Demographics, Social Security Reform, and Labor Supply

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At this point, it is nearly impossible to escape discussion of the aging of the baby boom and its implications for Social Security. No set of reasonable demographic and economic assumptions yields a forecast of long-term solvency for the program as it exists today (Board of Trustees 1997; Congressional Budget Office (CBO) 1997). Some reform is necessary. The open questions are which reforms and when.

Among proposals for Social Security reform, the most prominent in recent discussion have been the three plans of the 1994–1996 Advisory Council. Together these plans present a wide array of policy options, but most striking are two: (i) individual defined contribution accounts and (ii) worker discretion over investment of the money in these accounts. I will refer to these reforms as *individualization* and *investment discretion*, respectively. Typically combined under the heading of *privatization*, each represents a distinct departure from the current program. Individualization would reduce income redistribution through Social Security and shift the program more toward a worker pension plan. Investment discretion would shift greater responsibility for old-age income variation (that is, risk) back to the individual worker.

Many proponents of privatization claim that these reforms would increase investment and employment, while putting the Social Security program on a path to financial solvency. This paper focuses on the labor

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market consequences of privatization, as presented in the Advisory Council plans.

No Advisory Council plan represents a complete shift to a privatized program. The Maintain Benefits plan (MB) rejects the idea entirely and recommends the current program with relatively minor changes. And each of the other two plans—Individual Accounts (IA) and Personal Security Accounts (PSA)—represents a combination of a *privatized* program and a *social* program.

The social programs in all three Advisory Council plans share some characteristics with the current program. All retain disability and family benefits. All allow for some income redistribution and old-age income insurance by using a lifetime annuity defined-benefit structure.[1] And a majority of Advisory Council members (including proponents of each plan) recommends certain changes: (i) use of longer earnings histories to calculate average earnings (38 years, versus 35), (ii) a shift of benefits from couples to survivors (by reducing spouse benefits and increasing survivor benefits), and (iii) increases in the normal retirement age (beyond increases already scheduled under the 1983 Amendments and perhaps indexed to official mortality statistics).[2]

In addition to these changes, the IA social program also uses more progressive proportions than the MB plan and current program when converting average lifetime earnings to a benefit level, and the PSA plan uses a flat benefit adjusted only for years worked (the simplest defined benefit possible). Both plans thereby reduce dependence of the social benefit on lifetime earnings, relative to the MB and current program benefits. But along with these changes, the IA and PSA plans also reduce the importance of the social program benefit. The fractions of the payroll tax allocated to the social programs would be about seven-eighths in the IA plan and two-thirds in the PSA plan, versus all of the tax in the MB plan (as in the current program).[3] The rest of Social Security income in the IA and PSA plans would depend on contributions to individual accounts based on lifetime earnings and on market returns to individual accounts.

The individual accounts programs in the IA and PSA plans would

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[1] A single-life annuity is a stream of income for the remainder of a worker's life, and a joint-survivor annuity also provides income for the rest of his or her spouse's life. A real-valued annuity maintains real annuity income at the initial income level. Current Social Security benefits are real-valued joint-survivor annuities.

[2] Under current law, the normal retirement age is the age of eligibility for full retired worker benefits, and the early retirement age is the initial age of eligibility for retired worker benefits that are reduced for early receipt.

[3] The denominators of the fractions reported here are total payroll taxes, including amounts described as contributions to pay-as-you-go social programs, contributions to individual accounts, and the tax to cover social program benefits during the funding transition (specific to the PSA program). The numerators include contributions to pay-as-you-go social programs and the transition tax.

also have different features. Only the IA program would be administered by a government agency; the PSA program would rely on the private sector. And only PSA individual account balances could be received as lump sums at retirement; all IA individual account balances would be annuitized at retirement.

This paper considers the potential effects of privatization on labor supply decisions of prime-age workers (roughly ages 25 to 54) and retirement decisions of older workers. The paper concludes that neither existing theory nor existing empirical evidence supports a general prediction about the effects of privatization on labor supply. Worker responses to individualization and investment discretion could be quite sensitive to the relative sizes and specific provisions of both the social and the privatized programs in a plan. And the effects of reform would almost certainly depend on worker characteristics. On balance, it is not clear that privatizing Social Security would increase aggregate employment under the IA plan, the PSA plan, or any close alternative.

Prime-Age Workers

Predictions that privatization would increase labor supply during prime-age years generally hinge on a major change in workers' perception of the payroll tax due to individualization.[4] The argument proceeds as follows: First, individualization would mean a tighter real link and (as important here) a tighter perceived link between the payroll tax and future benefits. Second, the tighter tax-benefit link would make a worker regard the payroll deduction more like a contribution to his or her own retirement security and less like a tax without individual benefit. Third, the worker would act as if he or she faced a lower payroll tax. And finally, the worker would work more hours if employed and would be more likely to become employed if not employed already.

While attractive in its simplicity, this argument has several weaknesses. First, we do not know exactly what workers think about the current relationship between future benefits and the payroll tax, or exactly how reform would alter these beliefs. Empirical evidence on asset levels suggests that current prime-age behavior might be based on incomplete (or simply inaccurate) information about future old-age income from Social Security and pensions. Personal savings are low.[5] But it is not clear that giving a worker an individual account would have any effect on the worker's beliefs about the Social Security tax-benefit link.

Second, if reform actually does alter a worker's perception of the tax-benefit link, the direction of this change might not be consistent with

[4] See, for example, the discussion by Siegel (1997).

[5] See, for example, Gokhale, Kotlikoff, and Sabelhaus (1996).

the tax reduction assumed here. The split between social and privatized programs might make a worker expect lower old-age income than expected in the current program or the MB plan. Less redistribution between families is generally recognized as a possible consequence of individualization, because relatively less money would go to the social programs with direct redistribution in their structures. And increased variability of old-age income resulting from investment discretion could make a worker even more pessimistic about likely returns on payroll taxes.

A third issue is the magnitude of this perceived change in the tax-benefit linkage. One factor that could affect this magnitude is the proportion of the payroll tax directed to the individual account. Under the assumptions made here, the greater the share of the payroll tax allocated to the individual account, the greater the perceived change in retirement income is likely to be. And the greater the perceived change in retirement income, the greater the perceived change in the tax-benefit linkage.

The size of the perceived change in future retirement income might also depend on worker characteristics. Relatively young workers might have a negligible reaction to changes in future retirement income simply because they discount retirement income over a very long period. And working in this same direction would be the effect of aging on the likelihood of living to retirement. As the survival probability rises with age, the likelihood of receiving retirement income from any source rises. These two factors—discounting and the probability of reaching retirement age—could both increase the effect of privatization on a worker's perception of the payroll tax as a contribution to his or her future retirement income as the worker aged. Of course, operating in the opposite direction would be the effect of aging on the period left to accumulate returns on account contributions. Overall, it is not clear which age effect would dominate.

Health represents another characteristic that could influence a worker's reaction to reform, and its likely effect seems more clear-cut. Good health would increase the likelihood of receipt of retirement income, which could increase the change in a worker's perception of the payroll tax. Poor health could have the opposite effect.

Of course, even if we assume that individualization would result in a large perceived cut in the payroll tax, the labor supply response of prime-age workers to any sort of tax cut could be negligible. A positive labor supply response to a tax cut requires that the substitution effect outweigh the income effect on labor supply.[6] Without this assumption,

[6] The substitution effect refers to the substitution of market goods and services for time spent outside the labor market when the price of being out of the labor market (the wage)

economic theory is ambiguous—and existing empirical evidence seems too weak to support any claim about a general increase in labor supply. Findings suggest that tax cuts might have a positive effect on the labor force participation of married women and possibly a small positive effect on their hours worked, but evidence for married men and unmarried women generally indicates no significant effect.[7] In both cases, however, we should probably interpret the existing evidence cautiously. Most findings on taxes and labor supply are based on data that are now decades old, and it is not clear that these results apply today.

Figure 1 shows labor force participation rates for five-year birth cohorts of women ages 20 to 64, based on annual averages of data from the monthly Current Population Survey between 1955 and 1995.[8] Most striking in this diagram is the inter-cohort growth in participation during the prime-age years of 25 to 54, which was due primarily to the increased participation of married women. In recent years, however, inter-cohort changes for women at ages above 24 have nearly come to a halt.[9] It is not clear that a perceived change in the payroll tax would greatly affect this tapering.

Figure 2 presents a comparable cohort diagram for men. In contrast to the pattern for women, age-specific labor force participation rates for men have declined at an increasing rate over the last two decades —creating slack at all ages. Why this decline has occurred is not fully understood. It may be time to take a fresh look at the determinants of labor force participation and hours worked by prime-age men.

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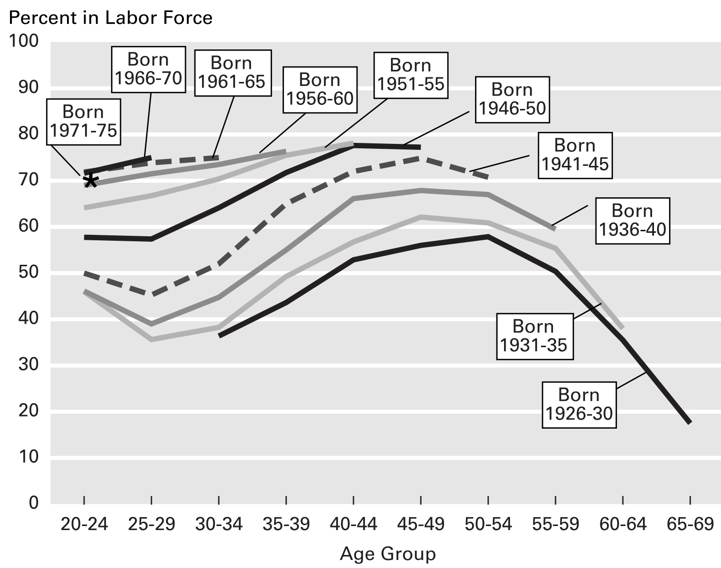
goes up, holding all other prices and total potential income constant. Generally, we assume that the substitution effect is negative, that is, that people shift away from goods that have price increases (nonmarket time in this case) and toward other goods that are made relatively cheaper (market goods and services here). This translates into an increase in labor supply. The income effect is the effect on consumption and labor supply of the increase in potential income from working any amount in the labor market due to the increase in the after-tax wage. We generally assume that the income effect of a price increase is negative for normal goods and services. In our case, the tax cut increases potential income at every level of labor supply, and this increase in income tends to reduce labor supply and increase time outside the market. Thus, the sum of the substitution and income effects may be positive, negative, or zero.

[7] Blundell, Duncan, and Meghir (1995) present recent evidence of positive responses from married women in Great Britain. Surveys of the labor supply literature for both men and women are presented by Killingsworth (1983), Heckman (1993), and CBO (1996).

[8] The labor force consists of employed and unemployed persons, and the labor force participation rate is defined as the percentage of the population in the labor force. Each line connects the labor force participation rates (measured vertically) at specific ages (measured horizontally) for the women born in the indicated 5-year interval; the group is called a birth cohort. For example, the 1926–30 cohort had a labor force participation rate of 36 percent when ages 30 to 34 and a participation rate of 44 percent when ages 35 to 39. The years of measurement are 1960 and 1965, respectively. The next cohort, born in 1931–35, had a participation rate of 49 percent when ages 35 to 39 in 1970.

[9] The participation decline for women between the ages of 20 and 24 reflects increased school enrollment and relatively low participation rates for students.

Figure 1
Labor Force Participation Rates of Women, By Age, For Five-Year Birth Cohorts



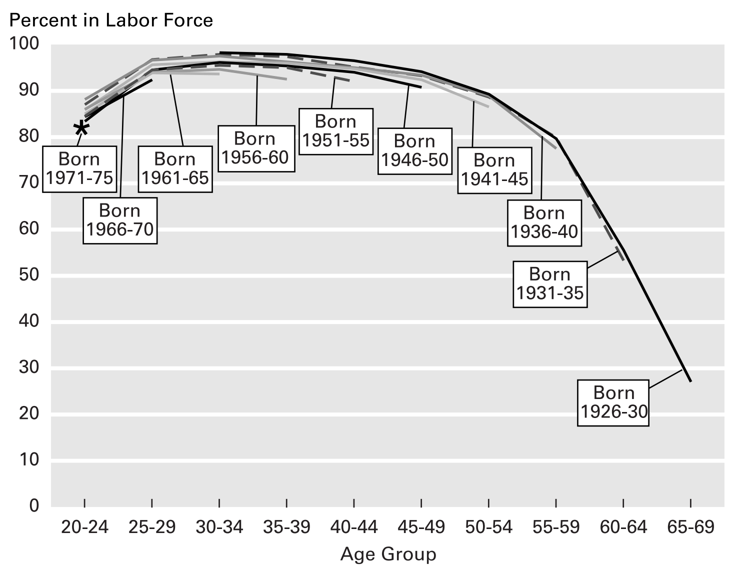
Source: U.S. Department of Labor, Bulletin 2340, August 1989, for data prior to 1960; Bulletin 2307, August 1988, for data between 1960 and 1987; *Employment and Earnings,* January 1991 and January 1996, for 1990 and 1995 data.

Family Benefits

In addition to changes in workers' perception of the payroll tax, other aspects of the proposed privatization plans could also affect prime-age labor supply. Among the more important of these could be changes in income redistribution within families—particularly for women.

It is generally recognized that the current Social Security program redistributes income among workers. As noted above, this redistribution would be reduced in the IA and PSA plans, but not eliminated. Redistribution *within* families is rarely mentioned, but it is also an important part of the program. Currently, husbands, wives, and children of retired and deceased workers may receive benefits based either partially or fully on their spouses' or parents' earnings histories. In fact, most women beneficiaries actually receive benefits that are based at least partially on their husbands' earnings (Social Security Administration 1996). Because of the increase in female labor market activity over the past several decades, we might expect this dependence on spouse and survivor benefits to fall in the future. But a comparison of the age-specific labor force participation rates in Figures 1 and 2 suggests that women's labor force participation is

Figure 2
Labor Force Participation Rates of Men, By Age, For Five-Year Birth Cohorts



Source: See Figure 1.

not likely to catch up with men's participation any time soon. Data on earnings within couples show a similar pattern. Thus, it appears that most prime-age women today would be likely to collect benefits based on their husbands' earnings during widowhood, if not before, under current law.

Direct benefits for dependent spouses and survivors would continue to exist in the social programs under the IA and PSA plans, but the levels of these benefits would differ from current levels in a somewhat complicated way.[10] The spouse benefit would be reduced as a result of both the general reduction in social program benefits and the shift of benefit income from dependent spouses to survivors. The survivor benefit would also be reduced by the scaling back of social benefits, but the shift in benefits from dependent spouses to survivors would tend to offset this reduction. Given the importance of these spouse and survivor benefits for women to date, these changes could have the most significant effects on female labor supply.

[10] The term spouse benefit is used when the worker is alive, and the terms survivor benefit or widow benefit are used when the worker is deceased.

Income Uncertainty

To this point, we have focused primarily on possible effects of individualization on labor supply, but giving workers investment discretion might also have an effect. Some proponents of privatization argue that investment in the stock market would yield higher rates of return on payroll taxes than provided under current law. This is subject to debate. But whether or not this is true, workers would have greater uncertainty about their future old-age income.

The exact level of a worker's retirement benefit under current law and the MB plan would be unknown prior to application for Social Security benefits. The initial retired worker benefit would depend on a worker's insured earnings history, economywide wage growth, and the worker's age when benefits commence. Total Social Security income would also depend on the worker's own length of life and the earnings and length of life of current and former spouses. All of these factors would also determine the social benefit in the IA plan, but only the number of years worked would affect the level of the PSA social benefit. Of course, there is always the political uncertainty that program rules and benefits could be changed by legislation, even after the enactment of major reform.

With discretion over investment, a worker's market knowledge, attitude toward risk, and sheer luck could all influence his or her account balance. The time paths of work experience and account contributions, relative to the time path of stock market performance, could also play a role. A worker who contributes to an individual account invested in stocks during a period of market growth would earn higher returns than a worker who contributes during a period of slow growth, for example. And the proportion of the payroll tax allocated to the individual account would clearly affect the extent of a worker's uncertainty about total Social Security income.

One response to greater uncertainty about old-age income might be less consumption. Another response might be more work. A worker's desired response would depend on his or her preferences and other sources of old-age income, including pensions, asset income, and spouse income.

Older Workers

Shifting our focus to older workers, our main concern becomes the effect of reform on the retirement decision. In general, previous studies of the effects of Social Security rules on retirement (including the effects of benefit reductions for early retirement and the earnings test) have found evidence of limited program effects.[11] But these findings should be interpreted carefully. There are potentially important questions about the applicability of many findings due to the lack of information about pension rules faced by workers and the age of the data analyzed.[12]

One finding that persists across studies is the large spike in retirement at the Social Security early retirement age (now age 62). And one explanation for this spike is liquidity constraints. If a worker would like to retire before the normal retirement age but has little income from sources other than work, the worker might retire when eligible for early retirement benefits—even though the monthly benefit is lower than the amount that would be received at the normal retirement age. For a worker in poor health or a worker with family members who need extensive care, for example, the value of nonmarket time and discounting of future income might offset the reduction in the monthly benefit for early retirement.

It is not obvious that individualizing Social Security or giving workers investment discretion would directly influence the timing of retirement—but some provisions of individual account programs could have a significant effect. Perhaps most important would be distribution of the individual account balance as a lump sum at retirement (as in the PSA plan), versus conversion to a mandatory annuity (as in the IA plan). If liquidity constraints play the key role in workers' decisions about the timing of retirement, replacement of an annuity with a lump sum might further encourage a worker to retire before the normal retirement age in the social program. A worker could choose his or her own income level if given the lump sum (albeit within some bounds). Indeed, some workers might use their claims on future lump sums as collateral for personal loans to finance retirement before the earliest eligibility age for reduced benefits. But not all workers might respond to lump sums this way. Some workers might regard their potential lump sums as too low to retire with confidence, and therefore delay their retirement date.

Women may be less likely than men to retire earlier if a lump sum distribution is available. A study of the Social Security delayed retirement credit (Honig and Reimers 1995) reports empirical evidence of a significant work response from older women in their sample (who were white and nearly all unmarried), but not the older men (who were also white, but nearly all married).[13] Among possible explanations for this gender

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[11] The earnings test taxes earnings after commencement of benefits. For discussion of the retirement literature and references, see the surveys by Advisory Council (1997), Lumsdaine (1996), and Weaver (1994).

[12] See the appendix for additional discussion of data for retirement research.

[13] The delayed retirement credit increases retired worker benefits when benefits commence after the normal retirement age, which is the age of eligibility for full Social Security benefits. The early retirement age is the age of eligibility for reduced benefits.

difference in results is longevity. Since women tend to live longer than men, they could expect to collect the delayed retirement credit for a longer period than men under the current annuity benefit structure. This interpretation suggests that women might remain in the labor force longer if individual account balances are distributed as annuities, rather than lump sums.

Looking to the future, the normal retirement age is scheduled to rise from 65 to 67 under the 1983 Amendments to the Social Security Act —and a majority of the Advisory Council members recommends even further increase. The response of workers to features of the individual accounts program could be affected significantly by this increase in the normal retirement age. Access to the individual account balance (or to a loan based on the account balance) before the normal retirement age, in particular, could induce more workers to retire early if the normal retirement age were raised.

Of course, the effect of any feature of a privatized program on retirement decisions would probably be negligible if a worker expects a small share of old-age income to come from the individual account. It follows that the effects of reform on retirement decisions would depend on the relative sizes of the privatized and social programs in a plan (as determined by the allocation of the payroll tax and the relative rates of return across programs). They would also depend on the amount of old-age income from other sources available to the worker—including pensions, income based on a spouse's labor market activity, and asset and other income. And the availability of a post-retirement health care plan could play an even more important role than income in early retirement decisions, particularly for workers with histories of poor health or dependents in poor health.

Conclusion

As we look to the future, we can probably count on productivity growth to contribute to our capacity to pay for the retirement income and health care of a rapidly growing population of retirees. Changes in immigration policy may also affect the size and age distribution of the work force, relative to the rest of the population, and thus help handle the burden. On balance, however, predictions based on any set of reasonable economic and demographic assumptions suggest that such changes will not be enough to sustain the current Social Security program in the long run. Some Social Security reform will be necessary.

A potentially important claim about proposals to privatize Social Security is that privatization would increase labor supply, allowing greater growth in the economy over the long run. A review of existing evidence, however, shows that we cannot make a general prediction about the effects of privatization on labor supply. Worker responses to both individualization and investment discretion could be quite sensitive to the relative sizes and specific provisions of both the social and the privatized programs in a plan. And labor supply responses would almost certainly depend on worker characteristics, including age, gender, and skill level.

In our discussion, we have focused on the supply side of the labor market. Of course, not all workers may find work, even if they want it —or at least work at an acceptable wage. Even with today's low unemployment rate, significant demographic and skill variation in unemployment exists.

Future labor market opportunities might improve for both prime-age and older workers as the baby boom generation leaves the work force. Evidence suggests that the entry of baby boomers into the labor market pushed unemployment up and pushed wages down, relative to where they would have been (Flaim 1990; Welch 1979). Will these effects be reversed when boomers leave the labor market? If wages and employment opportunities improve, will these changes encourage workers to delay retirement or return to the work force? As we consider options for Social Security reform, we must not lose sight of potential developments on both the supply and the demand sides of the labor market that could affect the outcomes of reform.

Appendix: Data for Retirement Research

Limitations of the data sets used in past retirement research complicate the interpretation of many reported findings. Most studies have used worker and household data sets that lack information about the pension plan rules faced by workers (such as eligibility ages, early and late retirement penalties, and timed bonuses) and workers' Social Security earnings histories. This is potentially serious, because employers often coordinate pension plans with Social Security rules. Without this pension and Social Security information, it is impossible to sort out the separate effects of Social Security rules and pension provisions on retirement behavior. In light of these problems in household and worker data sets, some studies have turned to data sets for workers in one, two, or a few firms. These data sets have essentially the opposite characteristics. Detailed pension information is available, but the samples are not representative of the U.S. work force and relatively little information about workers' personal and household characteristics is available.

To answer open questions about the potential labor market consequences of Social Security reform, we clearly need better data than we have had available. Comprehensive data that cover worker and household characteristics, defined-benefit and defined-contribution pension plans, and Social Security records are essential. On this note, we have cause to be optimistic. The Health and Retirement Survey (HRS) is a new longitudinal survey of men and women, initially in their fifties. Detailed administrative records are already being attached to the data set. Efforts are also ongoing to merge pension and Social Security records with the National Longitudinal Survey data for old and new cohorts, as are efforts to merge Social Security records with the Survey of Income and Program Participation. Future research will undoubtedly use these data to further inform this important debate.

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Discussion

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This thought-provoking paper by Theresa Devine focuses on labor market trends and Social Security reform and examines both whether Social Security reform is likely to affect these trends and how these trends will influence the consequences of Social Security reform. She argues that neither theory nor empirical evidence from recent data provides a clear-cut answer. The predictions of theory are often ambiguous, and either the findings of empirical work are mixed or are not independent of regime shifts, or the empirical work still remains to be done.

I will argue that the past can inform the current debate on Social Security reform. By examining the past we can determine whether trends are transitory and, if they are not, what the long-term factors underlying these trends are. The past also provides us with a laboratory for investigating the impact of existing institutions. If we were to link savings during the prime working years more closely to consumption in old age, would we return to the labor force participation rates and consumption patterns of the past?

Retirement Trends

Let me begin by describing the evolution of retirement.[1] At the beginning of this century retirement was relatively rare. In 1880 over three-quarters of men older than 64 were in the labor force and in 1900 nearly two-thirds (Figure 1). The availability of retirement income was a powerful inducement to leave the labor force but, because wages were

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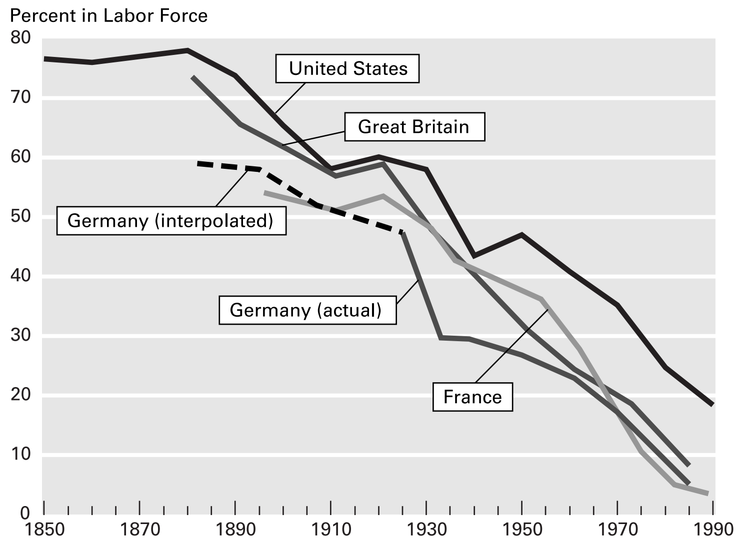
[1] My comments draw heavily upon my work on retirement (Costa forthcoming).

Figure 1
Labor Force Participation Rates of Men Age 65 and Over, 1850 to 1990: United States, Great Britain, France, and Germany



Note: German participation rates for 1882, 1895, and 1907 are based on the participation rates for men age 60 to 69 and 70 or older.
Source: Costa (forthcoming).

low, for most men this income was not forthcoming. Many men left the labor force because of poor health or employment prospects, becoming dependent upon their children for support. But although men reached old age in relatively poor health, most of them could not afford to retire. Instead they continued to labor in pain.

Upon retiring, men who were well-off continued to maintain households independent of those of their children. Farmers would often move away from the farm and retire to the local county seat, spending their time socializing with other retirees or reading newspapers. Those who were less well-off or who became widowed (a relatively rare event for men) and needed their children's support would move into the households of their children.

By mid-century, rising incomes had made retirement much more common. In 1950, only 47 percent of men age 65 and older were still in the labor force. The availability of retirement income was still an important factor causing these men to leave the labor force, but now their retirement was no longer primarily self-financed. It was financed by Social Security. However, retirement was still not widespread because the program was not that generous and because these men had little in the way of other retirement income.

Men who retired at mid-century faced a much more enjoyable retirement than their predecessors. Fewer than 20 percent were dependent upon their children for support, whereas close to 40 percent of their predecessors had been. Some of these men had migrated to Florida or California to enjoy their retirement in warmer weather. Even if they had not migrated, they were able to enjoy many more recreational amenities than their predecessors. In addition to socializing with other retirees or reading, they could spend their time listening to the radio, at movie theaters, or touring in their own cars.

Today retirement is the norm. Fewer than 20 percent of men over 64 are in the labor force and an increasing proportion of these men are working part-time. A large fraction of retirees now state that they have retired to enjoy leisure. Health, unemployment, and income all have a smaller impact on the retirement decision of men older than 64 than they did at the beginning of the century. Income levels may now be high enough that incremental changes in income are no longer pushing men into or out of retirement. In addition, the institution of Social Security may have made age 65, and later age 62, the "normal" retirement age (Figure 2), thereby increasing men's desire to retire.

At the same time, retirement may now be much more attractive relative to work than it was 100 or even 50 years ago. The retired are now very unlikely to live in their children's households. Instead, they may have moved to a community with better recreational amenities, a better climate, and a lower cost of living. Their retirement can be spent in activities that include mass tourism, low-impact sports such as golf, and mass entertainment such as television.

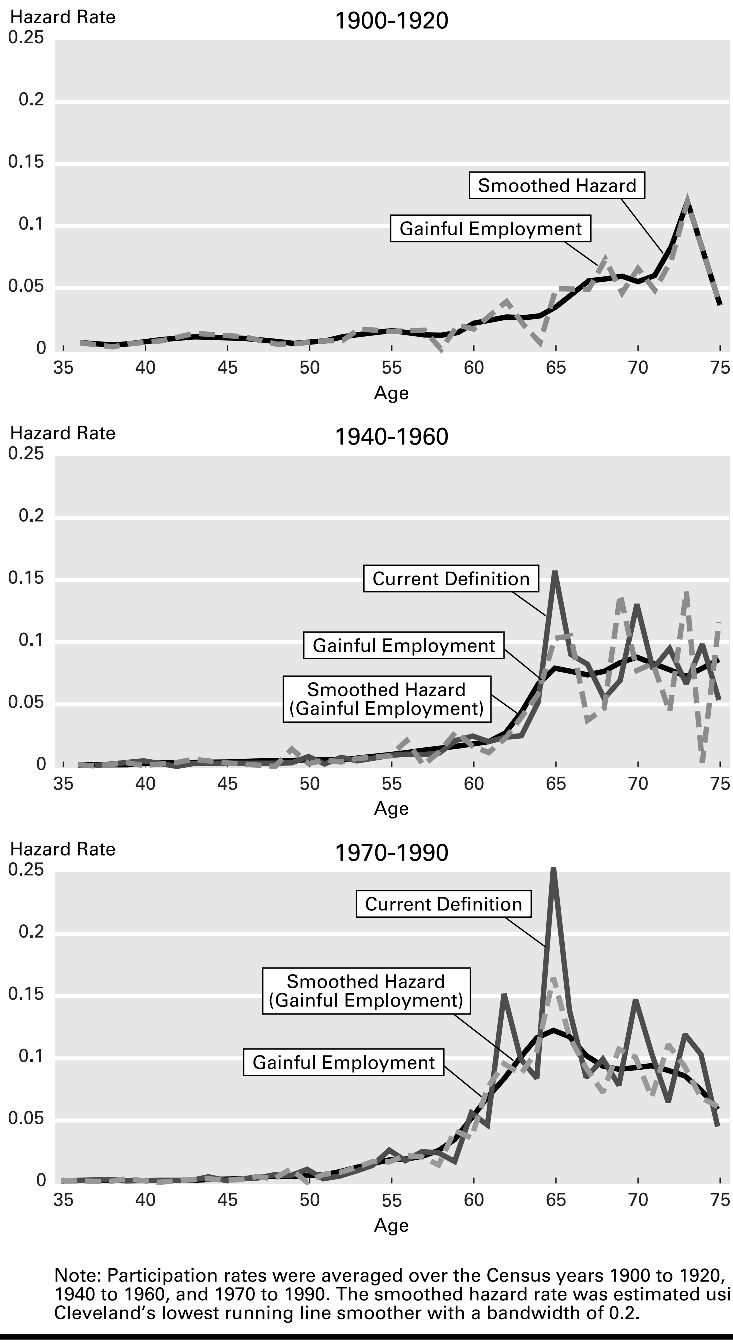
Retirement has become a meaningful concept for women as well as men. In the past, relatively few women devoted their prime years to market work. Women who entered the labor force early in their lives withdrew to work in the home, and if they reentered once their children reached adulthood they left the labor force again in their late forties or early fifties. The important life event that they faced in old age was widowhood, accompanied by dependence upon their children. Although widowhood still characterizes women's experience of old age, Social Security has reduced widows' dependence upon their children (Figure 3).[2]

Implications

This brief account of the evolution of retirement offers several lessons for the present about the likely impact of Social Security reform on trends

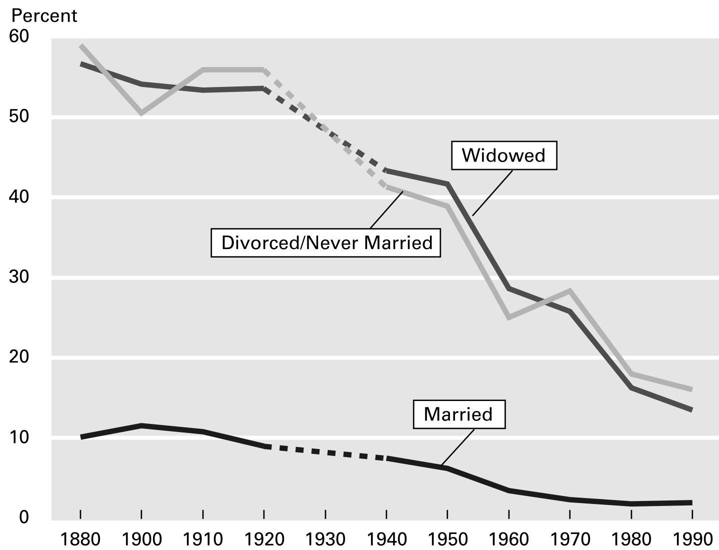
[2] See Costa (1997) for an analysis of how the institution of Social Security changed widows' propensity to live alone.

Figure 2
Probability of Retirement at a Single Age, Given Having Reached That Age Without Having Retired (Hazard Rate), Men Ages 35 to 75, 1900 to 1990



Note: Participation rates were averaged over the Census years 1900 to 1920, 1940 to 1960, and 1970 to 1990. The smoothed hazard rate was estimated using Cleveland's lowest running line smoother with a bandwidth of 0.2.

Figure 3
Percent of Women Older Than 64 Living in Households of Children or Other Relatives, by Marital Status



Note: Restricted to the noninstitutionalized.
Source: Estimated from the integrated public use Census samples (Ruggles and Sobeck 1995).

in labor force participation rates of older men, consumption by the elderly, and income inequality at older ages. I will first address the issue of labor force participation rates.

Figure 1 showed that the rise of retirement has been ongoing for more than a century. But the reasons for retirement have changed. Whereas up to 90 percent of the decline between 1900 and 1930 in the labor force participation rates of men older than 64 can be explained by rising incomes, rising income can account for only about half of the 1930–50 decline and may account for none of the 1950–90 decline (Costa forthcoming). The responsiveness of retirement to income has fallen since 1990.[3] Demand for retirement may now be higher because it is now viewed as a period of personal fulfillment. It is also increasingly affordable. Because the elderly have incomes that are independent of their residential locations, they can move to areas with a lower cost of living. Mass tourism and mass entertainment allow them to choose from a variety of low-cost activities. The continued rise in income during the

[3] The income elasticity of retirement has fallen from 0.47 in 1910 to 0.25 to 0.42 in 1940 and 1950 and to zero in recent years.

working years and the decline in the income elasticity of retirement suggest that neither under the current system, nor under some of the minor modifications that have been proposed, will the trend toward earlier retirement be reversed.

Now consider the case of the more radical modifications that are being proposed, such as a switch to a system of mandatory individual savings accounts. Here, two effects are likely. One is that the timing of retirement is likely to change. Figure 2 showed that prior to the institution of Social Security, no single age demarcated retirement. The larger question is whether the timing of work over the life cycle is likely to change. Today, 36 percent of the leisure time of individuals is concentrated at older ages. Although this concentration of leisure at older ages does enable individuals to accumulate the wealth needed to finance their children's education and their own retirement when their wages are highest, individuals may prefer to consume their leisure more evenly over the life cycle. The age pattern of leisure time use may change in the tight labor markets likely to prevail when the baby bust generation reaches prime working age and jobs become available that not only are part-time but also permit time off for extended periods of travel.

A system of mandatory individual savings accounts may also change the distribution of retirement income. The Social Security system was designed to protect against dependency and destitution in old age, not to be an enlarged private insurance scheme run by the government. Unless a switch to a system of mandatory savings accounts is also accompanied by a plan to redistribute income, individuals with lower earnings (and here older widows in particular are at risk) may face shortfalls in consumption. Some of these individuals may be forced back into the labor force. Others may be able to reduce their consumption by living with their children. This does not imply that extended families will become common once more. Independent living appears to be more highly valued than it was in the past.[4] But it does imply that without some redistribution, some individuals will be faced with hardship.

That most individuals can now look forward to a period of personal fulfillment at the end of their working lives is one of the achievements of our century, but the financing of this retirement poses budgetary dilemmas. Variations in fertility and mortality rates have contributed to the current financial crisis facing the system. How Social Security reform will affect retirement behavior is a second-order issue. The increased demand for retirement springs not from specific program rules but from the rise in incomes and the growth of mass entertainment and tourism. This trend is unlikely to reverse. The real question that we now face is how to design

[4] Among older nonmarried women, rising incomes can explain only about half of the increase in their propensity to live alone (Costa 1997).

a retirement system that is insulated from both demographic and political risk and that protects against dependency and destitution in old age.

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Discussion

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The paper by Theresa Devine provides a very useful survey of recent trends in labor force participation of males and females, and the author raises a number of interesting hypotheses and research questions about the interaction of Social Security reforms and the labor market. Although she emphasizes that the paper is not a literature survey, I value her paper for offering a fresh look at the literature on retirement behavior, labor supply, and labor demand.

Devine is correct in noting that Social Security reform and the labor market should be regarded as mutually endogenous variables: "Problems" in the labor market motivate many of the reforms, and virtually any of the proposed reforms could have significant impact on the labor market. Of particular concern is the continuing trend toward early retirement and the increasing fraction of the life span spent in nonmarket activities. However, it is not clear what fraction of the reduction in market work by the elderly is due to problems on the supply side (for example, reduced incentives to continue working) or to problems on the demand side (for example, firms' perceptions that the salary and fringe benefit costs of many older workers exceed their marginal product).

I am in basic agreement with many of the statements and conjectures made in this paper. However, the paper ends up raising many more questions about the interactions of Social Security reform than it answers. To a large extent the author cannot be blamed for this shortcoming: It is a comment on the limitations of the entire literature and has been noted elsewhere.[1] After reviewing the literature, it is hard to escape the conclusion that economists agree upon few things in this area: Substantial

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disagreement remains on such basic questions as "Has the expansion of Social Security contributed to the secular decline in the age of retirement?" These questions will probably be debated ad infinitum in the literature. Nevertheless, I do believe that most economists working in this area are much more in agreement and have a much more substantial working knowledge of the interaction of Social Security reform and the labor market than it might appear from surveying the literature. In particular, I think most economists do agree that the expansion of Social Security coverage rates and benefit levels has generally contributed to the trend towards early retirement, although it is certainly not the only causal factor.

At the risk of appearing overly bold, I would like to complement Devine's survey by raising a number of questions that were not explicitly addressed, on some additional issues that I believe are key to understanding the interaction between labor markets and Social Security reform. Because of space constraints, I will not attempt to offer any empirical support for my answers here. Instead, I ask readers to trust my claim that ample empirical support can be found for the answers I do provide; alternatively, the reader can simply treat my answers as my own subjective views.

The first question is so basic, and perhaps so self-evident, that the author did not even bother to pose it, but I think it is a relevant point of departure for thinking about these issues:

Q. Why is the labor market relevant for an analysis of Social Security reform?

A. It is relevant because working longer (that is, delaying the age of retirement) is an obvious substitute for insufficient retirement savings. The 1983 Social Security reforms focused on delaying the age of retirement (in addition to tax increases and benefit reductions) as one of the key tools to ensure the long-term financial solvency of Social Security.

Of course many other aspects of the labor market are also relevant for the analysis of Social Security reform. In particular, a better understanding of the demand side of the labor market seems to be key for many of the reforms that have focused on "privatizing" Social Security, some of which simply involve reducing the government's role in providing retirement benefits and shifting responsibility to individuals and firms (as has occurred in the United Kingdom). For these sorts of policies to be effective, it is necessary to understand why many firms (particularly small firms) now fail to offer pension benefits such as defined-contribution

[1] See, for example, the National Academy of Science's 1995 volume *Toward Improved Modeling of Retirement Income Policies*, by Eric Hanushek et al.

plans to their employees. It would appear that such plans should be attractive to both workers and firms as a form of tax-sheltered compensation.

More generally, we need to improve our understanding of what might be called "endogenous market incompleteness": Do large government Social Security programs irretrievably "crowd out" retirement income products offered by the private market (such as annuities, pensions, and disability insurance), or will an active private market spring to life once the government starts to reduce its presence in these areas? Some evidence suggests that the private market is responding vigorously to recent reductions in the government's role in providing disability insurance in the Netherlands; however, in the United States there has been a long-standing concern about the failure of private annuities markets due to severe adverse selection problems. It is clear that these sorts of supply-side issues need to be thoroughly studied in any analysis of some of the more radical versions of Social Security reform. For this reason I am going to focus more attention here on existing, less radical reform proposals such as the 1983 Social Security reforms.

Q. Have the 1983 Social Security reforms been successful in postponing the age of retirement?

A. There is little evidence that these reforms have been effective so far: Devine's results show that the long-term trend towards early retirement continues, corroborating results of several other recent studies. The effect may be limited so far because of the slow phase-in schedule of the 1983 reforms.

Of course, the 1983 Social Security reforms have been "successful" in other dimensions: The increased tax rates did succeed in building up a substantial Old Age and Disability Insurance Trust Fund. However, projections indicate that this buildup will be short-lived, and without further action the Trust Fund balances will be exhausted about the time of the peak flow of the baby boom generation into retirement. (The original projections made in 1983 predicted exhaustion of the Trust Fund would occur in 2083, well after the retirements of the baby boomers.) These increasingly pessimistic projections drive the continuing interest in further Social Security reforms.

Q. Will we start to see a reversal and turnaround in the trend toward early retirement in the next decade?

A. This is very hard to predict and depends on the resolution of a number of technological and policy uncertainties. In particular, it is not clear whether the current "information revolution" will create many new work opportunities for the elderly (that is, unprecedented opportunities for the creation of "cottage industries" via web-based commerce) or only accelerate the depreciation rate of human capital and widen the gap between rich and poor and between young and old.

An important example of policy uncertainty is provided by the Medicare reform bill currently being negotiated in the Congress. Senate Republicans have proposed amendments that would postpone the age of eligibility for Medicare benefits from age 65 to age 67. My own research with Chris Phelan suggests that such a reform could be very effective in inducing many "health insurance constrained" individuals to delay their retirement from age 62 or 65 to age 67.[2] These individuals have health insurance coverage only through their employer's group health plan, and because of market imperfections and "pre-existing" health conditions, these individuals may not be able to find affordable health insurance if they quit their jobs prior to being eligible for Medicare benefits. However, the importance of modeling social insurance benefits in an integrated fashion is underscored by the possibility that the budgetary savings due to a tightening in Medicare eligibility could be partially offset by a substitution towards increased Medicaid, disability insurance, and SSI benefits.

It is crucial to model these programs in an integrated fashion, in order to get a more accurate picture of the effectiveness of such a policy "reform." Indeed, many liberals such as Senator Edward Kennedy would hardly consider this proposal a reform, since it moves our nation further away from the goal of universal health care. Given the budgetary problems of the Medicare program (which make the Old Age financing problems look minor in comparison), we need to be very careful in considering liberalizations that could further increase the financial pressure on this program without instituting adequate safeguards and incentive mechanisms for cost containment. However, assuming such a universal system were in place, it is quite possible that health care reform could increase the demand for older workers if employers were relieved of the costs of supplying expensive fringe benefits of which health care insurance is one of the largest components.

Q. Is delaying retirement age a viable alternative for all of the elderly?

A. Probably not: Many individuals at the lowest end of the income/wealth distribution have physically demanding jobs, poor health, low levels of education, and poor job opportunities. It is unrealistic to expect that many of these individuals will be able to significantly extend their working careers without improved job training and improved access to medical care that could improve their productivity and reduce the wedge between their cost to the firm and their marginal productivity.

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[2] See John P. Rust and Christopher Phelan. 1997. "How Social Security and Medicare Affect Retirement Behavior in a World of Incomplete Markets." *Econometrica*, vol. 65(4), pp. 781–832.

Q. What are the potential labor market impacts of privatization of Social Security?

A. They depend on the specifics of the particular plan for privatization. To the extent that privatization reduces the perceived tax rate on Social Security contributions, economic theory suggests that privatization should increase pre-retirement labor supply. However, I believe that empirical evidence suggests that a strong labor supply response on the part of relatively young workers is highly dubious. For example, since the marginal Social Security tax is zero for incomes above $62,000, any labor supply disincentives in the current system are restricted to relatively low-income workers. It is not clear that the high rates of unemployment and nonparticipation by low-wage workers are due to inadequate labor demand or to supply-side problems resulting from high tax rates that limit their incentive to work. Given the recent cutbacks in the welfare program, I believe very low-wage workers have considerable incentive to participate in the labor market: I view the low participation rates more as a symptom of low demand for the services of low-wage, low-skill workers. I believe the most interesting labor market impacts of privatization will occur for older workers, not relatively young workers in their prime working years. There are many other reasons to participate or not participate in the labor market which are much stronger than the level of the Social Security tax rate: I believe that for all practical purposes even moderate variations in this tax rate will have a negligible impact on the labor supply of younger workers.

Devine emphasizes *individualization* and *investment discretion* in her analysis. However, as I noted above, I believe the biggest impact of privatization reforms will be on the labor supply of older workers, particularly on their choice of retirement age and on their level of post-retirement labor supply. In particular, an older individual's decision about whether to participate in the labor market depends critically on policies affecting the level of payout discretion of Social Security benefits. The ultimate effect will depend on the answers to a large number of questions specifying the precise details of the level of payout discretion in any privatized system:

Will there be a minimum retirement age? How much discretion will individuals have about when they can start receiving benefits?

Will lump-sum disbursements be allowed? Can individuals opt out of the system and purchase private annuities or self-insure?

Will individuals be allowed to borrow against their accumulations?

How will benefits be taxed? Will there be an "earnings test" on post-retirement labor supply?

I conclude my comments by noting that insufficient attention has been paid to evaluating the potentially nondiversifiable *political risks* inherent in periodic Social Security reforms. Although this is not directly a labor market issue, it does have serious implications for the security and expected utility that individuals can expect from the current system, which is akin to a mandatory defined benefit plan with unpredictable future changes in the benefit schedule. On the other hand, recent proposals to transform Social Security into a privatized system that is akin to an individual defined-contribution plan are not without risk. Many plans for privatization (for example, Kotlikoff and Gokhale's proposal for "personal security accounts" (PSA), or Feldstein and Samwick's proposal for mandatory individual retirement accounts (MIRA)), would change Social Security into a mandatory defined-contribution plan that would permit investment in risky securities. This leads to several other research questions:

Is the riskiness of a privatized Social Security system (regarded as a mandatory defined contribution plan) greater than the current Social Security system (regarded as a mandatory defined benefit plan)?

Would a privatized Social Security system with individualized retirement accounts give citizens a greater sense of property rights in their retirement accumulations, making government expropriations or other policy changes less politically feasible and therefore reducing the political risks of future policy changes?

What are the intertemporal risks involved in a privatized Social Security system? Are there any good mechanisms for insuring individuals who have large equity accumulations and are about to retire against stock market crashes and other investment risks?

I do not think we have good answers to these questions now. In particular, it is not clear how well private markets will respond to help "complete" the current incomplete market for annuities in the aftermath of a privatization. Certainly it is reasonable to suppose that many new companies will be vying for retirees' business, but without strong government regulation we could see many scams and fly-by-night operations, just as we currently see in the market for Medigap insurance and other health care plans for the elderly. I believe privatization plans offer some tantalizing possibilities, but we need to do much further analysis to evaluate the individual-level impacts including its relative riskiness compared to the current defined-benefit structure of Social Security, in addition to analyzing the aggregate impacts on savings and labor supply.

Overall I found Theresa Devine's paper to be highly stimulating, and I recommend it as a good point of departure for thinking about the interrelationship between the labor market and Social Security reform.