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Prospects for the Welfare State

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Abstract

It is useful to distinguish between exogenous and endogenous factors behind contemporary and expected future problems for the welfare state. This paper tries to identify major problems of both types and to indicate alternative reform possibilities to deal with them. At the same time as several governments struggle with such reforms, new demands on the welfare state emerge. Although the basic structure of today's welfare-state arrangements certainly can be kept, the reforms required are sufficiently large to create considerable conflicts across interest groups.

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PROSPECTS FOR THE WELFARE STATE

What are the most severe problems of contemporary welfare-state arrangements in Western Europe, and what are the main options for future reforms of these arrangements? When discussing these issues, I use the term “welfare state” in a narrow sense. I refer to two types of government-controlled expenditure programs, namely *transfer payment*, mainly in the form of social insurance, and subsidies or direct government provision of *human services* such as child care, education, health care and old-age care. Although the organization of both types of programs differs considerably across West European countries, I will concentrate on issues that are common to all these countries.

Both problems and contemporary reform proposals concerning welfare-state arrangements should be seen against the background of the achievements of existing arrangements. Therefore, let us remind ourselves of the fact that the welfare state has brought about both *efficiency gains* and *redistributional achievements*. It is useful to distinguish between two types of efficiency gains. One is to reduce the income risks of individuals, in particular through various social insurance arrangements, mainly in connection with unemployment, temporary and permanent disability and retirement. Well known deficiencies in voluntary insurance markets, which tend to leave large population groups without any insurance, constitute an important background for the efficiency gains of mandatory social insurance. The other basic efficiency gain of the welfare state is that subsidized provision of various types of human services has mitigated tendencies to underinvestment in human capital. An important explanation for such underinvestment is the difficulty for the individual to invest in human capital because of liquidity constraints, including the inability to borrow with human capital as collateral. Another explanation for such underinvestment is that, for obvious reasons, the individual does not take into account positive external effects on others of such investments.

So much for the efficiency gains. There is also evidence that contemporary welfare-state arrangements have succeeded in redistributing both income and the provision of

human services to low-income groups. This holds, in particular, for yearly income and yearly consumption of human services, but at least in some countries, it also seems to hold for life-time income and life-time consumption of such services.

Generally speaking, both the efficiency gains and the redistributive achievements of the modern welfare state are impressive. Indeed, on various occasions, I have characterized the modern welfare state as “a major achievement of modern civilization”. However, contemporary and expected future *problems* for the welfare state are also huge, and these problems constitute a natural starting point for a discussion of the prospects for the welfare-state, including the possibilities of reforming contemporary arrangements without undermining their major achievements.

When discussing these issues, it is useful to distinguish between *exogenous* and *endogenous* factors behind contemporary and expected future problems for the welfare state. By “exogenous factors” I mean economic and social forces that have mainly emerged independently of the welfare state. Conversely, by the term “endogenous factors”, I refer to forces that, in fact, have basically been initiated by the welfare state arrangements themselves. Naturally, the borderline between exogenous and endogenous factors is far from clear-cut.

Exogenous factors.

The modern welfare state was built up during a unique historical period, in particular during the first three decades after World War II. During this period, a number of circumstances were highly favorable for the functioning of the welfare state. My point is that these circumstances have subsequently, to a considerable extent, faded away.

The *demography* was favorable during the first decades after World War II in the sense that the share of elderly was rather low. As we know, this is no longer the case, and the demography will deteriorate further in the future as a result of low birth rates and increased life expectancy. The so-called “dependency ratio” in the EU (the ratio of individuals above 65 to those between 15 and 65) has almost doubled since 1950, and is almost expected to have doubled again by 2050 according to EU calculations (Bovenberg, 2007). The financial situation of benefit-based pay-as-you-go (“paygo”)

social insurance systems is particularly harmed by such developments, since revenue growth in such systems to a considerable extent depends on the rate of growth of the labor force.

However, as argued by some authors such as Hans-Werner Sinn (2000), the choice of families to have fewer children may partly be the result of the build-up of the welfare-state arrangements themselves, since these have reduced the need for parents to be supported by their own children in old age. Hence, the demographic development may, in fact, not be entirely exogenous with respect to the welfare-state arrangements. But it is an open question how important this particular mechanism is; after all, similar demographic developments have taken place in countries without elaborate welfare-state arrangements, such as a number of countries in South East Asia.

The low level of *unemployment* in Western Europe during the first decades after World War, typically 2-4 percent, also contributed to the financial viability of the welfare-state during that period. However, since the unemployment rate has hovered in the interval of 8-10 percent since the early 1980s, the financial position of the welfare state has suffered “in both ends”: the costs have increased while the tax base has eroded.

Moreover, during the first decades after World War II, *real wages* were sufficiently low to make it fairly easy to tax-finance the provision of labor-intensive services such as education and old-age care. This is becoming increasingly difficult because labor productivity tends to increase at a much slower rate in these sectors than in most other sectors of the national economy. Since wages tend to increase at about the same rate in all sectors, the relative costs of labor-intensive services tend to increase gradually over time – reflecting Baumol’s celebrated cost disease for labor-intensive human services (Baumol 1967). For instance, suppose that the government, and the electorate, want to increase the provision of tax-financed labor-intensive human services at the same rate as the provision of other goods and services – a rather realistic assumption in view of earlier experiences. It is easy to show algebraically that the tax rates must then be raised, without limit, at a rate determined by the difference between labor productivity growth for tax-financed services and other products (Lindbeck 2006, Appendix).

Baumol's cost disease is particularly relevant for services such as child care, education and old-age care. The situation is somewhat different for health care, since the rate of productivity growth is, in fact, quite fast for certain tasks in this sector because of new operation techniques and new medicines. However, as we know, productivity growth in health care also takes the form of increased possibilities to treat health problems that could not be effectively dealt with earlier. As a result, requests by individuals to be treated for health problems tend to increase over time without any apparent limit. Thus, the financing of sick-care tends to run into similar difficulties as child care, education and old-age care – although largely for different reasons.

Finally, the modern welfare state has traditionally been a “national project”. The modest level of international economic interdependence during the first decades after World War II meant that the international complications as concerns welfare-state arrangements were modest. As noted by many observers, the subsequent economic *internationalization process* has changed the situation for the welfare state. One example is that increased international competition may affect the distribution of factor income within individual countries in ways that conflict with national distributional ambitions. At the same time, the national autonomy of redistribution policy tends to fall when domestic tax bases become more internationally mobile. For instance, although taxes on capital income are not very important for financing welfare-state arrangements, the increased international mobility of capital has certainly made it more difficult to redistribute income among citizens through capital taxation. In the future, the internationalization process may also reduce the possibilities of using progressive taxes on labor income as a tool for redistribution policy.

In the general policy discussion, there is today a strong tendency to blame contemporary and expected future welfare-state problems on the internationalization (globalization) process. It is, however, quite clear that the major problems for the welfare state, so far, are related to domestic forces, including those discussed above. It is certainly possible to moderate some of these forces. For instance, in a long-term perspective, contemporary demographic trends may be mitigated by more friendly policies towards families raising children, for instance by income transfers to such

families and subsidies of child care. Moreover, in view of gradually better health among the elderly, it is natural to raise the statutory pension age and reduce the degree of subsidization of early retirement.

In principle, immigration of relatively young individuals would also mitigate the demographic problems, although such immigration would have to be quite huge to make a considerable contribution in this respect.¹ However, to successfully integrate immigrants in the labor market, it is also important to reduce the present insider-outsider nature of the West European labor market. One way of doing so would be to opt for more flexibility of relative wages, another to reduce the relative market powers of labor-market insiders by softening the strict job security legislation that exists in some countries. Large-scale immigration of low-skilled workers is difficult to reconcile with the present minimum wages in Western Europe (brought about through government regulations or union bargaining.)

Similar labor-market reforms are important for keeping down the *general* unemployment level of domestic outsiders, such as new entrants and elderly. Naturally, such reforms are politically difficult to implement since, at a given point in time, insiders constitute a majority of the labor force.

To avoid gradually rising tax rates in connection with the financing of such services, governments seem to have (at least) three options. One is to stimulate productivity growth in these sectors, for instance by better training, incentives for cost-saving innovation and more competition from private agents; it is, however, an open question how successful such attempts could be. A second option is to shift to new methods for financing human services, for instance mandatory insurance fees or user fees when individuals use the services. An obvious problem with both methods is that they easily come into conflict with distributional ambitions. However, if both alternatives are rejected, the remaining option for avoiding gradually rising tax rates would be to altogether stop the expansion of tax-financed consumption of human services, which

¹ Solving the demographic problem in Europe *only* by immigration would, based on calculations by the UN, require an immigration to Europe of about 700 million – assuming unchanged trends in other respects (Sinn, 2007).

would mean that the private sector would increasingly take over the financing of services in this field.

Endogenous factors

So much for exogenous factors behind contemporary welfare-state problems.

Endogenous factors consist of “undesired” behavior adjustments by individuals as a result of the welfare-state arrangements. Such adjustments take place as combined effects of explicit tax wedges and so-called “moral hazard” in the context of various social insurance arrangements, i.e., tendencies among individuals to “overexploit” the benefit systems – as compared to what these systems were supposed to be used for.

Starting the discussion with explicit *tax wedges*, it is important to notice that these do not only make leisure more attractive as compared to work. Individuals may also be induced to shift from work in the open (regular) labor market to household production and black-market work. The returns to saving and education are also reduced, in particular if income taxes are progressive. Naturally, there are methods for mitigating such effects. One is to reduce the effective tax wedge, another to counteract some of the effects of the tax wedges on the allocation of resources.

The most obvious method for *reducing the effective tax wedge* is to strengthen the link between social insurance contributions and expected future social insurance benefits. For instance, the effective tax wedge in the pension system may be reduced by a shift to a more actuarial pension system. This may also be achieved in the context of paygo financing (Lindbeck and Persson, 2003). In fact, the tax wedge then becomes equal to the difference between the statutory tax rate and the (capital value) of the benefit rate.² A basic dilemma of such a reform is, of course, that the possibilities to use welfare-state arrangements as instruments of redistribution policy would then fall. Other types of tax reforms that reduce the tax wedge may not run into such problems. One example is to shift the tax base of income taxes from family income to the income of individual family members. In countries with progressive taxes, such reforms do not

² Denote the wage rate by w , the tax rate (pension contribution rate) by t , the replacement rate of the pension system (the benefit as a fraction of previous earnings) by b and the real discount factor (connecting the period of work and the period of retirement) by D . The net earnings of the individual when working are $w(1-t)$, while they are wb when retired, with the capital value Dwb during the period of work. Hence, the return to work is $w(1-t) + Dwb = w[1 - (t - Db)]$.

only stimulate labor force participation by married females, they also contribute to increase the economic independence of married females.

There are also important examples of policy measures that counteract the effects of tax wedges on individual behavior. One example is increased subsidies of education to mitigate the tax disincentives on investment in human capital (in particular, in the case of progressive taxes). Another example is subsidies on the purchase of services that are close substitutes to household production – obvious examples being child care, cleaning, home repairs and gardening (Lindbeck, 1982). Such subsidies also tend to shift back the production of such services from the underground economy to the regular economy. However, one problem with such subsidies is to decide which services to include in the subsidy programs. For instance, should visits to restaurants be included? After all, such visits are also rather close substitutes to home production of meals.

So much for explicit tax wedges. *Moral hazard* is often a more serious problem. While tax wedges usually result in marginal behavior adjustments (adjustments on the “intensive margin”), such as fewer hours of work, moral hazard often takes the form of a complete withdrawal from the labor market at least for a period of time (adjustment on the extensive margin). The latter type of behavior adjustment seems to be particularly usual in the case of unemployment insurance, sick-pay insurance, disability pensions and benefits for parents to stay home to take care of sick children. The incentives for such behavior adjustments, including explicit insurance fraud, emerge as a combined effect of the tax wedges and generous benefit rules. Indeed, the effective tax wedge on work in the case of social insurance is the *sum* of the tax rate and the benefit rate.³

Hence, moral hazard accentuates tax distortions on the allocation of resources – or the other way round. For instance, suppose that your marginal tax rate on labor earnings

³ Using the same notation as in the previous footnote, the net earnings of the individual when working are $w(1-t)$ if working and wb if living on benefits (where b is now the benefit rate). Hence, the difference in net income when working and living on benefits is $w(1-t) - bw = w[1 - (t+b)]$ with the tax wedge $(t+b)$.

In countries where benefits are taxed, the relevant benefit rate is, of course, the net-of-tax rate.

is 40 percent and that you get a benefit amounting to 50 percent of your previous wage rate when living on (untaxed) social insurance benefits. This means that your total *implicit* tax wedge is 90 percent (40 *plus* 50) when choosing between work and living on benefits. In this sense, the individual's return on work is only 10 percent of the wage earnings (as compared to living on benefits). This is an important background to the fact that about 20 percent of the individuals of working age in Western Europe today live on government benefits.

Naturally, moral hazard is not only influenced by economic incentives but also by prevailing social norms in society concerning the utilization of benefit systems. Before the build-up of the modern welfare state, it was natural that social norms emerged according to which able-bodied individuals were supposed to support themselves, usually by work. Then came the welfare state, which contributed to separate income from work to a considerable extent, in particular for low-income groups. To begin with, the effects on labor supply seem to have been quite small. One possible reason is that social norms inherited from the past mitigated potential disincentives on work. In a number of papers, I have hypothesized that after a while, some "entrepreneurial" individual found out that it was possible to survive, and even to consume nearly as much as before without working, at least for a period of time. And when some individuals started to exploit the benefit systems, we may hypothesize that others followed suit, since it became less stigmatizing to exploit the systems when others also did so. Thus, I hypothesize that "norm drift" has in fact taken place in recent decades (Lindbeck, 1995; Lindbeck, Nyberg, Weibull, 1999; Lindbeck and Nyberg, 2006). A complementary hypothesis is that the speed of the norm drift was boosted by a number of negative macroeconomic shocks, which "threw" some individuals onto various safety nets.

The fact that individuals change their behavior as a result of being insured is not necessarily a "problem". After all, an idea of income insurance is to make it financially feasible for the individual to stay home when work is connected with particularly serious discomfort – and, in the case of unemployment benefits, devote a reasonable amount of time to job search. The problem is that some countries have tilted the trade off between income protection and work incentives so strongly in favor of the former that the induced change in behavior has been much larger than intended

by the authorities, in the sense that people today make more "generous" interpretations of their rights to live on social insurance benefits than what has been intended by the insurance authorities.

This hypothesis is consistent with Swedish experiences. For instance, a number of attitude studies in Sweden conclude that a majority of the population consider that it is OK to live on sickness benefits also without being sick, for instance because they do not like their job, they dislike their boss or experience conflicts in their own family (see, for instance, Modig and Broberg, 2002). Other studies indicate that the actual behavior of many individuals is based on very generous interpretations of the right to receive social insurance benefits. For instance, Skogman Thoursie (2004) found that sickness absence increased by 16 percent among men as compared to women in connection with TV emissions of the World Championship in cross-country skiing in 1987, and by 6.6 percent in connection with the Winter Olympics in 1988. More strikingly, Persson (2005) found that sickness absence among men increased by 41 percent as compared to women in connection with the 2002 World Championship in football. There are also huge geographical variations in paid sickness absence, which cannot be explained by socioeconomic factors, but which are consistent with the hypothesis of variations in local social norms (Lindbeck, Palme and Persson, 2007).⁴ Today, there is also considerable accumulated evidence of explicit benefit fraud in Sweden indicating, for instance, that individuals receiving unemployment benefits or sick-pay actually work at the same time (often in the black labor market). Another example is that individuals receiving benefits for the purpose of taking care of sick children in fact have taken their children to day-care institutions, and in some cases have even gone to work themselves (Delegationen mot felaktiga utbetalningar, 2007). However, we do not have any comparable data from the past to confirm whether attitudes and behavior in these respects have actually changed over time. This means that the "norm drift" hypothesis is still just a hypothesis – although, in my view, a reasonable one.

In principle, four methods seem to be available to mitigate problems of moral hazard in connection with welfare-state arrangements: (i) stronger work incentives through

⁴ This study uses various proxies and instrument variables to find evidence of the role of local social norms for explaining local variations in sickness absence in Sweden.

less generous benefits and lower tax rates; (ii) stricter controls, (iii) attempts to directly influence social norms; and (iv) a shift from subsidies of non-work (as in the case of traditional social insurance benefits) to subsidies of work. Since each method is connected with specific problems, presumably with rising disadvantages when the use of one method is increased, it makes sense for governments to combine all methods simultaneously. Indeed, a combination of all these measures in Sweden in recent years seems to have contributed to a considerable reduction in sickness absence – in spite of a cyclical economic upswing, which usually triggers higher absence rates.

The fourth method (subsidies of working) may very well turn out to be the most promising one. Depending exactly on the purpose of such subsidies, these may take somewhat different forms. In countries where the wages of low-productivity workers are particularly low, the most relevant intervention may be wage supplements paid directly to the individual (such as “tax credits”) – for the purpose of stimulating low-productivity workers to look for jobs as well as reducing the incidence of “working poor”. Indeed, the United State and the United Kingdom have opted for such programs – although, so far, for rather limited groups of low-productivity individuals. In contrast, in countries where the wages for low-productivity workers are relatively high (because of legal minimum wages or union wage bargaining), it may be more relevant to subsidize the wage costs of firms for the purpose of stimulating these to increase their demand for such workers. Although the (general equilibrium) effects of these two types of interventions may converge in the long run, the short- and medium-run effects will differ because of rigidities in wage formation for low-skilled workers.

In the case of both types of interventions, we may talk about a shift of emphasis from “welfare” to “workfare”. In my own country, Sweden, subsidies of work have recently been used both to stimulate low-skilled workers to look for jobs and to stimulate firms to increase their demand for such workers.

New demands on the welfare state

At the same time as several governments today struggle with reforms and retreats of welfare state arrangements – often along the lines mentioned above – new demands on the welfare state tend to emerge. For instance, increased labor force participation of females tends to increase the demand for subsidized child care and old-age care – at

the same time as such arrangements in themselves tend to stimulate female labor force participation (reverse causation). In this field, the Nordic countries, and to some extent France, have been forerunners. Moreover, less stability of families makes a case for the sharing (splitting) of accumulated social entitlements (such as pension benefits) between spouses in the case of divorce, in the same way as such sharing usually takes place for other types of assets accumulated by family members.

Moreover, increased individualism in terms of values and attitudes – reported in various attitude studies – means that individuals are likely to ask for more freedom of choice concerning income insurance and providers of human services. In the case of income insurance, one way of accommodating such demand is to allow people to opt out from mandatory insurance systems (such as in the UK, Germany and the Netherlands). In the case of human services, tax-financed voucher systems (in the sense that the tax money follows the individual's choice of service provider) are an obvious method for increasing the freedom of choice. In this way, competition in the production of human services will also increase, which will most likely contribute to higher productivity and more innovation. However, it is then important to build up government inspection systems to mitigate the risk that private providers shirk on quality when trying to cut costs. Another example of new demands on the welfare state is that the internationalization of the labor market raises the demands for more cross country portability of welfare-state entitlements.

There is also an emerging view among observers that variations in health conditions across developed countries today depend more on differences in life style than on differences in the availability of sick care. A natural adjustment to this observation is, of course, an increased emphasis on *preventive* as compared to curative health care, in particular through policies encouraging a healthy life style. It is a moot question how much the government should intervene in individuals' life style for this purpose.

Moreover, new types of social problems in urban areas require new and more selective social policies – important examples being drug problems, criminality, vandalism and an agglomeration of mentally disturbed individuals in cities. Since voluntary private organizations in many cases seem to deal better with some of these

problems than government organizations, new partnerships between public and private organizations may be useful to deal with these issues.

Political complications

Not only contemporary and expected future welfare-state problems but also new social demand makes a strong case for reforms of welfare-state arrangements in West European countries. It is likely that many of these problems can be dealt with by a number of *partial* reforms. A main purpose of such reforms would be to make the welfare state more compatible with basic economic incentives, another to better adapt welfare-state arrangements to new socio-economic developments. It is certainly not necessary to scrap, or even drastically overhaul the basic structure of contemporary welfare-state arrangements in Western Europe. Nevertheless, the reforms required to make the welfare state viable, and better adapted to citizens' demands, are sufficiently large to induce various interest groups to resist even partial reforms. The ensuing political conflict may therefore, to some extent, counteract the welfare state's contribution to social and political stability. The most "respectable" resistance to reforms might come from individuals who are actually not *able* to work. Elderly who have definitely left the labor market, or plan to do so, may also be dissatisfied with welfare-state reforms that shift the emphasis from assistance to the elderly to assistance to families with small children, or to citizens of working age with particular difficulties in getting jobs (labor-market outsiders). From these points of view, generation conflicts are likely to be accentuated.

One important aspect of future welfare-state policies is whether politicians should continue to rely on discretionary, *ad hoc* reforms or if they should instead try to create "built-in" *automatic* adjustment mechanisms in various benefit systems. By the latter, I refer to *administratively* rather than politically managed adjustments of various benefit systems in response, for instance, to changes in demography, real wage growth and employment growth. An advantage of relying more on automatic adjustment mechanisms is that the "burden" on politicians to take unpopular decisions in concrete cases would then fall. Indeed, shifts to such automatic adjustment mechanisms have already been taken in some countries. For instance, in some countries, including Sweden, the pension benefits will in the future be determined by automatic downward adjustments of the pension benefits if the number of pensioners increases as a result of

increased life expectancy, or if the rate of growth of real wages for contemporary workers falls. Naturally, even if the social insurance systems become more financially stable as a result of such automatic adjustment mechanisms, it remains an open question whether automatic adjustment rules themselves will be *politically* stable.

Regardless of whether the reforms consist of *ad hoc* interventions or automatic adjustment mechanisms, there is a case for early rather than late reforms. If the reforms are much delayed, they may have to be quite drastic, in particular if social norms against “over-using” various benefit systems have already been considerably weakened. It is, however, well known that it is often difficult for politicians to act early – in particular before a majority of the population has realized that reforms actually are important, or even necessary to save important achievements of the welfare state.

References

Baumol, William, 1967, “Macroeconomics of unbalanced growth: The anatomy of urban crisis, *American Economic Review*, 57, 415-426.

Bovenberg, Arju Lans, 2007, “Grey New World: Europe and the Road to Gerontocracy?”, *CESifo Forum*, Autumn, pp. 25.

Delegationen mot felaktiga utbetalningar (Delegation against incorrect benefit payments), 2007, “Vem fuskar och varför?” (Who Cheats and Why?) Rapport 6, November.

Lindbeck, Assar, 1982, “Tax effects versus budget effects on labor supply”, *The Economic Inquiry*, October.

-----, 1995, “Hazardous Welfare-State Dynamics”, *the American Economic Review*, Papers and Proceedings, No. 86, May.

-----, 2006, “Sustainable Social Spending”, *International Tax and Public Finance* 13:4, 303-324.

Lindbeck, Assar, Sten Nyberg and Jorgen Weibull, 1999, “Social Norms and Economic Incentives in the Welfare State”, *Quarterly Journal of Economics*, 114(1).

Lindbeck, Assar and Mats Persson, 2003, ”The Gains from Pension Reform”, *Journal of Economic Literature* XLI:1, pp. 74-112.

Lindbeck, Assar and Sten Nyberg, 2006, "Raising Children to Work Hard: Altruism, Work Norms and Social Insurance", *Quarterly Journal of Economics* No 4, November 2006.

Lindbeck, Assar, Mårten Palme and Mats Persson, 2007, "Social Interaction and Sickness Absence", Industrial Research Institute (IFN), Working Paper No 725.

Modig, Anna and Kristina Broberg, 2002, "Är det OK att sjukskriva sig om man inte är sjuk?" (Is it OK to live on sickness benefits even if your are not sick?), memo T22785, TEMO, Stockholm.

Persson, Malin, 2005, "Korta sjukskrivningar under fotbolls-VM 2002 – en empirisk studie" (Short spells of sickness absence during the 2002 Football World Championship – and empirical study), mimeo, Department of Economics, Uppsala University.

Sinn, Hans-Werner, 2000, "Why a Funded Pension System is Useful and Why It is not Useful", *International Tax and Public Finance*, 7, pp. 389-410.

Sinn, Hans-Werner, 2007, "Introduction", *CESifo Forum*, Autumn, pp.7-11.

Skogman Thoursie, Peter, 2004, "Reporting Sick: Are Sporting Events Contagious?", *Journal of Applied Econometrics*, 19(6), 809-823.