Chapter Summaries

Chapter 12: Social Insurance – Social Security

Chapter 12 has two main goals, one general and one specific. The general goal is to describe why there is a demand for social insurance. The specific goal is to analyze the call for reform of the pensions provided by the U.S. Social Security System.

The chapter begins with the basis of the *demand for private insurance*.

1. The basis for *private insurance* is that people are risk averse, that is, they have diminishing marginal utility of income. The utility gain from an increase in income is less than the utility loss from an equal decrease in income. Insurance lets people smooth their incomes over time, paying a premium that reduces their incomes when times are good, and receiving an insurance payment when a bad event occurs that would otherwise lower their incomes.
2. Insurance is *actuarially fair* if the expected insurance payment equals the premium. Insurance is *full* if the payout covers the entire value of the loss. The optimal policy from an individual's point of view is actuarially fair, full insurance because it removes the uncertainty. The insured receives an income equal to the income if the bad event does not occur minus the premium whether or not the bad event occurs.
3. People who are risk averse are willing to pay a premium greater than the actuarially fair premium to turn an uncertain situation into a certain situation. This is why private insurers can make a profit selling insurance.

The chapter next considers why private information on the part of the insured leads to a demand for social (government provided) insurance.

4. If the insured have private information about themselves that the insurers cannot know, then private insurers are vulnerable to the problems of adverse selection and moral hazard.
5. Adverse selection arises when the insurer is forced to set one premium for all the insured because it cannot distinguish between the high- and low-risk insured. The low-risk insured pay too high a premium, so they drop out, leaving the insurers with an ever higher risk (“adverse”) pool of insured. Eventually the premiums may be beyond what the higher risk insured are able to pay, and the market collapses.
6. Moral hazard has both a direct and an indirect effect. The direct effect is that the insured can affect the probability of the occurrence of the event being insured against, unbeknown to the insurers. The indirect effect is the increased cost to the insurers because of the increased incentive to accept the insurance. A common form of moral hazard with social insurance is the insured giving up private or self-insurance in favor of accepting the government-provided insurance.
7. It is not optimal for the government to offer full insurance because full insurance maximizes the moral hazard costs. The provision of partial social insurance is optimal when the marginal benefit equals the marginal cost. The marginal benefit is the consumption smoothing effect of insurance, which decreases as partial insurance moves closer to full insurance. The marginal cost is the moral hazard cost, which increases as partial insurance moves closer to full insurance. Also, partial social insurance may not pass an overall cost–benefit test if there is a lot of crowding out of private insurance and the direct moral hazard costs are high.

The next section of the chapter describes the pensions under the Social Security System.

8. Revenues for the Social Security System are collected throughout a person’s working years from a payroll tax that is split evenly between employers and employees.
9. The monthly pension, called the primary insurance amount (PIA), is determined by a formula based on the highest 35 years of earnings. The PIA schedule is progressive, with low-income earners receiving a disproportionately higher PIA than high-income earners. Because the PIA is based on past earnings, Social Security is a defined benefit system.
10. The full retirement age, when the maximum pension can be received, has been increasing in steps from 65 in 1983 and will eventually reach 67 by 2012. People can begin to receive a reduced pension at age 62.
11. Social Security was operated on a pay-as-you-go basis, with current payroll taxes financing current benefits each year, until 1983, when the payroll tax and full retirement age were increased to build up a Trust Fund for the baby boomers. The Trust Fund was projected to be drawn down to zero by 2058, after which the system would revert again to pay-as-you-go, assuming no further reforms. That projection

turned out to be too optimistic. The Trust Fund for pensions is now projected to be depleted by 2043.

12. Economists analyze the economics of public pension systems with the overlapping generations (OLG) model. The basic OLG model with one retired and one working generation predicts that: 1. A fully funded defined contribution plan, in which funds are invested on behalf of workers and the pensions are based on the returns earned on the investments, has no effect on the economy. 2. A pay-as-you-go, defined benefit plan transfers resources to the initial retired generation from all succeeding generations. The first generation receives the full transfer. The second generation receives in return when it retires the initial transfer increased by the growth in the payroll tax revenues, g, where g is the rate of growth in wages plus the rate of growth in the labor supply. But the second generation loses, because g is less than r, the rate of return to capital. Since the older generation has a higher marginal propensity to consume, consumption rises and saving falls. The decrease in saving implies less investment, and therefore less capital and a less productive economy. Using simulations from a simple OLG model, Auerbach and Kotlikoff estimate that the U.S. Social Security pensions lead to losses to the economy equivalent to 6.9% of lifetime resources.
13. The increase in consumption (decrease in saving) may not be as large as these simple models predict for any or all of the following reasons: the initial retirees may bequeath some of their increased resources to their heirs rather than spending them; some of the younger workers are credit constrained, so that their marginal propensity to consume equals one and the payroll tax represents forced saving; people may be myopic and not follow the Life Cycle Hypothesis as the OLG model assumes; and a substantial percentage of U.S. saving comes from foreign citizens, so that a dollar less of personal saving by U.S. citizens lowers total U.S. saving by only 40 to 60 cents.
14. The Social Security pensions redistribute income within generations because of the progressive PIA formula and across generations because of the transfer to the initial generations. The intergenerational transfer is huge. Diamond and Orszag estimate that the legacy debt (missing assets plus accumulated interest) because of the transfers to the generations who retired before the 1983 reform is $11.6 trillion.
15. The social insurance dimension of the Social Security pensions is that the market for private annuities is handicapped by private information. Both the timing of retirement and time spent retired (the expected lifetime) are uncertain, but individuals have better information about both uncertainties than do the insurers. Therefore, adverse selection arises. The insurers offer a single annuity yet from their point of view there are low-risk individuals (relatively unhealthy, with short life expectancies) and high-risk individuals (relatively healthy, with long life expectancies). The high-risk individuals tend to buy the annuities, which leads to a thin, high-priced market.

16. Other problems besetting private annuity markets that can be used to justify public pensions are: the advantages of annuities to provide income for retirement are not well understood; most annuities are not inflation protected because insurers cannot protect against general risks, such as inflation, that affect everyone; public pensions provide protection against market risks that private annuities cannot offer; public pensions have much lower administrative costs.
17. Some of the disadvantages of public pensions are: moral hazard costs, in the form of incentives to retire early and the efficiency losses associated with payroll taxes paid in years that are not used to compute the PIA (the payroll taxes paid in the highest 35 earning years are benefit-received taxes and are therefore not an issue); and the forced saving represented by the payroll tax for those who would otherwise not save as much.

The chapter concludes with a discussion of the pros and cons of privatizing some or all of the Social Security Pensions, as proposed by the Bush administration but rejected by Congress.

18. The main pressures on the current system come from three sources: the retirement of the baby boomers, which will lower the ratio of workers to retirees from 3/1 in 2000 to 2/1 by 2040 (the ratio was 16/1 in 1950); increased life expectancies coupled with increase wage inequality (the payroll tax has a cut-off level of income, so that a higher percentage of wage income is exempt from the tax); and the huge legacy debt, which is so large that most reform proposals fall short of achieving a fully funded system.
19. Those who favor the current system, which can be maintained with manageable increases in the payroll tax rates and the full retirement age, tend to:
    a. believe that people misunderstand the advantages of annuities, so that receiving Social Security pensions increases their well-being;
    b. support the redistributions that occur within and across generations under the current system;
    c. think that the moral hazard costs of the current system are low, especially the efficiency costs of the payroll tax;
    d. are not concerned about the political risks to the Social Security pensions.
20. Those who favor privatizing some or all of the Social Security pensions tend to:
    a. believe that people are rational and should be allowed to make their own decisions regarding investments for retirement;
    b. believe that people are entitled to the higher return, r, available in the market rather than the lower return, g, under the Social Security System;
    c. believe that public pensions should not redistribute income beyond protecting the poor;
    d. believe that the moral hazard costs of the Social Security System are high because the efficiency costs of the payroll tax are high.