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SUPERANNUATION AND SOCIAL SECURITY IN AUSTRALIA AND THE UNITED STATES

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Like other industrialized countries Australia and the United States have legislated systems to assure adequate income to the elderly. This paper compares some features of those systems in the two countries, considers the risks inherent in a privatized pension system and describes the Social Security "crisis" in the United States. There is a similarity between the former risk and the latter crisis that has implications for social policy in both countries.

Similarities in the Australian and US Systems

The Australian Commonwealth government has two major provisions for income for the elderly: the Age Pension and the Superannuation Guarantee. The first is paid from general revenues; and the second by the employer's contributions in the worker's name. Similarly, in the United States the federal government has made two major provisions for income for the elderly: Supplemental Security Income, paid from general revenues; and Social Security, paid for by an earmarked payroll tax, half of which is collected from the employer and half from the employee. (In both countries there is a third tier in the form of favorable tax treatment of private saving for retirement.)

Both the Australian Age Pension and the American Supplemental Security Income are age, means and incomes tested and are not dependent upon prior participation in the workforce or prior payment of

taxes or contributions. The Age Pension is more generous than Supplemental Security Income, but in neither country does the first tier provide an income as large as the officially defined poverty threshold. However, in both countries there are additional, non-money income, programs for which senior citizens or pensioners are eligible and these can add significantly to the real income of beneficiaries.

The Australian Age Pension dates from 1909 when the national government assumed responsibility for programs begun in the later years of the 19th century by several of the state governments. The Superannuation Guarantee Contribution was established in 1992 to extend the tax advantages enjoyed by existing private superannuation plans to all workers and to contain the cost of the Age Pension.

The US Social Security Act of 1935 was a response to the Great Depression; and it was enacted after several of the state governments had established programs of income support for the elderly. Supplemental Security Income was established in 1972, in order to provide some minimum incomes to those who are not covered by Social Security or whose Social Security benefits are extremely small.

Thus, each country has as its bottom tier a social safety net to guarantee some minimum income to the elderly. Chronologically, the Age Pension was the first step in the Australian system, and Supplemental Security Income was the second step in the American system. That aside, the Australian and American bottom tiers are substantially the same, but the second tiers are fundamentally different, and it is to these that we devote most of our discussion.

The Australian Superannuation Guarantee Contribution (SGC)

The Australian Superannuation program is a defined contribution plan, a private pension plan, albeit mandated by the federal government. Contributions are made by the employer to a fund the ownership of which is vested in the individual worker. When introduced in 1992 the contribution rate was 3% with provision for it to increase by increments

to the present 9%. Payouts to workers upon retirement are dependent upon the accumulated value of their individual funds.

The word "contribution" is used by the Australian government to describe the Superannuation Guarantee payment by the employer, and the same word is used by the US government to describe employer and employee payments into Social Security. Economists are in general agreement that whether paid by the worker or by the employer, payroll taxes and social insurance contributions are borne by the employee. Neil Warren (1998: 90), of the Australian Tax Research Foundation, has argued that the SGC is a tax.

Writing about a proposal for a similar plan in the US, John B. Shoven argues that a mandatory pension contribution would **not** be a tax.

Payments to your own account, even if mandatory, are not taxes. The money is held in your name and will benefit you and/or your beneficiaries... To differentiate this program from a tax increase, simply ask yourself when the government allowed you to designate how you would like your taxes invested for your benefit... When you pay taxes you give up title to the money and cannot control how it is spent (Shoven 1999: 169).

By Shoven's definition the SGC is not a tax. In Australia the accumulated value of the individual worker's Superannuation Guarantee fund becomes part of a deceased worker's estate. However, the Social Security contribution is a tax. Although Social Security contributions are based on the wages of the individual worker, they are not vested in that worker's name, and there is only a tenuous relationship between the amount of contributions and the pension benefit. The matter of inheritance is crucial to Shoven's argument. In the American Social Security program there is no right of inheritance if a worker dies before receiving an amount of benefits equal to his contributions. There are survivors' benefits, but these do not represent the accumulated value of the worker's contributions, nor are they transferable to other persons, as an inheritance would be.

What does "Superannuation Guarantee" Guarantee?

Grammatically the phrase "superannuation guarantee contribution" appears to describe a contribution to guarantee superannuation income, but as with all defined contribution programs, it is the contribution not the income that is guaranteed. The great question confronting Superannuation is whether the income it provides will be adequate. Unless "adequate" is defined to mean an income well below the worker's pre-retirement wages, the answer to that question must usually be "no", and it will often be "no" even for workers who have always been as well paid as the average and who have saved for retirement.

Private saving for retirement, even when that saving is mandated by the government, places the burden of risk upon the individual. Cognizant of the element of chance, individual planning for retirement should include careful selection of the year in which to be born. The consequence of differences in birth years is dramatically illustrated in the following example for the United States.¹ Consider a worker who experiences average wages during a forty year career and each year contributes 6% of those wages to a fund of corporate common stocks. Assume also that each year the fund earns the average dividend and capital gain of all listed securities. Let the worker retire at age 62, at which time the accumulated retirement fund is converted into an annuity. For a worker retiring in 1969 the annuity would replace 105% of the pre-retirement wage. But for a worker only six years younger the annuity income would replace only about 40% of the pre-retirement wage. For workers retiring in other years of the twentieth century the retirement income might be as low as 25% of the pre-retirement wage. The simplest accident of birth, the year of its occurrence, will produce significant differences in the retirement incomes of workers who are alike in every other characteristic.

Private saving and private pension plans might be relied upon to provide adequate retirement income for those who enjoyed high incomes and secure employment during their working years and who were, like the 1969 retiree in the example above, lucky in the timing of their

¹ The example in this paragraph is from Aaron and Shoven (1999: 63).

investments. But this does not describe most workers. Additionally, management and transaction costs will reduce the average investor's returns to below the market average, and unless all workers select the same investment portfolio, which is extremely unlikely, there will be a distribution around the average portfolio earnings each year. Even small percentage differences attributable to deviations around the average net return will produce very large variations in the accumulated value of workers' investment funds and replacement rates. We calculate that workers who realize 9% annual returns on their invested savings will accumulate sufficient funds to produce a retirement income only 74% of that enjoyed by workers who realize 10% returns. Workers who realize 6% annual returns will have retirement incomes only 33% of that enjoyed by the workers who realized 10% returns. These comparisons are for workers all of the same age, who have the same earnings year by year, who contribute the same percentage each year to a retirement fund and who retire in the same year. The differences in their retirement incomes would be due entirely to differences in the net returns earned by their pension funds holdings. Thus for some, probably significant, proportion even of those workers who enjoyed a career of steady employment at average wages, and prudently saved for retirement, separation from the workforce will mean a severe reduction in income.

The Australian Superannuation Guarantee assures that a certain proportion of a worker's earnings will be saved and invested to produce a retirement income. It does not assure any minimum level of retirement income. The assurance of some minimum income is the function of the Age Pension, which acts as an income insurance program for all elderly Australians and is funded from general revenues. The existence of the Age Pension means that the risk inherent in private saving for retirement is not borne entirely by the individual but is shared by the general taxpayer.

We have been speaking of some "minimum level of income" or some "adequate income" for the elderly. Legislation usually will define an adequate income for the elderly as some number of dollars, not as some percentage of the individual's pre-retirement earnings. In Australia, "The aim of the age pension is to provide an adequate safety net payment to older people unable to support themselves financially in their

retirement," and, "...the Commonwealth Government has introduced legislation to support its commitment to maintaining the single rate of pension at a minimum of 25% of Male Total Average Weekly Earnings" (Department of Social Security, 1996: 20). In any year this policy will define the maximum pension as a number of dollars, unrelated to that individual's pre-retirement income. Similar statements relating to Supplemental Security Income can be found in publications of the U.S. Social Security Administration.

The American Social Security Program - Brief History

The Social Security Act of 1935 established a program of cash payments to persons 65 years of age and older who qualified by paying an earmarked tax on their wages and salaries. The tax, initially at a rate of one percent on employer and one percent on employee, was levied on a worker's earnings up to a maximum of \$3,000 per year. Benefits would also be paid to survivors (widows and orphans), and the program bears the name Old Age and Survivors Insurance (OASI). In 1951 the self-employed were brought into the program.

In 1957 Disability Insurance was added to the program, providing the income benefit to individuals who were separated from work and earnings not by age but by physical disability. Since then the program has been named Old Age Survivors and Disability Insurance (OASDI). It is the history and future of this program that we are discussing here. The contribution rates (taxes) for OASI and DI are notionally separate, and the programs have separate trust funds. However, the same persons are trustees for both programs, the Social Security Administration operates both programs and the benefit formulas for the programs are similar.

Since 1990 the combined OASI and DI tax rates have been 6.2% on employer and 6.2% on employee, levied against the first \$87,000 of the employee's wages. This maximum taxable amount is subject to automatic adjustment each year based on increases in average wages.

That both the employee and employer shares of the payroll tax are borne by the worker is something on which all economists seem to agree. The

tax is regressive. For workers earning up to the taxable ceiling the tax rate is 12.4%. For workers earning above the ceiling the tax rate declines with earnings. At twice the ceiling the effective tax rate is 6.2%. At three times the ceiling the effective tax rate is 4.13% and so on. There are at least two other reasons why the tax is regressive. First, the tax applies only to labor income, and compensation for labor services decreases as a proportion of income as total income increases. Second, the tax applies only to compensation paid in the form of money and the ratio of non-money compensation to total compensation increases as compensation increases. The social security tax may be progressive at the lowest income levels where non-taxable income transfers are a larger share of income than are wages.

Social Security Benefits

As we have seen, private pension investments such as the Superannuation Guarantee offer the possibility of a retirement income larger than a worker's pre-retirement income but offer no guarantee of any minimum retirement income. The American Social Security program offers no possibility of replacing 100% of one's wages. Instead it sets a replacement rate that is inversely related to the level of pre-retirement wages, and the benefit is not dependent upon the accumulated value of the worker's contributions.

Workers retiring in 2002 who earned the average wage each year during their work careers would receive a benefit that replaces about 40% of their monthly wage during their last year of work. Workers who earned half the average wage during their careers would receive a benefit that replaces about 53% of their monthly wage. Workers who earned the maximum taxable amount (currently about two-and-a-half times the average wage) during their careers would receive a benefit that replaces about 25% of their monthly wage. Thus, the expenditure side of the program is redistributive in favor of lower paid workers.

The Social Security Trust Fund

By law any excess of revenues over expenditures must be placed in the OASI and DI Trust Funds, which are required to hold only special public debt obligations. These are non-marketable bonds issued by the US Treasury, with an interest rate set by law. Interest on these bonds is added to the trust fund each year. In most years the OASDI program has run a surplus. The operation of the program for 2002 is summarized in Figure 1. Two of the components of Social Security receipts are curious. One of these is "Taxation of Benefits". As part of the Social Security reforms in the "Big Fix" of 1983, one-half (now 85%) of OASDI benefits are taxable under the federal individual income tax for recipients with total income above a certain level. Any income tax collected in this fashion is earmarked as revenue of the Social Security program. It is the major instance in which part of the federal individual income tax revenue is earmarked. (The only other instance of federal income tax earmarking is the Presidential Election Fund, to which taxpayers can elect to dedicate one dollar of their income tax.)

Figure 1. OASI and DI Operations, Billions of Dollars, 2002

Receipts		Expenditures	
Payroll Taxes	532.5	Benefits	457.4
Taxation of Benefits	13.8	Admin. Expense	4.2
Net Interest	<u>80.8</u>		—
	627.1	less	461.6
$627.1 \text{ less } 461.6 = 165.5 \rightarrow \text{US Treasury}$			
↓			
Bonds to OASDI Trust Funds 165.5		←←←←←→→→→→ 165.5 To General Government Expenditures	

The other curious component of Social Security income is "Net Interest". Each year the US Treasury pays to the OASDI trust funds the stated interest on its special debt obligations. If the Treasury had paid no interest to the trust funds in 2002, then the program receipts would have been 80.8 billion dollars less, the program surplus that the Treasury received would have been 80.8 billions dollars less, and so the amount of bonds that it issued to the trust funds would have been only 84.7 billion dollars. A modified Figure 1, below, shows two expenditure flows from the Treasury. One flow, 80.8 billion dollars, will loop around and become the Net Interest inflow to the Social Security Administration. The other flow, 84.7 billion dollars, will go to General Government Expenditure. From this perspective excess OASDI receipts in 2002 financed not 165.5 but only 84.7 billion dollars of general government expenditure. During the period from 1990 through 2002 the OASDI Trust Funds increased by \$1.2 trillion. Much of the well-publicized federal budget surpluses of the late 1990s consisted of surplus OASDI taxes.

The Coming Crisis

Social Security has enormous unfunded liabilities. The nominal value of the trust funds is far less than the present value of benefits to which current and retired workers are entitled. Social Security is and always has been a pay-as-you-go system, transferring income from current workers to retirees. Each year the OASDI Trustees report three alternative projections: intermediate (most likely), low-cost (most favorable), and high-cost (least favorable). By 1997 the Trustees' projected that the OASDI trust funds would be exhausted in 2029 when the youngest boomers were 66 years old and one year short of their normal retirement age. This was the intermediate projection. According to the low cost estimate in the 2003 Trustees' Report the OASDI trust funds will not be exhausted within the planning horizon. The intermediate estimate is that the trust funds will be exhausted in 2042, and the high cost estimate is that the trust funds will be exhausted in 2029. But there is an earlier critical date; the year in which scheduled

low, intermediate and high cost projections. That the program will run a deficit is an element of risk that is borne by the general taxpayer. This is an important difference between a defined private saving system such as that mandated by the Superannuation Guarantee Contribution and a defined benefit program such as Social Security.

When a program is running a deficit the only choices are to increase revenues or to decrease expenditures or to do some combination of the two. When the first critical date of Table 1 occurs, then either taxes must be raised or benefits must be reduced, or some combination of the two must be done. Yet the necessity for such action is obscured because there are so many people who believe, or who profess to believe, that the Social Security Trust Fund exists. For the elderly this may be psychological denial. For politicians it may be a refusal to say honestly what a large number of voters do not want to hear. In either case it is a way of thinking that action can be postponed until the second date, and optimistically, postponed forever.

Those who say that the Trust Funds exist, claim that when the first critical year arrives, it will not be necessary to raise taxes or cut benefits. It will only be necessary to cash in the bonds that the OASDI trust funds hold. But the bonds are obligations of the federal government, and the government can redeem them only by diverting money from other uses, either from public spending, which means cutting other programs, or from private spending, which means raising taxes.

The Demographic Problem

A major part of the financing problem of Social Security in the 21st century is the "Baby Boomers", the cohort born between 1946 and 1963. By the mid-1980s they were all old enough to be in the workforce, and their earnings contributed to the sizeable surpluses that the program has experienced since then. The oldest of the Boomers will be eligible for early retirement in 2008, and by 2030 all of them will be eligible for full retirement benefits.

The Boomers are a one-off phenomenon, though there is a secondary boom, the children of the Boomers. There are other important

demographic changes. When Social Security was established, with a retirement age of 65, the life expectancy of an American male was less than 64 years. Life expectancies are now 77 for men and 82 for women, and increasing. When Social Security began the fertility rate was 2.23 children per woman, and that was near the end of the Great Depression. The fertility rate was above 3.5 in the late 1950s, but has since decreased to barely above 2.0 and is projected to decrease to below 2.0 before leveling off in the mid-2020s. In short, there will be fewer young workers entering the workforce to pay taxes to support programs for the benefit of aged retirees. There has also been increased labor force participation and earnings by women. Aside from the Baby Boom, all of these changes appear to be permanent, and along with other phenomena, e.g., extended time in schooling, produce the core demographic problem of social security illustrated in the middle column of Table 2.

Table 2: Social Security's Demographic Problem

Year	Covered Workers ^a per Beneficiary	Covered Workers ^a per Dependent ^b
1945	41.9 ^c	-
1950	16.5	0.72 ^d
1960	5.1	0.80
1970	3.7	0.92
1980	3.2	1.11
1990	3.4	1.25
2000	3.4	1.41
2010	3.2	1.33
2020	2.6	1.23
2030	2.2	1.10
2040	2.1	1.10
2050	2.0	1.09
2060	1.9	1.05

^aCovered workers are those whose earnings are subject to OASDI tax. It is now virtually the entire labor force.

^bDependents are all persons over 65 years of age or under 20 years of age.

^cNumbers in this column are from *OASDI Trustees Report 2003*, Table IV.B2 Figures from 1945 to 2000 are historical data. Figures from 2005 onward are Trustee estimates.

^dNumbers in this column are from Peterson (1999: 90).

If benefits are to be maintained at the target replacement levels, then it seems that the tax rate on those in the workforce must be increased. Table 3 shows the Social Security tax rates that would be necessary to maintain program benefit levels under the conditions of the low-cost, intermediate and high cost estimates. The tax rate rises above the current 12.4% in the year when scheduled benefits begin to exceed tax revenues. Under the most favorable conditions OASDI tax rates stop rising by mid-century, but under the least favorable and even under the most reasonable set of assumptions the tax rate continues to rise for the entire planning horizon.

Table 3. Payroll Tax Rates Necessary to Pay for Scheduled Benefits in Critical Years

Year	Low-Cost Estimate (%)	Intermediate Estimate (%)	High-Cost Estimate (%)
2015	11.07	12.18	13.51
2020	12.50	13.92	15.53
2025	13.76	15.61	17.66
2029	14.58	16.88	19.45
2041	14.68	17.76	21.46
2080	14.32	20.09	29.08

A Common Problem and a Copernican Question

The demographic problem is not unique to the United States. The nations of Western Europe are faced with a problem that is similar in kind but more severe in degree, and Australia faces the same demographic problem. Nor does the demographic problem exist only where retirement income is funded by taxes. Social Security transfers income from current to retired workers by means of taxes. The Superannuation Guarantee transfers income between the same two

groups by exchanging ownership of private sector securities for money.² Social Security depends for its success upon the willingness of future workers to pay high tax rates to support future retirees; and the SGC depends for its success on the willingness of future workers to pay high prices to buy securities for their pension funds that future retirees will be selling from their own pension funds. It is at this level that the Superannuation Guarantee and Social Security are fundamentally similar. Each requires that future workers transfer income to future retirees. The SGC appears to place the greater burden of risk on the individual, but the existence of the Age Pension displaces part of this risk onto the general taxpayer. Nor does it appear certain that the market risk borne by Australian workers through the SGC is any greater than the political risk borne by American workers through Social Security.

Wallace Peterson of the University of Nebraska proposed a different way of looking at the problem by asking what he called a "Copernican Question". The right-hand column of Table 2 is from Peterson's 1999 book, *The Social Security Primer*. Peterson suggested that we look not merely at Social Security beneficiaries, but at the entire dependent population and at the ratio of workers to dependent population. During the middle of the 20th century, the ratio was low because of the large number of dependent children in the Baby Boom. In the early years of the 21st century the ratio is high because the Baby Boomers are in the workforce. Aside from these periods the ratio of covered workers to dependents in the United States shows little variation over the period from 1950 to 2075. Peterson's conclusion is that each year during all of this long period each worker is responsible for supporting approximately the same number of dependents.

An implication that Peterson sees in these ratios is that the sort of tax rates that we saw in Table 3 are not unreasonable. Until the advent of social welfare legislation, most transfers took place within the family. But there have been dramatic changes in the family, including the declining fertility rate that we saw earlier and the decreasing occurrence

2 King (1999) provides a lucid comparison of the similarities and differences between the two versions of intergenerational income transfers.

of the extended family. Having fewer family members to support, a worker is more able to pay higher taxes to transfer income to strangers.

Whether this **ability** to pay higher taxes will translate into a **willingness** to pay higher taxes will be the subject of political debate in the coming years. Certainly, it would be undesirable to raise the rate of a regressive tax that is particularly burdensome to low income workers. However, there are other ways to increase the receipts of the OASDI program in order to maintain benefit formulas. These include: eliminating the ceiling on taxable earnings; broadening the definition of taxable earnings to include non-money compensation for labor services; and funding the Social Security program from the federal individual income tax. The present payroll tax is, after all, a tax on income, but it exempts all income except wages and salaries and then taxes those regressively.

Conclusion

From the perspective of Peterson's Copernican question the problem of Social Security is as much a political as an economic problem. What tax burden are current workers and other income earners willing to bear in order to provide an adequate income to the elderly? The Age Pension in Australia and Supplemental Security Income in the United States are each a guaranteed minimum income supported from general revenues, but in both countries that minimum is less than the officially defined poverty threshold. Although widely described as a savings and pension program, the USA's OASDI is and always has been a transfer of income from current workers to retired workers. If it is more socially desirable to provide higher incomes to the elderly who have worked than to those who have not, then the Social Security benefit formulas provide a means to do this. These benefit formulas could be retained while eliminating the payroll tax and supporting the OASDI from general revenues, specifically from the broader based and more equitable federal individual income tax.

The Australian Superannuation Guarantee also is intended to provide a higher income in old age to those who have worked than to those who have not, and the size of the difference is intended to be a function of

income during pre-retirement years. Yet, as we have seen, there must be a great deal of uncertainty about the amount of retirement income that a worker will eventually receive from any defined contribution plan. Under Australian Superannuation the individual worker bears the risk of poor performance of his superannuation fund, but the general taxpayer shares in this risk, because if the individual's fund performs poorly, then the taxpayers will be called upon to provide an Age Pension.

At a number of points in this paper the word "adequate" has been used to describe the income that each government seeks to provide to the elderly. We asked the question above, "What burden are current workers and other income earners willing to bear in order to provide an adequate income to those who are separated from the work force because of age?" The definition of adequate income is central to the question and its answer.

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