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Taxation, Incomplete Markets and Social Security

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Lecture 1. Pension Insurance Reform in Germany

Lecture 2. Taxation and Social Security

Lecture 3. Incomplete Markets and Social Security

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Lecture 1. Pension Insurance Reform in Germany[1]

Systems to provide pensions need to be adjusted from time to time. This is true of public systems and is also true of private systems. Sometimes the need arises from a mismatch between finances and benefits under existing rules. Sometimes the need arises from a mismatch between system design and the social needs that pensions are trying to meet. Today, I will begin by discussing pension insurance reform in general terms. Then I will turn to some specific issues here in Germany, including the adjustment of benefits for the age of retirement and the determination of survivor benefits for the elderly.

Given the need for periodic reform, there are two basic questions. How frequently is changing the system likely to be seriously considered? And what circumstances are likely to shape the actions or inactions at such times? For a public system, these are questions of political economy, of the interaction between the workings of the pension system and the political process.[2] I start with two presumptions. First, a system to provide retirement income should not be changed very often. And second, when it is

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[2] For a discussion of the political economy of Social Security reform in the US, see the Report of the Panel on Privatization of Social Security of the National Academy of Social Insurance, 1999.

changed, it is best to have significant lead time before substantial changes take effect. These presumptions come from the need of both retirees and older workers to rely on the system at a time in life when it is more difficult to adapt to changed circumstances.[3] So, this conclusion is especially true for decreases in benefits relative to what was in previous legislation. However, the ability to delay implementation while preserving fairness is dependent upon passing legislation well in advance of short-run fiscal needs. Thus, a key issue is how to get government to address future fiscal problems that are not imminent crises. On the other hand, it is good to have pressure to review how the system is working from time to time – every decade or so. Changing circumstances will alter the desirability of particular rules. In addition, a time of revisiting the system is a time when reformers can try to change elements that were poor designs previously.

From this perspective, it is important that the political process not find it easy to change the pension rules for reasons that do not relate to retirement issues. And it is helpful if there is pressure on the political process to react to future needs well before there is extreme financial pressure. A country that is changing pension rules annually is not doing a good job.

Insulation from too-frequent changes

The pension system should be insulated from the year-to-year state of the government budget, although it needs to be responsive to the overall (long-run) state of fiscal capacity. To contribute to political insulation, it is common to earmark particular revenues for financing pensions.[4] And it is usually a payroll tax that is so earmarked as

[3] In addition, greater confidence in future benefits generated by early responses to future problems increases the willingness of workers to pay "contributions" and decreases the distortionary effects of such taxes.

[4] It is common to have part of payroll taxes earmarked for financing retirement benefits. This link between taxes and benefits serves two purposes. One is the incidence of taxes to pay for benefits. Assuming there is not a full adjustment in other sources of tax revenue, the use of a payroll tax, typically proportional up to a ceiling, places the tax burden on the labor market and determines the degree of progressivity with earned income. The second purpose is to affect the political process. This has two parts. On one hand it makes it more difficult to cut benefits below what can be financed from current and past payroll taxes because of the sense of political

here in Germany - with an earmarked payroll tax of 19.3 percent (half on employees and half on employers) up to a maximum earnings level of 103,200 DM per year (as of 2000). But the payroll tax revenue here is not sufficient to cover current benefit payments. Nearly 30% of the current benefit flow is financed from general revenues, with several tax increases having been legislated to help cover this expense. And, under current legislation, the need for general revenues will grow substantially as the baby-boom generation retires. That is, currently legislated benefits can not be financed by the resources earmarked for social security (from the payroll tax[5]) plus a continuation of roughly the same level of general revenues now being transferred. Moreover, the fiscal needs are pressing since the rise in costs is not too distant by the standards of how retirement income systems should be changed.

With so much reliance on general revenues, there is a strong temptation at times of budgetary stringency to make repeated small cuts in benefits in ways that are not very visible. Succumbing to such temptation results in a system that works less well.

One approach to adding insulation is to expand earmarked taxation (not necessarily the payroll tax) in order to build the tradition of separation of the two budgets (both ways). Separation needs to be ingrained in the political process, not merely having legally separate accounting. Separation has two effects – it keeps up pressure to balance revenues and benefits in pensions and keeps down pressures to adjust benefits because of fiscal needs elsewhere. Another source of insulation used by some countries is to have reserve funds to protect benefits. For example, before it embarked on its current pattern of partial (and probably transitory) advance funding, the US Social Security system had a goal of a reserve fund equal to one-year's expenditures. A reserve fund of approximately one month's expenditures is needed just to have a smooth cash flow, and is the practice

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entitlement that comes from paying. On the other hand, the link limits the success of demands for larger benefits because of the need to finance them in a visible way. When a less-than-fully-funded system is immature this latter effect is not present, while once a system is mature the former effect is unlikely to matter. This connection is particularly important when there is a successful mechanism to make the public, and the political process, aware of future costs. Actuarial projections attempt to play that role.

[5] One percent of the VAT and part of the gasoline tax are earmarked as well.

here in Germany. A year's fund, in addition to being a round number, represents enough financing to get through an extended recession, although not a large depression.

In an advanced economy with easy government access to the capital market, an earmarked reserve fund (beyond the needs purely for cash flow purposes) is not necessary for the government to be able to pay benefits. Rather, the purpose is political – to help the political process to adhere to good long-run strategy, to make it harder to follow short-run temptations to make changes in the cash flow that do not conform to long-run planning. Governments need accounting rules to have visibility in their actions. Separating pension financing from the rest of the budget is a good example of such a rule.

While such accounting rules can help in general, any specific accounting rule may tend to hinder some good policies or encourage some poor ones. As an example, let us consider the Maastricht restrictions on debt relative to GDP. The restriction is in terms of explicit debt, ignoring the implicit debt inherent in currently legislated retirement systems.[6] This is a striking omission because of the general pattern in Europe, indeed more generally, to

[6] One should not simply view implicit social security debt as the same as explicit contractual debt. The ability of government to adjust the debts without overwhelming cost is very different in the two cases. In either case a government can cut other expenditures or raise taxes, both of which are politically difficult. Beyond that lies the differences. Repudiating debt has serious consequences. But social security systems can sometimes be adjusted without disruptive consequences. In particular, we have the possibility of rule changes that start well out in the future as a way to reduce an implicit debt obligation that is viewed as too large. Moreover, the social understanding about these two forms of debt are different. Explicit debt is meant to be paid, although inflation is a way of modifying the real value of nominal debt in ways that may not have been contemplated by the lenders. In contrast, defined benefit social security systems are set up in ways that will almost surely require some adaptation over time. To the extent that the public understands that periodic adjustments are put of the inherent design, and to the extent that the public is made genuinely aware of the real needs of the system, then suitably designed and executed adjustments are part of the implicit social contract, not a breach of that contract. What is a breach is a badly designed change, given the expectations built into the system. Indeed, even defined contributions systems should be altered from time to time. So these two types of debt are quite distinct because of the different abilities to change the quantities outstanding.
But that does not have the reverse implication that the implicit debt is irrelevant for the future economic health of a country. Indeed that debt is important for two reasons. It is a sign of some of the financial difficulties the political process will have to face in some form. And, when the projections are believable, they are a sign to the public of the need for government response, a recognition that is essential if government is to move toward balance in such a large and sensitive program.

have implicit pension debt that is larger than the explicit debt. Thus, by itself, separated accounting serves as a disincentive to accumulate earmarked reserves, whether in government debt or other assets, since reducing the implicit debt does not affect the Maastricht conditions. Yet, when the Netherlands decided to start a separate fund to help finance retirement benefits for the baby boom generation, the Maastricht rules were modified to count such reserves as a decrease in debt outstanding. So rules have their role but are not ironclad constraints.

Stimulus for legislating change before a crisis

If there is a great likelihood that future revenues will not be adequate for future benefits, it is clearly advantageous to make changes well in advance. There are three reasons for taking actions well in advance. One is that the sooner the action is taken the greater the flow of benefits and revenues that can be adjusted. As time goes by, one can not go back in order to have had lower benefits or higher revenues. More scope for action can make the outcome better, in terms of efficiency or fairness or both. By having a larger base of taxes and benefits to change, the changes can be smaller in percentage terms.

A second reason for early change is the enhanced ability of some people to react to change. It is better to tell a 54-year old that benefits need to be cut starting in eleven years than to wait 10 years and then tell a 64-year old that benefits need to be cut starting the following year. Advance warning of changes will help some people make better adaptations. To help adaptation, a move to lower benefits out in the future should be accompanied by enhanced opportunities for individuals to save on their own for their own retirements.

A third advantage of early action is that it is politically easier the earlier it is (at least until a crisis requires change and so alters the political discussion). No one likes to deliver bad news, particularly not officials hoping to be reelected. If the bad news is in the form of a projection, then there is the risk that the political competition will deny the bad news and the need to do something about it. Thus, there is a tendency for pensions to be adjusted

only when a crisis is imminent. So there is a need to find ways to encourage early legislated responses. After all, cutting benefits starting in 20 years should not risk as much politically as cutting them starting in 10 years.

The same goes for legislating future tax increases. Indeed, until 1990 it was a hallmark of US Social Security to have future tax increases always on the books. When the date of a tax increase came along, the increase was sometimes delayed if revenue needs turned out less than had been anticipated. And politicians got to posture that the tax increase would be repealed, but it never was – delayed sometimes but not repealed. This asymmetry in the political process – that it is politically easy to cut taxes or raise benefits while the reverse is difficult is why it is important to legislate financial cushions well in advance. The further in the future is the impact of the legislation the less the asymmetry in the process. There is less at stake in both directions when the effects do not happen for a long time.

If early legislation is to have a chance, the public needs to go along with the view that some advance action is desirable. So a central question is how to have an institution that can influence the public in this direction. In the US, even though there is some debate about the severity of the long-run fiscal problem, that debate is in a setting where the public recognizes the importance of the issue and the value of projections of costs and benefits, even though the future is uncertain. The history that has made this work is the presence of a highly respected Office of the Actuary in Social Security. This government agency is staffed by professionals and regularly reviewed by panels of outside experts – both economists and actuaries. This review process helps the professional staff resist political pressures and helps convince the rest of the government and the public of the high quality of the annual reports.

This raises the question of how widely-accepted projections can be generated. It can happen over time in a country that has its own independent office making projections, provided that they have sufficient independence and enough history to have earned credibility. If not already present, then wide acceptance probably can not be built up

quickly. With social security reform so pressing in so many European countries, this suggests the creation of an international institution to provide projections. One of the international organizations could provide estimates or, even better, fund the provision of estimates by independent bodies. The European Community should take on such a role. Indeed, the World Bank should do this more widely. The politics can be kept more limited by oversight of such an independent agency by professional associations of actuaries in different countries. While these projections are called "actuarial" they contain a good deal of economics as well, and require economic inputs as well as demographic ones.

Balancing benefits and revenues

The retirement of the baby boomers will stress the retirement income system here. Even after the boomers have retired, we expect to have improving mortality among the elderly. Therefore, costs for retirement income would continue to rise even if the population stabilized. Germany might be able to choose to simply live with this pattern, having steadily rising taxes to finance retirement benefits. However, the prospect of a continuing trend to steadily higher taxes, which are already high, casts doubt on the sense of such an approach. Without choosing among them, I want to lay out some aspects of the alternatives, assuming that some of the response will happen with each of revenues and benefits.

A government with debt outstanding and the ability to borrow more has a wide choice of when to collect extra revenues. That is, a given present discounted value of the excess of future benefit payments over future revenues can be covered with higher revenues spread in different patterns over the different years. The obvious fact is that for permanent tax increases, the sooner the tax rate increase the smaller it has to be to raise the same aggregate revenue. This observation is not restricted to merely covering the payment flows in the early years. Beyond that, earmarked revenue increases can be used to cover later benefit payments. This is most readily done by having an earmarked fund, meant to be used solely for the retirement income program. Such an earmarked fund might hold

government debt, reducing the extent of government borrowing from the public. Or the fund might be invested in other assets to some degree, with less reduction in the government's borrowing.[7] For example, the Netherlands is putting some general revenues into a fund holding government debt, a fund that is not to be used before 2020, and then used for retirement benefits. The US Social Security system has been running annual cash surpluses from the portion of the payroll tax earmarked for retirement income. This has built up a fund, which earns interest. In the future, ongoing interest earnings and the stock of assets itself can be used to pay benefits. The Clinton administration proposed that part of this fund be invested in private assets although there has been no action.

So, one issue for Germany is to select the time shape of whatever total revenue increase is chosen for financing future retirement benefits. In addition, if the revenue increases are specifically earmarked, then there is a portfolio choice to be made. The connection between building a fund and increasing national savings is also important. That link depends primarily on the choice of other fiscal actions that are changed as a consequence of legislating a fund buildup. It also depends on how private savers respond. To the extent that an improved fiscal position for pensions is not offset by a worsening fiscal position on the rest of the government budget, improved pension financing will add to national savings. Higher national savings will increase future income available for both workers and pensioners.

While one could have payroll tax rates that vary with age (and Switzerland does), there are clear administrative advantages in having a uniform payroll tax. Thus tax rates are plausibly changed by date, not by cohort or date of birth. On the benefit side, the choice of base is more salient. Put simply, should benefit cuts be date-specific or cohort-specific? Several countries have gone the route of using cohort-specific benefit determination by relating benefits to the life expectancy of a cohort once it reaches eligibility for retirement benefits. Sweden has gone this route in what is called a Notional

[7] If it were to come to pass that there was no government debt outstanding, an extraordinarily unlikely event, then such a fund would necessarily have to find other assets.

Defined Contribution system. A cohort in Sweden with longer life expectancy would receive lower benefits, similar to how an insurance company would price an annuity (based on interest rates and life expectancy). There are two sides to such an approach as opposed to simply reducing the benefit formula over time (preferably straightforwardly, but possibly by fiddling with the indexing rules in ways that are hard for the public to understand). On the one hand, it can be argued that retirees of different ages who had the same earnings relative to average earnings when they worked should receive the same benefits. On the other hand, it can be argued that retirees who are in a cohort with longer life expectancy should have lower benefits so that there is not so much transfer from shorter-lived, earlier cohorts to longer-lived, later ones. One advantage of cohort-specific rules is that once a cohort's initial benefits are set, then the indexing will keep net benefits up with net earnings. Otherwise phasing in benefit cuts by date reduces benefits for the already retired (relative to net earnings) at the same time that it is reducing initial benefits for newly retiring cohorts. That is, retirees might prefer a lower initial benefit that is then stable relative to the net-wage index rather than a greater initial benefit that then declines relative to the index. There is power in the arguments on both sides and what needs to be recognized is that this is a choice that needs to be made.

Retirement age

It is common to refer to three options for dealing with pension system fiscal imbalance – more revenues, lower benefits, and a higher retirement age. I want to explain why I focus on just two options, not three. There are two different roles for retirement ages in pension benefit rules, quite separate from whatever mandatory retirement rules are adopted by employers. Whatever is done with benefit rules, it would be good to revisit the issue of mandatory retirement ages. One role for a retirement age in benefit rules is the age associated with what are called "full benefits" - the age for which the benefit factor is one, with entry adjustment reductions for earlier retirement and entry adjustment increases for later ones. Under current law, this age will be 65 for sufficiently later cohorts (the lower age for women is being slowly increased to 65). If this age is increased, then this is fully equivalent to a particular benefit cut – there is no difference.

To see this, let us consider the effect of a two-year increase in this age from 65 to 67.[8] For someone who retires at 65, benefits are reduced by 7.2 percent because of retiring two years before the age for full benefits. Without the change in the age for full benefits, there was not this benefit cut. Someone might say that this person could work longer and restore the benefit cut. Working until age 67 would both increase the number of earnings points for benefit determination and remove the 7.2 percent reduction for early retirement.[9] (Indeed just not taking benefits before age 67 without necessarily continuing to work would have the latter effect.) But this option would be there even if the age for full benefits did not change. By working until age 67 when the age for full benefits is 65, a worker receives a 7.2 percent larger benefit. So changing the age for full benefits is a benefit cut plain and simple and should be evaluated in those terms – it does not represent a third option.[10]

The story is very different when we consider changing the age at which retirement benefits can <u>first</u> be claimed. For workers who do not get disability or unemployment benefits as a substitute, ineligibility for retirement benefits does reduce the cost of benefits in that year. However, if benefits start one year later because the eligibility age is one year later, then benefits are larger when they do start, because the entry adjustment reduction is smaller. If the entry adjustment factor were actuarially fair, then there would be no saving to the expected present discounted value budget constraint of the government. The adjustment, however is smaller than would be actuarially fair. So

[8] In the US, 1983 legislation slowly phased in an increase in the age for full benefits, called the Normal Retirement Age, from 65 to 67.

[9] Earnings points are defined as the ratio of earnings subject to tax to the average earnings in that year. Earnings points are also given for nonearning time including, for example, childcare, home nursing, unemployment, education. Some low earnings points have been increased. Earnings points are then summed over an entire career. Benefits for a retired worker equal the product of earnings points, a factor for type of pension and age of claiming, and an aggregate factor that indexes net of tax benefits to net of tax wages.

[10] Note that this method of reducing benefits results in larger percentage cuts for workers retiring earlier. An individual's benefits are proportional to the factor (1+.036(Age-N)), where Age is the age at which benefits start and N is the age for full benefits. Thus the percentage change in benefits from an increase in N is -.036/(1+.036(Age-N)). This percentage change is smaller in absolute value for larger values of Age.

forcing a worker to wait a year does save the government money, but only to the extent that a 3.6 percent change in benefits is too small a change for delayed retirement.

Adjustment of pensions for early and late retirement

In order to have reasonable incentives to continue work past the age of first eligibility for benefits, it is common for retirement income systems to increase benefits for a delayed start.[11] It is also common for governments to legislate a simple linear formula for doing this, although sometimes the formulae are different before and after the age for full benefits. A linear formula is not a good one. As workers age, mortality probabilities rise. Therefore, to offset a delay of benefits, it is necessary to give larger increases in benefits the older the worker who is delaying the start of benefits. In contrast, a linear formula gives a decreasing percentage increase in benefits as a worker ages.[12] It would be good to move away from this linear formula since it does not make sense to be reducing the incentive to work as workers age. Indeed, to the extent that workers are forward looking, there is a case for increasing the adjustment as they age, above and beyond the need to adjust for increased mortality. I will talk about the theory behind this in my third lecture.

Benefit formula

Retirement benefits here are primarily related proportionally to the earnings subject to tax, and so to earnings up to the earnings limit. That is, generally, someone with a history of twice as high earnings (but still below the limit) pays twice as much tax and gets twice as large a benefit. This is not completely accurate since in the past some low earnings years have had their points increased as part of fighting poverty. In addition, there are credits given for some nonearning times, including childcare and home nursing care, unemployment and education. So, the system is not fully proportional.

[11] It is also important to have sufficient stringency in the standards for eligibility for disability and unemployment benefits.

[12] An individual's benefits are proportional to the factor (1+.036(Age-65)), where Age is the age at which benefits start. Thus the percentage change in benefits for a delayed start is .036/(1+.036(Age-65)). This percentage change declines with Age.

Nevertheless it is in stark contrast with some other systems. The US uses a highly progressive benefit formula – benefits are a higher fraction of earnings for low earners than high earners. The higher life expectancy of higher male earners than lower male earners in the US offsets approximately half of the progressivity in the benefit formula when considered on a lifetime basis. The Netherlands gives a flat benefit to all, workers or not, varying only by household status – single or married.[13] While the presence of an income tax introduces some progressivity for those whose benefits end up taxed, this approach does not seem to do enough about income distribution among the elderly generally. Without knowing any of the history that led to the result, it strikes me that the taxation of benefits here is very low relative to the usual public finance considerations.

In contrast, poverty is well addressed by pensions together with separate programs. The combination of programs has left very little poverty among the elderly in Germany. I wish the same were true in the US. Preservation of this successful outcome should remain an integral part of the coming reforms. I will talk about the theory behind choosing a degree of progressivity of net-of-tax pension benefits in my second lecture.

Survivor benefits

Pension systems (along with direct anti-poverty programs) are concerned with helping to keep the elderly out of poverty. But there is a widely recognized second concern – to smooth or avoid drops in living standards when a worker retires or, later on, dies. This is a concern over a wide range of the income distribution and is not just a poverty issue. In considering survivor benefits, I focus now on issues of replacement rates not on issues of poverty.

Consider an older couple, both retired (whether both of them worked previously or just one). Many older couples above the poverty line are living primarily on pension benefits (along with whatever housing they may own). A key question is how large a benefit either of them would need as a survivor in order to preserve the same economic standard

[13] Both countries also rely on substantial private provision of pensions by employers.

of living that they previously enjoyed as a couple. Worldwide, there is recognition that there are economies of scale in living as a couple and the survivor would need more than half of what the couple had. Perhaps 60 percent would be adequate, although many analysts and governments seem to think that 70 percent would be better. For example, the AOW benefit in the Netherlands for a single person is 70 percent of the benefits for a couple. I have not seen anyone gather arguments as to whether a surviving husband or a surviving wife would need a larger fraction in order to preserve the standard of living. So, I will stay with the natural presumption that there is symmetry in needs.[14]

From this perspective, the current German survivor benefit is not terrible, but not as well designed as it could be. The benefit rule is not symmetric within a couple and the survivor's benefit varies with the past relative earnings of husband and wife across couples with the same total earnings. These criticisms have also been leveled at Social Security in the US, where academic commentators are pressing for changes in the design of survivor benefits to relate survivor benefits to the benefits that had been received by the couple. In both the US and Germany, the design of survivor benefits is a legacy of a time when one-earner couples were dominant. As female labor force attachment has risen, it is time to reconsider this structure.

Before turning to this issue in detail, let me clear up one issue. Some people never marry. Others are divorced or widowed well before retirement age. Thus, any pension system needs rules distinguishing how it treats retired couples from how it treats individuals who are one-person households. This suggests that survivor benefits can be financed, in part, out of lower benefits for a couple than would be the case if no survivor benefits were to be paid. And they can be financed in part out of lower benefits for an earner who survives a lower-earning spouse. Since the system ignores differences in life expectancy among individuals (women living longer than men on average and higher-earning men living longer than lower-earning men, on average), full financing of survivor benefits out

[14] On the one hand, on average women have more experience in household tasks, while, on the other hand, men have greater remarriage prospects. There is also no apparent case for arguing that the survivor fraction needed would be different if before retirement both of them had worked rather than just one of them.

of lower worker benefits might be excessive. Conceptually an issue is how much to think of the system in terms of workers or in terms of workers and their families as a single unit. The central point is that there is no necessary link between the structure of survivor benefits and the relative treatment of couples and never-married individuals.

Let us consider how the survivor benefit is determined here, assuming both husband and wife are fully retired. It is easy to describe the situation for a one-earner couple. If the earner dies, the survivor gets 60 percent of what the couple had. If the nonearner dies, the survivor gets 100 percent of what the couple had. A couple could offset this asymmetry by using part of the benefit while both are alive to purchase life insurance on the now-retired earner. Should the earner die first, the life insurance benefit could then be used to purchase an annuity for the survivor. By choosing the right level of life insurance, the couple can arrange the same income for either survivor. But the whole point of government provided pension insurance is not to rely on individuals and the private market to make such arrangements. Many couples never would and the market is inherently more expensive than building the right pattern into the structure of pension and survivor benefits.[15]

The proposal to allow earnings points to be split 50-50 between husband and wife is a move in the direction of enhanced opportunity for symmetry.[16] Choices made by couples are very sensitive to both the selection of a default and the procedure for change. Allowing a couple to request a 50-50 split will generate different outcomes for many couples than having a 50-50 split unless they apply to revert to the allocation of points individually earned. That is, opt-in systems and opt-out systems give different aggregate outcomes, even when the set of choices is the same in the two cases. Moreover, in the US, a rule requiring a notarized signature by a spouse if there is no survivor benefit in

[15] Of course, government programs require considerable uniformity, retaining value for the ability to change the pattern through market transactions.

[16] The change in the total expected benefits as a consequence of 50-50 splitting depends on the life expectancy of husband and wife and on the relative size of the exempt amount before survivor pensions are reduced for the presence of own pensions.

private defined benefit (or annuitized defined contribution) pensions had an effect on the extent of survivor benefits chosen.

A second issue with the German system is that the replacement rates among couples with the same total earnings are different for different divisions of the earnings history between husband and wife. This follows from possible reduction of the survivor benefit because of the own-pension benefit of the survivor. The rule is that there is an exempt amount, currently DM 1282,51 per month in the West and 1115,66 in the East. If the benefit of the survivor is below the exempt amount, there is no offset. For survivors with positive pension benefits but below the exempt amount, the replacement rate is more than 60 percent because they get 60 percent of the deceased spouse's benefit along with 100 percent of their own pension. However, if the survivor has a pension above the exempt amount, then the survivor benefit is reduced by 40 percent of the excess of the own-pension over the exempt amount. This can reduce the survivor fraction to as low as 50 percent.[17] For example, if husband and wife have the same number of earnings points and that is at least twice as large as the exempt amount, then there is no survivor benefit and the survivor receives 50 percent of what the couple had.

Given changing labor force patterns, this is likely to be more of an issue in the future. In the US, where Social Security gives the survivor between ½ and 2/3 of what the couple had (apart from actuarial adjustments), longitudinal data reveals that on average widows have a drop in income relative to needs of roughly 30 percent (Holden and Zick, 1998). I do not know of any similar German study. Thus I think that the structure of survivor benefits for the elderly needs to be changed – with the benefits for a survivor related consistently to the benefits that had been received by the couple. To the extent that couples would choose to split their earnings points 50-50 if they had the opportunity, these differences could be less important. But not all couples will make such a choice.

[17] Expressed as an equation, in terms of the earnings points of husband, H, and wife, W, and the exempt amount expressed in earnings points, E, a surviving wife would get a total benefit, BW, which satisfies
$BW=W+Max\{0, 0.6H-0.4Max\{0, W-E\}\} = W-0.4Max\{0, W-E\}+ Max\{0.4(W-E), 0.6H\}$
The law is symmetric by gender.

Considering the replacement ratio for a survivor and recognizing that many couples would not split their earnings points even if they could, the proposal to reduce the survivor benefit from 60 percent to 55 percent of the worker benefit seems to me to be going in the wrong direction. For the long run, benefits do need to be cut. Any cut in workers' benefits automatically is a cut in survivor benefits as well. Thus to also cut the survivor fraction is to cut survivor benefits by a larger percentage than worker benefits are cut. For example, to reduce the replacement rate for a worker from 70 percent to 64 percent is an 8.6 percent decrease in benefits. For a widow with no earnings points, a survivor benefit of 55 percent of a 64 percent replacement rate is a 16.2 percent cut in the survivor benefit (compared with 60 percent of 70 percent). I do not see how a proposal to cut survivor benefits by16.2 percent while cutting worker benefits by only 8.6 percent can be justified. A similar argument would apply to making the income testing of survivor benefits more stringent. It is important to consider survivor benefits in terms of suitable replacement rates generally, and not narrowly as primarily part of anti-poverty efforts.

Concluding remarks

In the next two lectures I will focus on two issues in retirement insurance design. In Lecture 2, I will consider how much progressivity should be built into the retirement income system, as opposed to simply relying on the annual income tax. This is particularly an issue here given the proportional benefit formula (up to the ceiling) and low taxation of benefits. In Lecture 3, I will consider how retirement incentives should be structured. In addressing these two issues I will discuss and draw on the literatures on optimal taxation and on incomplete markets.

In this lecture, I have argued for the need to build an institution to help explain to the public a realistic view of the set of alternatives and thereby make it easier to take action sooner in order to put costs and benefits on a comfortable track. And I have argued for more incentives to continue working past age 65 by increasing the entry adjustment

factor. And I have argued for a rethinking of survivor benefits to relate them to the benefits that had been received by the couple.

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