diamond and Valdés-Prieto (1993) and World Bank (1994).

36. There is debate over whether this plan would be mandatory or optional and how funds would be collected. If contributions were collected at the individual level instead of continuing to use the Internal Revenue Service, collection costs could also be expected to rise substantially. Many of the issues raised in this discussion are taken up in Technical Panel on Trends and Issues in Retirement Saving (1995).

and partly from scale economies as assets have grown. Still, however, after fifteen years, the Chilean AFP pension system is relatively small by U.S. standards, having assets of around U.S.\$25 billion (Edwards, chap. 1 in this volume).

If a PSA system were mandated in the United States, system administrative expenses would clearly rise, but probably not as much as the high end of the costs experienced in Chile. Inevitably, specific cost rates would depend on specific plan design details, such as what investors are permitted to do with their funds, how often they can reallocate their investment portfolio, and what restrictions on fees and other rules are instituted. An optimistic assessment would take the Federal Thrift Plan numbers, where it will be recalled that only three relatively passively managed options are permitted. In that system, administrative expense ratios were nine basis points (excluding collection costs), and money-management expenses are estimated at less than one basis point. Obviously, fund charges could be higher if people opted for more actively managed accounts; recent research on 401(k) plans has concluded that the first cohort to have access to these plans chose fixed-income and guaranteed insurance company holdings, but younger participants have chosen equity funds by substantial margins (see table 10.15). The CREF plan offers many additional options and has estimated expense figures of thirty to forty basis points annually (including record keeping).

A PSA account system that required investors to place their contributions with mutual funds would probably experience higher administrative and record-keeping fees and would also probably incur costs associated with providing annuities. In terms of the former expense, if individual pension accounts were offered as add-ons to existing company-sponsored 401(k) plans, administrative costs would probably be on the order of \$50.00–\$60.00 per year. This assumes that the plan does not require (or offer) that benefits be paid out in an annuity. If one were additionally to require that benefits be paid as an annuity, costs would probably rise by an extra 10 percent of contributions, or \$100 per participant per year, extrapolating from multiemployer defined-

Table 10.15 Defined-Contribution Asset Holdings by Participant Age (%)

Proportion of Assets Held In:	Age of Plan Participant				
	21–30	31–40	41–50	51–60	61+
Fixed-income funds	41	43	49	62	85
Domestic equity funds	39	36	30	22	10
Balanced funds	6	8	11	8	1
Company stock funds	11	9	6	6	3
International equity funds	3	3	4	3	1

Source: Derived from Schieber and Goodfellow (forthcoming, table 4).

Note: Columns may not sum to 100 percent owing to rounding error.

contribution plan costs. This figure might be lower if, as the annuity market grew, private insurance firms experienced substantial scale economies; it might be higher if substantially greater adverse selection resulted from optional annuity purchases.

10.5 Conclusion

Opponents of social security privatization argue that privately managed systems are more costly to manage than public systems, and this is a charge that advocates must evaluate carefully. This paper contributes to the discussion by exploring a range of evidence on public and private pension system administrative expenses as well as the determinants of retirement system administrative efficiency in the United States and elsewhere.

The research shows that the administrative costs of providing old age retirement benefit services through a public system are often difficult to measure with precision. Conceptually, a comparison of public administration costs with private plan costs requires not only assessing the expenses incurred in delivering pension services but also controlling for the quality of services delivered. Available data fall far short of the desired measures. Nevertheless, evidence from international sources indicates that there are wide differences in retirement system administration costs from plan to plan and from country to country. Some of these differences are due to the level of privatization, but most appear to be attributable to particular institutional structures and management practices.

For example, the U.S. Social Security Administration manages a very large old age system at costs that are mid-range among developed nations, but these costs are low compared to smaller systems in smaller countries. Using several different metrics, these costs may be alternatively described as 0.7 percent of benefit expenditures, 0.4 percent of contributions, \$12.00–\$14.00 per covered worker per year (\$9.00 per participant in 1994), or 0.39 percent of system assets (the latter figure is, however, misleading because the system is mostly unfunded). In exchange for these costs, the U.S. social security system appears to do some things quite well. Focusing on the provision of benefits, for instance, there is reason to believe that most eligible retirees receive the benefit amounts to which they are entitled on time. On the other hand, the posting of workers' earnings to system computer files could be improved, although this delay causes no particular problem under current rules. Under current rules, the U.S. social security system bears relatively small expenses for the collection of revenues and virtually nothing for money management since funds must by law be invested in special issue Treasury bills.

These figures were compared with expenses reported by a range of other financial institutions that might be potential players in a privatized social security system. Data from both retail and institutional mutual funds, private and nonprofit pension plans, and insurance companies were collected. Each of

these private alternatives produces a somewhat different mix of outputs, with varying types of participant tailoring and service. The data suggest that adding a privately managed individual savings account to existing mutual fund or 401(k) plans would be relatively low cost, with money-management fees potentially ranging between one and twenty basis points (for a passively managed indexed portfolio) and administrative costs of perhaps \$50.00 per year. Money-management costs could be substantially higher for more actively managed funds.

If a group model were taken as the likely prototype of a privatized system, such as a national TIAA-CREF-type or Federal Thrift-type plan (and the range of options were limited quite substantially), investment costs have been estimated to be on the order of a basis point or less per year. Administration costs would be potentially on the order of twenty to thirty basis points, judging from available evidence. In addition, one must add the costs of providing longevity insurance if annuities are to be guaranteed.³⁷

Even if a privately managed defined-contribution system would result in somewhat higher administrative costs compared to the current pay-as-you-go system, these higher expenses would have consequences that many would find appealing. These additional expenses make possible a system that handles the pension system's necessary functions with greater alacrity while permitting workers to undertake more active asset management in their retirement portfolios. A variant of this approach has been suggested by several members of the 1994–96 U.S. Social Security Advisory Council: under this scenario, the government would offer and manage three to four funds among which plan participants could choose. This approach would also result in higher administrative costs as compared to the current social security system, but it would still permit some of the advantages of having individual accounts.

All the privatization options considered here would be expected to cost somewhat more in administrative expenses than the current publicly run plan in the United States, but the precise level of administrative costs in a privatized social security system will depend crucially on the specifics of the plan proposed. Costs will rise, experts believe, if actively managed funds are permitted, if twenty-four-hour call-up access were allowed, and if participants can obtain loans from the funds. Some of the variants would also entail higher collection costs, reporting expenses, and insurance annuity costs. A lower-cost system would require only a few investment options with little hands-on participant access and infrequent reporting. Offsetting these additional costs, of course, are potentially substantial economic benefits flowing from having a privately managed system (Feldstein and Samwick, chap. 6 in this volume; Kotlikoff, chap. 7 in this volume; Quinn and Mitchell 1996; Mitchell and Zeldes 1996).

37. This is one aspect of the current social security retirement account that might continue to be managed by the government, although encouraging the formation of groups for insurance purposes may suffice.

These benefits could include the opportunity for participants' contributions to earn a higher rate of return than that feasible under the public program, the possibility that labor supply and savings disincentives would be diminished, and a reduction in the political risk regarding future benefits.

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Comment Sylvester J. Schieber

In her paper, Olivia Mitchell presents an extensive analysis of the costs of administering a wide range of retirement programs. She investigates the costs of administering programs operated under several different structures. She looks at public and private plans as well as defined-benefit and defined-contribution plans. Finally, she evaluates U.S. plan administration costs and those of national retirement plans around the world.

I draw conclusions from Mitchell's paper and from the discussions in and about other papers presented at the conference and apply them in sketching out possible administrative structures for a U.S. personal investment option of the sort considered by the Social Security Advisory Council in their deliberations during 1995 and 1996. I also look at some of the existing models and explore their relevance as appropriate administrative structures for personal investment accounts.

One of the major conclusions that comes from this paper and other discussions at the conference is that there are tremendous opportunities to realize economies of scale in administering retirement plans. We see that the relative costs of administering the U.S. social security system have fallen over the years as coverage and benefits have expanded. Sebastian Edwards showed us (chap. 1 in this volume) that the costs of administering Chile's plan, as a percentage of assets in the personal accounts, has fallen significantly over the life of the plan now operating there. Mitchell shows us the same kinds of economies of scale in the administration of private and public employer-based retirement systems in this country.

In order to put into context the potential size of the system that might arise if the United States were to allow personal accounts of the sort included in

the personal saving account (PSA) proposal considered by the Social Security Advisory Council, we can compare the potential here in the United States with the situation in Chile. For example, Edwards has told us that Chile's system has accumulated \$25 billion over one and a half decades of operation. By comparison, if the PSA proposal were implemented on 1 January 1998, the PSA accounts would hold roughly \$25 billion by the middle of March of that year. In today's dollars, these accounts would surpass \$0.5 trillion within five years, \$1 trillion within nine years, and \$2 trillion within seventeen years. Once again, by way of comparison, James Poterba and David Wise (chap. 9 in this volume) tell us that 401(k) assets equal \$600–\$700 billion today. Under the PSA proposal, employees' annual contributions to their individual accounts would equal two to three times current contributions to 401(k) plans. In other words, the PSAs would become a very large collection of personal retirement assets in a relatively short time. If nothing else, the size of the accumulations would make it important that we be efficient in the administration of the program.

In developing an administrative structure to support a program like that envisaged in the PSA proposal, we would have certain advantages over many of the countries that have set up mandated individual retirement programs. For example, when Chile began its program, it had no long-term bond markets. Indeed, it found it necessary to create a whole new system of funds for the investment of the personal accounts that developed under the new system. In our case, we already have a highly developed marketplace of asset types and funds available for the investment of the funds that would result from the adoption of a personal account proposal. And, as Mitchell has documented, many of these are operating at levels of administrative costs, at least on the asset-accumulation side of the system, well within the range of assumed costs of one hundred basis points per year used in developing the PSA proposal now before the Social Security Advisory Council.

In her paper, Mitchell points to some existing systems as potential administrative models for the personal account system that we might adopt here in the United States, namely, TIAA/CREF and the Federal Retirement System (FERS). The thing that is attractive about both these systems is that they operate with extremely low administrative costs. While low costs are important, the costs of services should not be the only consideration in setting up whatever administrative structure we might adopt if we move forward with a PSA-type proposal. In recent years, dissatisfaction with the range of investment options, with flexibility to move assets, and with the level of services provided by TIAA/CREF has led a number of participating institutions in that program to offer an alternative set of investment and annuity options. The FERS system has been held out as a potential model for management of the individually accumulated funds in some U.S. reform proposals. FERS has an extremely limited set of investment options that many participants do not find sufficient to meet their needs and is currently considering a more typical set of offerings provided by employer sponsors of these types of plans.

While TIAA/CREF or FERS might not be the exact models that we would want to adopt under a personal account system, I believe that we should structure a system that would allow most workers to invest through group arrangements. In the consulting that Watson Wyatt does with employers on the administration of their 401(k) plans, we find that workers often prefer to use their employer plans as a means to consolidate their retirement savings into a coordinated set of investment options. I believe that the licensing of many existing investment offerings would allow employers to offer sets of widely available existing investment options to their employees in coordination with 401(k) offerings already being offered by those same employers. I believe that licensing is important because many employers will be reluctant to take on the fiduciary obligations of selecting and validating such plans on their own.

In discussing potential administrative costs with some of the organizations that would administer PSAs if we were to adopt such a program here in the United States, I have been told by several of them that, if the government were to impose annual administrative cost limitations of fifty or seventy-five basis points, we would still see many firms offering their funds for PSA investments. Even without those limits, we might expect PSA administration costs to be less than current 401(k) costs for several reasons. As noted earlier, PSA contributions under the option considered by the Social Security Advisory Council would be about two to three times the level of contributions to 401(k) plans. Another would be because the PSAs would not be required to do the same kind of discrimination modeling and testing that are required of 401(k) plans. Finally, costs would likely be lower because of the revolution going on in the administration of these types of plans. The ability to move money between funds, to get balances in accounts, etc. without the intervention of a human being on the administration end of plans is expanding rapidly. These technological advances will significantly reduce the cost of individual account plans in the future.

On the annuity front, there is still much work to be done. The proponents of the PSA proposal at the Social Security Advisory Council did not develop this facet of the proposal as fully as others. The whole issue of requiring annuitization is one that was discussed and garners a wide range of opinions. The thinking in not requiring annuitization of the personal accounts in the PSA proposal flowed from the analysis of benefit levels provided through the floor of protection in the flat benefit. Specifically, the analysis indicated that, for the prototypical “low-wage workers,” the flat benefit alone would provide a level of real benefits roughly comparable to the level of benefits provided under current law. For the “average”- and “maximum”-wage workers, the flat benefit would dip below the poverty line by up to \$100 per month for a ten- to fifteen-year period but would exceed current poverty levels beyond that. The question faced in developing the PSA proposal was at what level it was appropriate to set a required annuity floor of protection. Some people would clearly set it higher than the PSA proponents did.

Mitchell's paper pulls together a great deal of information on retirement plan administration costs. It makes an important contribution to the discussion about personal retirement account policy options. The issue of reasonable administrative cost assumptions was one of the most acrimonious elements of the Social Security Advisory Council's deliberations over PSAs. While this paper does not tell us definitively what these costs might be, it helps us understand some of the reasonable boundaries that we face.

Discussion Summary Jeffrey Liebman and Andrew Samwick

The discussion began with a participant noting a trade-off that exists in other countries' public retirement schemes. A means-tested first tier of benefits is very expensive to administer but relatively cheap to fund. In contrast, a high flat-rate benefit for the first tier is cheap to administer but expensive to fund. Since no one is actively proposing either one of these plans for the United States, the author also pointed out a similar trade-off that exists in disability insurance programs: the government can spend more on screening and less on benefits to those who are marginally eligible for the program, or it can spend very little on screening and wind up paying out greater sums to beneficiaries. Both examples served to highlight the possible interactions between the administrative and the funding costs of retirement schemes.

Questions then began to focus on the cost data that were reported in the paper. A suggestion was made that it would be useful to have information not just on average total costs but on the breakdown of the whole cost function into, for example, fixed and variable costs. Two other ways of presenting the cost data were also suggested: the marginal cost of another dollar of assets under management and the marginal cost of another person in the fund. A question was raised as to whether the author was double-counting costs in mutual funds or 401(k) plans because many of those funds waive the record-keeping fees. It was also noted that the figures presented are *charges*, rather than costs.

The participants commended the author's emphasis on the distribution of costs. Quoting the *ranges* of costs is important because the money-management and insurance industries are composed of imperfectly competitive markets. It was then noted that the Social Security Advisory Council had assigned costs of five, ten, and one hundred basis points to the MB (maintenance of benefits), IA (individual account), and PSA (personal security account) plans, respectively. These figures are all within the ranges presented in the paper for analogous schemes, but it was also pointed out that privatized plans like the PSA plan that do not completely eliminate the current system would have all the current system's administrative costs *plus* these other costs.

The last point of discussion was that an additional cost of a privatized system would be that of regulating the management of the funds. One proposal that has been associated with the IA plan is to allow the federal government to set up its own fund that would follow a passive investment strategy and therefore have low administrative costs. Many participants expressed concern that, although this default option could put competitive pressure on private funds to keep their charges low, there was a grave risk of the government fund abusing its soft budget constraint.