

THE INDUSTRIAL INSTITUTE FOR ECONOMIC AND SOCIAL RESEARCH

WORKING PAPER No. 469, 1996

**FULL EMPLOYMENT AND THE  
WELFARE STATE**

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(MemphisB. Doc)  
A. L.  
15/9, 1996

Frank E. Seidman Award Lecture, Sept. 1996.

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## FULL EMPLOYMENT AND THE WELFARE STATE

The modern welfare state and full-employment policies have common intellectual roots. In the 1930s and 1940s, Keynesian visions of full employment and Beveridge-inspired ideas of a universal welfare state grew up in about the same intellectual environment. Both ideas emphasized a government's responsibility for the welfare of its citizens. The two ideas were also projected by approximately the same individuals.

From the very beginning, welfare-state arrangements and full-employment policies were regarded as strongly *complementary*. Both were designed to improve the economic security of the individual, although welfare-state arrangements deal largely with life-cycle considerations, while full-employment policies focus on the situation at a given point in time. They were also believed to support each other. Not only would high aggregate employment help finance the welfare state by boosting the tax base and keeping down the number of beneficiaries. A reverse causation was also assumed: various welfare-state arrangements were often asserted to contribute to full employment. Hence a virtuous circle was postulated between the welfare state and full employment. Governments also constructed specific institutional arrangements and regulations that were explicitly designed to strengthen the consistency and complementarity between the welfare state and full-employment policies.

Actual economic and social developments during the first decades after World War II seemed to support the view of a harmonious, indeed symbiotic,

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relation between the welfare state and full-employment policies. It turned out to be possible to combine full employment with high economic security and a gradually more even distribution of income, which are important ambitions of the welfare state.

Exactly what, then, were the asserted complementarities between the welfare state and full-employment policies, and why do these complementarities look less convincing today? I would like to organize the discussion of these questions around four issues: (i) the influence of welfare-state arrangements on short-term macroeconomic stability; (ii) the long-term incentive effects of welfare-state arrangements, and related taxes, on aggregate employment and unemployment; (iii) the role of explicit administrative measures to boost aggregate employment in the long run; and (iv) the employment consequences of various labor-market regulations designed to fulfill much the same purposes as traditional welfare-state arrangements. The paper concludes with (v) a discussion, using a simple macro model, of how various welfare-state arrangements affect the contemporary employment crisis in Western Europe.

#### **(i) The welfare state and macroeconomic stability**

Assertions that comprehensive welfare-state arrangements contribute to short-term macroeconomic stability are built largely on the Keynesian “automatic fiscal stabilizer”, which maintains the disposable income of households in business downturns via government budget deficits. Indeed, this is perhaps the most obvious example of complementarities between the welfare state and full-employment policies -- a point emphasized in Tony Atkinson’s Award Lecture last year (Atkinson, 1995, pp. 8-9).

It is tempting, then, to hypothesize that macroeconomic stability will be greater, and the possibilities of avoiding heavy unemployment better, the more comprehensive and generous the welfare state becomes, and hence the more sensitive the budget deficit is to macroeconomic fluctuations. The entire issue is much more complex, however. An important reason is that budget deficits in recessions may not be balanced, even approximately, by budget surpluses in booms. One explanation is simply a “technological” asymmetry: there are stricter limits to

increased capacity utilization in booms than to reduced capacity utilization in recessions. Another explanation is political: when tendencies towards large budget surpluses emerge, the political pressure for increased spending or lower taxes is often irresistible.

What, then, would be the disadvantages of a rapid long-term increase in government debt, as a share of GNP? One trivial but important problem is that a dramatic and sustained increase in the interest burden of the public sector tends to crowd out other types of public-sector spending. During the last few decades, this has been the case in high-debt countries such as Belgium, Finland and Sweden, where the nominal interest payments of the government have recently approached and/or exceeded 10 percent of GNP. This has induced governments to cut welfare-state spending; the welfare state has become a victim of galloping public-sector debt.

Other well-known problems of galloping government debt are, of course, redistributions of income to the disadvantage of future generations, and increased risks of higher inflation as the government may want to inflate away the real value of the deficit and the debt. Though the magnitude of these problems is sometimes exaggerated in the political discussion, it would be wrong to deny that these problems are genuine drawbacks of a large and galloping public debt.

Another problem, which has come to the forefront in recent years is that galloping government debt may generate *destabilizing expectations* among private agents -- households as well as institutional lenders; see, for instance Giavazzi and Pagano (1996). Multiperiod theories of household saving (consumption) predict that increased public-sector deficits will raise the household saving rate, provided households take their knowledge of the government's intertemporal budget constraint into account in their own microeconomic behavior. More specifically, people have reasons to expect that benefits will be cut or taxes raised in the future as a result of a budget deficit today. As a consequence, households are likely to increase their saving today to counteract the effects of expected government budget policies on their future resources. As we know, economists have expressed serious doubt regarding a *strong* version of this theory, according to which the rise in desired household saving would be exactly as large as the fall in public-sector

saving -- so-called "Ricardian equivalence". There are, however, exceptional situations when this may be the case, and when the household saving rate may increase even more than predicted by the theory of Ricardian equivalence.

One such situation arises when galloping government debt during deep recessions generates a drastic increase in the *uncertainty* among households about social-security entitlements (though increased uncertainty about future taxes may have the opposite effect). As a result, households may cut their consumption to a larger extent than predicted by consumption theories where such uncertainties are not explicitly considered. Such negative effects of increased uncertainty about future social-security entitlements on private consumption may in some cases dwarf the "traditional" positive effects of the automatic stabilizer which boosts disposable income. It may also dwarf the "normal" ambition of households to smooth their consumption path over the business cycle, as described by standard life-cycle theories of saving. Uncertainties of these types are often believed to be an important explanation for the dramatic increases in the financial saving rates of households in Finland and Sweden in the midst of the deep recession with exploding government budget deficits, in the early 1990s.

Galloping government debt may also make domestic and foreign lenders doubt the ability of the government to meet its debt commitments without starting a new round of inflation. Not only nominal but also real interest rates will then increase more than predicted by traditional macro models in which this "confidence factor" (increased uncertainty) is not considered. Suggestive illustrations are the rise in nominal and real interest rates on government bonds in Finland and Sweden in the early 1990s to levels 3-4 percentage points above the German rates. These rates remained at such high levels for quite a while also after the fall in exchange rates (by some 15-25 percent), and even after domestic inflation had dropped below German inflation.

For these various reasons, it is natural to hypothesize that "automatic budget responses" to macroeconomic fluctuations will stabilize aggregate output and employment only *up to a point* relative to the size of the budget deficit. In other words, the macroeconomic consequences of the automatic budget response may not be monotone, or even continuous. There may be a *sudden* loss in confidence among

households and lenders when either the deficit or the debt, or both, reach a certain level. But this critical level can hardly be predicted in advance. Thus, during deep and prolonged recessions, a very strong automatic budget response to macroeconomic fluctuations can function as an “automatic destabilizer” rather than an automatic stabilizer.

Recent experiences in several countries also illustrate that galloping government debt during deep recessions may make the authorities hesitate to take *discretionary* expansionary fiscal-policy actions, precisely because of concerns about galloping government debt. Thus, there are good reasons to express some doubt *both* about the relevance of the automatic fiscal stabilizer *and* about the political feasibility of discretionary fiscal-policy action in deep recessions, at least in countries with a long history of rapidly rising government debt. In the case of more “normal” cyclical fluctuations, and in countries with a track record of “budget discipline”, both the automatic stabilizer and discretionary fiscal policies are more likely to work as usually predicted by traditional Keynesian economics.

#### **(ii) Long-term incentive effects on aggregate employment**

Welfare-state arrangements are often assumed not only to stabilize aggregate employment during the course of the business cycle, but also to boost the aggregate employment rate *in a long-term perspective*. One version of this view, most prominently expressed by Alvin Hansen (1941), is that aggregate output in modern capitalist economies has a tendency to stagnate below full employment because of “excessive” private saving. It has often been argued that this could be mitigated by both increased economic security via social insurance reforms, and redistributions of income to low-income groups with high marginal propensities to consume.

This stagnation theory disappeared from the intellectual scene during the “golden age” of rapid economic growth and full employment in the first decades after World War II. The idea may, however, have some relevance for the situation in Western Europe in recent years, as long as we accept the hypothesis that increased uncertainty about future social-security entitlements induces households to increase their saving rates. But this would have only a temporary effect on aggregate demand, until investment and net export have adjusted to the higher saving rate.

There are, however, better arguments as to why welfare-state arrangements may stimulate aggregate employment in a long-term perspective. In particular, subsidies to *investment in human capital* among groups with physical, mental, cultural or educational handicaps are likely to boost the employment prospects of individuals with particularly high unemployment risks. This holds not only for subsidies of education and health care, but also for specific measures that mitigate child poverty and provide social services like prenatal care and improved nutrition for pregnant women and children -- all important examples of welfare-state arrangements that boost the investment in human capital.

Nowadays it is often also argued that *general* subsidization of education will reduce unemployment via an overall rise in the marginal product of labor. Positive effects of such actions on the demand for labor presuppose, however, that real wages do not increase in the same proportion as the marginal product of labor, or even more. It is far from obvious that this condition is usually met in reality, as incumbent workers often try to seize as much of increased labor productivity as possible through higher wages.

The long-term consequences of various *transfer programs* for aggregate employment and unemployment are even more complex. There is certainly a strong distributional case for supporting the incomes of individuals who are out of work. Indeed, this is one of the basics of the modern welfare state! Generous unemployment benefits also help individuals finance periods of job search long enough so that they do not have to accept the first job offer that comes along. But it is unavoidable that generous welfare-state benefits discourage some individuals from job search and induce others to leave the labor force. In other words, it is inevitable that generous benefits will raise the reservation wage of some individuals.

Strong macroeconomic shocks during the last two decades have also "thrown" many citizens onto various safety nets, where they have remained for long periods of time in Western Europe. It is tempting to hypothesize that this has weakened previously dominating social norms against living off various welfare-state benefits. Long-term negative effects on labor-force participation and aggregate employment are obvious consequences (Lindbeck, 1995).

It is often also argued that high *payroll taxes*, which finance much welfare-state spending in several countries have contributed to high and prolonged unemployment. This may seem intuitively obvious to the layman, but the issue is more complex than it sounds. In the short run, higher payroll taxes will certainly raise labor costs and hence reduce the demand for labor, as nominal wages are often set for one or a few years ahead. In a long-term perspective, however, payroll taxes would *usually* be expected to be shifted backwards onto labor in the form of correspondingly lower real wage rates. A basic reason is that capital is internationally mobile, which means that higher payroll taxes cannot cut into the return on capital assets to any large extent.

The payroll tax, however, is just one example among many of "tax wedges", i.e., differences between the wage costs of firms and the take-home pay of wage earners. Indeed, *all* taxes on labor income, including income taxes and consumption taxes, enter symmetrically into the payroll tax in the tax wedge (Lindbeck, 1996). These other taxes should, therefore, be expected to have the same long-term effect on aggregate employment as payroll taxes, though the effects differ in the short run. Due to the symmetric role of all taxes on labor in the long run, the problem of wide tax wedges cannot be solved, or even mitigated, simply by switching from payroll taxes to other taxes on labor. Employment cannot be stimulated by lower payroll taxes, unless *either* part of the tax burden is shifted from labor to other agents, such as to pensioners or capital owners (which is not easy), *or* workers accept lower after-tax real wages, *or*, public-sector spending is cut so that the general tax level can be reduced.

The situation is different, however, in the case of low-wage workers. For this group there are limits as to how far wages can adjust downwards as a result of higher payroll taxes. For instance, minimum wages -- whether stipulated by legislation or by wage bargaining -- establish a wage floor for low-productivity workers. When this floor binds, higher payroll taxes will raise wage costs, which will normally reduce labor demand. This is an important point, as minimum wages are quite high in some countries in Western Europe.

Other employment problems will arise for low-productivity workers if there is no institutionally determined wage floor. Full backward shifting of payroll taxes

onto wages would then bring wages below the reservation wage of some workers. This would occur regardless of exactly *how* the reservation wage is determined: by the return to do-it-yourself work, black market work (adjusted for risks of being detected), or the benefit levels of various social safety nets, such as unemployment benefits, early retirement or social assistance (adjusted for the “discomfort” of relying on such assistance).

The negative effects of wider tax wedges on labor demand are particularly strong in the case of household services, as the marginal rate of substitution between home production and market purchases is especially large in this case. Obvious examples are repairs and maintenance of durable consumer goods and apartments, cleaning, gardening, child care, the preparation of food, etc. This means that wide tax wedges tend to create particularly serious problems for market production and employment in the household service sector. Indeed, this is generally regarded as posing serious problems today in several countries in Western Europe.

### **(iii) Administrative measures to boost employment**

Politicians and public-sector administrators have not passively accepted the disincentive effects on aggregate employment and unemployment generated by various benefit systems and tax wedges. In fact, some welfare-state rules have been explicitly designed, or redesigned, to mitigate such disincentive effects, and hence to boost aggregate employment. The most widely used technique appears to be work requirements in various benefit systems -- often under the slogan *workfare instead of welfare*. Such administrative connections between work and benefits existed already in the social insurance systems created by Bismarck in Germany. Similar connections have recently been emphasized also in countries with Beveridge-type “universal” welfare arrangements, where the benefits have traditionally been tied to citizenship rather than to the work contract and working experience.

Such arrangements are particularly common today regarding benefits connected with early retirement, sickness, work injury, unemployment and maternity leave. Unemployment benefits are often also conditioned on the willingness to accept offered jobs or education. In some countries the same also

applies to transfers to single mothers. An illustration of the consequences of *not* tying benefits to work requirements is the apparent long-term benefit dependency among single mothers in the United States. This dependency is not a result of particularly generous benefits in this country, but rather of not consistently and effectively combining rights to benefits with requirements of work, education or training, and with offers of organized child care outside the home.

Such administrative ties between benefits and work have sometimes been quite successful in the sense that labor-force participation and job search have been encouraged. For instance, the high labor-force participation and low unemployment rates in Sweden in the 1970s and 1980s, in spite of very high marginal tax rates and generous benefits for non-work, can hardly be explained without reference to such ties. Today, the individual is usually denied generous benefits if he/she has not worked outside the home for a number of years. Thus, at least in the Swedish welfare state, Bismarck tends to have overtaken Beveridge.

Workfare elements in benefit systems are likely to function rather well as long as aggregate unemployment is low. Such arrangements are much more problematic in societies with mass unemployment, because large groups of individuals have not then had a chance to acquire enough entitlements to generous benefits. New generations of low-skilled workers entering the labor market are perhaps the most obvious example. When out of work, they are forced to live on very low benefits, such as social assistance or minimal discretionary unemployment benefits. As a result, a new "class society" of beneficiaries is created: those with and those without much previous work experience.

There are, however, transfer systems where this problem is avoided. One example is benefits to the working poor -- so-called work-in-cash benefits -- which encourage beneficiaries to work rather than stay unemployed or drop out of the labor force. Specific examples are the "family credit" in the United Kingdom and the "earned-income tax credit" in the United States.

So-called *active labor market policy* is another example of welfare-state arrangements explicitly designed to enhance employment prospects. Such policies, in particular in the form of public works programs, were, of course, pursued during depressions long before World War II. More recently, however, active labor-market

policy has been designed mainly to improve the functioning of the labor market. This holds *both* for direct job creation, for instance via employment subsidies, *and* for mobility-enhancing policies, such as nationwide labor exchanges, job counseling, retraining or subsidies to workers who are willing to move geographically. A main rationale for such policies has been to remove mismatches between demand and supply in different parts of the labor market. At present, the emphasis on active labor-market policy seems to have shifted to attempts to raise the productivity of low-wage workers, hence integrating active labor-market policy with educational policy.

Needless to say, there are strict limitations to the efficiency of active labor-market policy. In the case of direct job creation -- public work programs as well as subsidies to private employment -- the crowding-out of other jobs is obvious. Swedish studies suggest that such crowding-out is particularly strong in the construction sector (Krueger and Forslund, 1996). There are also obvious limitations to mobility-enhancing programs, including retraining. In particular, such policies do not function unless there are lots of vacancies, and the real product wage rises less than in proportion to the acquisition of more skills.

An illustration of the limitation of active labor-market policy is that open unemployment in Sweden increased from 1.5 to 8 percent during the period 1990-1993 in spite of the fact that participation in such programs increased from about one to 5 percent of the labor force. Systematic empirical studies also confirm the limitations of the favorable effects of active labor-market policies in Sweden (Calmfors, 1994; Krueger and Forslund, 1996).

It is often also argued that an expansion of *permanent public-sector employment* boosts aggregate demand for labor in the long run. In my own country, Sweden, the rise of public-sector employment from 15 percent of the labor force in 1970s to 33 around 1990 -- the entire increase consisting of females -- is often asserted to explain both the low unemployment rates in the 1970s and 1980s and the dramatic increase in labor-force participation of females during these decades. Such effects should be expected to be only temporary, however, in the sense that they are likely to subside after the expansion of public-sector employment has stopped.

There is no good reason to assume that the *long-run* unemployment rate depends much on the sector composition of labor demand at a specific point in time.

**(iv) Labor market regulations and aggregate employment**

Labor market regulations are used in several countries as complements to or substitutes for benefit systems. The two most obvious examples are perhaps minimum wages and job-security legislation.

*Minimum wages* -- via legislation or collective wage bargaining -- certainly contribute to raising the income of some of the "working poor", in particular in some Western European countries where minimum wages are particularly high. But it is equally obvious that high minimum wages result in unemployment for some low-skilled and inexperienced workers. Many types of jobs that exist today in the United States have simply been wiped out in several countries in Western Europe by the combination of high minimum wages and wide tax wedges, in particular in the service sector.

By contrast, the rather low minimum wage in the United States has probably not done much to reduce the demand for low-skilled workers. Indeed, it is well known that *modest* minimum wages, below the potential equilibrium level, may even raise employment for a firm with a monopsonistic position in the labor market. Much higher minimum wages in the US would, however, create unemployment problems of the same kind as in Western Europe for the unskilled. Low minimum wages in the United States have, of course, instead engendered the exceptionally wide dispersion of wages in that country. The *basic* reason for the large number of "working poor" in the United States, however, is the poor level of education and training among the lower deciles in the US distribution of wages.

*Job-security legislation*, i.e., legal restrictions on the freedom of firms to hire and fire employees, is designed *both* to protect the individual worker against arbitrary treatment *and* to stabilize the size of the workforce of individual firms over the business cycles. Such legislation has turned out to have much more complex consequences than originally envisioned by its adherents. While it tends to smooth fluctuations in aggregate employment over the business cycles, it cannot prevent major recessions from resulting in large reductions in aggregate

employment. This is well illustrated by recent employment experiences in Western Europe. As a special illustration: in the deep recession in Sweden in the early 1990s, aggregate employment fell by 12 percent within three years in spite of rather strict job-security legislation.

As labor turnover costs discourage both the firing and the hiring of labor, we cannot presume in which direction they will influence the *average* level of employment over the cycle, as long as we do not consider the consequences for wage formation. However, labor turnover costs also help incumbent workers, so-called insiders, to push up wages above the reservation wage of jobless workers, so-called outsiders, without the latter being able to get jobs (Lindbeck and Snower, 1988). In particular, in business upswings, insiders may use their market powers to raise wages, which puts a brake on new hiring. This means that legislated labor turnover costs are more likely to reduce the *average* level of aggregate employment over the cycle when the consequences for wage formation are taken into account than if such consequences are neglected. High labor-turnover costs are particularly problematic if firms are highly uncertain about their future sales prospects, and hence about their future need for labor inputs.

Job-security legislation also has complex *distributional* consequences. The most fundamental distributional effect is probably that it favors “insiders”, i.e., incumbent workers, at the expense of “outsiders” i.e., jobless workers or workers in temporary jobs, in the labor market. Seniority rules, however, also help low-productivity workers with high seniority to keep their jobs at the expense of high-productivity workers with low seniority. Moreover, it is often argued that “last-in-first-out rules” make it easier for workers to get new jobs if they are fired, because then they are not singled out as inferior workers.

As high labor-turnover costs, brought about by job-security legislation, make changes in the *number* of employees expensive, firms are also induced to vary the number of working hours per employee during the business cycle (Abraham and Houseman, 1993). It may be argued that this type of flexibility in working hours over the cycle is socially favorable, as it results in a more even distribution of employment opportunities among individual employees in recessions. There is also another advantage of flexible working hours over the cycle: it mitigates the rise in

the number of “outsiders“ during recessions. As a result, fewer individuals will lose their skills, social networks and self-confidence during recessions. Moreover, to the extent that wages are set in the interest of the so-called “insiders“ in the labor market, wage formation will be more conducive to high employment in the subsequent boom, as a larger number of workers are able to keep their jobs during the recession. Cyclical variations in hours of work can, however, be achieved by other means than job-security legislation. They can simply be brought about by special contracts between firms and their employees about flexible hours of work over the business cycle.

**(v) Macroeconomic shocks, equilibrium unemployment and unemployment persistence**

Unemployment rose in three abrupt steps in Western Europe in the mid-1970s, the early 1980s and the early 1990s. A rather generally accepted view, which I share, is that these stepwise increases in unemployment were *initiated* by major macroeconomic shocks in connection with the oil-price hikes in the mid- and late 1970s and restrictive economic policies designed to fight inflation, sustain fixed exchange rates and reduce budget deficits.

The most characteristic feature of the West European unemployment experience, however, is *not* these stepwise increases in unemployment rates associated with major supply and demand shocks; similar increases have occurred in other parts of the world, such as in the United States. Rather, it is the inability of unemployment rates to return to the pre-shock level later on. Thus, it is the weak net hiring of labor during business upswings that may be regarded as the basic employment problem in Western Europe. As a result, the aggregate unemployment rate in Western Europe since the early 1970s has “ratcheted up” from about 3 percent to about 10 percent. During the same period, the *employment rate* for people of working age fell from 65 to about 58 percent. This contrasts strongly with the United States, where the unemployment rate has basically fluctuated without any upward trend at all, and where the employment rate for the working-age population has increased considerably over time (Lindbeck, 1996).

What has been the role of various welfare-state arrangements for this development in Western Europe? One possibility is that the increasingly generous welfare-state arrangements during the 1950s, 1960s and early 1970s gradually increased the *equilibrium unemployment rate*, defined generally as a rate that is sustainable in a long-term perspective. Another possibility is that some welfare-state arrangements contributed to making high unemployment *persistent* after various supply or demand shocks had pushed up the actual unemployment rate above the equilibrium rate. It is useful to discuss these two possibilities using a simple macro model with a non-clearing labor market.

The labor market in this schematic model consists of an aggregate labor-demand function (LD), a wage-setting function (WS) and an aggregate labor-supply function (LS). The functions are depicted in Figure 1A; for details, see Bean (1994) and Lindbeck (1993, chaps. 4 and 5). Labor demand is then, following standard analysis, assumed to be a negative function of the real product wage ( $w$ ) and a positive function of labor productivity ( $b$ ). It is useful to write the function in inverse form

$$(1) \quad w_d = D(N, b) \quad \text{LD-function}$$

where  $N$  is aggregate employment and the subscript  $d$  denotes that the left-hand side expresses the real wage *desired* by firms for alternative sizes of the workforce. The general form of this function is the same for firms that operate under monopolistic competition and under perfect competition in the product market. The main difference is that the real wage rate in the former case is influenced by the firm itself (when it sets its output price). Note that the labor demand function for profit-maximizing firms does *not* include an expression for the *level* of product demand. The reason is, of course, that the equilibrium labor demand function for profit-maximizing firms is derived from the marginal product of labor and the real product wage. (In the case of monopolistic competition in the product market the LD-function also includes a parameter for the elasticity of product demand; this parameter is “buried” in the function sign,  $D$ .) Note that, as will be explained below, an aggregate demand shift in the product market tends to move the *actual* employment level *off* the equilibrium labor demand curve, as long as prices and wages are sticky.

Wage setting is assumed to be a positive function of the employment rate ( $N/\bar{N}$ ), where  $\bar{N}$  is the labor force. It is also a positive function of labor productivity ( $b$ ) and the unemployment benefits ( $B$ ):

$$(2) \quad w = G\left(\underset{+}{N/\bar{N}}, \underset{+}{b}, \underset{+}{B}\right) \quad \text{WS-function.}$$

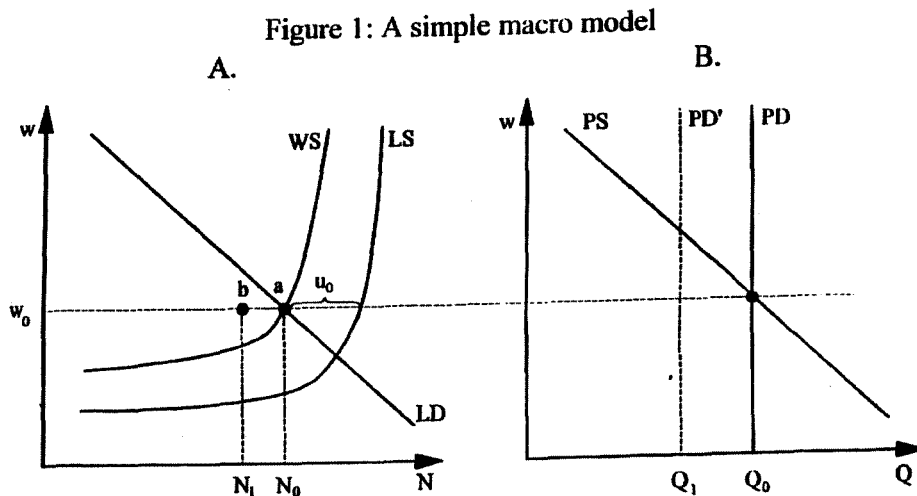
Such a function can be derived from several alternative theories of wage-setting behavior, such as labor-union models, efficiency-wage models and insider-outsider models.

Labor supply ( $\bar{N}$ ) is assumed to be a positive function of the real consumption wage rate (though the function is perhaps vertical at high real wage rates and horizontal at low rates):

$$(3) \quad \bar{N} = F\left(\underset{+}{w(1-t)}\right) \quad \text{LS-function,}$$

where  $t$  is the sum of the income tax and the payroll tax (all other taxes not taken into account here).

Long-term “equilibrium employment” is now defined by the intersection of the labor-demand function and the wage-setting function ( $w_d = w$ ), i.e., at the employment rate at which labor demand and wage-setting behavior are consistent. This employment level is denoted  $N_0$  in Figure 1. Corresponding “equilibrium unemployment” is denoted  $u_0$ .



If the actual unemployment rate is lower (higher) than  $u_0$ , the real product wage is assumed to rise (fall), normally by way of an increase in *nominal* wages that is greater (smaller) than the rise in *nominal* prices. This equilibrium concept is closely related to (though not identical with) the conventional NAIRU concept, i.e., the non-accelerating inflation rate of unemployment, which defines the unemployment rate at which inflation (of nominal wages or prices) is constant; see Lindbeck 1993, Appendix B and Chapter 4.

In this simple framework, more generous unemployment benefits shift the WS curve upwards, lowering equilibrium employment and raising equilibrium unemployment. The intuitive reason is that it is less dangerous for insiders and unions to push up wages when unemployment benefits become more generous, and that firms have to offer higher wages under such circumstances to reduce quits and shirking. Increased generosity of other benefit systems (such as early retirement) have, in principle, similar effects. (Higher minimum wages will instead shift the WS curve upwards in its lower part.)

Labor-market legislation that strengthens the bargaining powers of insiders and unions also shifts the WS curve upwards. Obvious examples are more or less automatic extensions of collective-bargaining contracts to non-organized workers and the right of unions to strike or to enforce blockades against employers who are not involved in bargaining conflicts. Another example is job-security legislation (higher costs of hiring and firing labor).<sup>1</sup> The result is, again, higher equilibrium unemployment.

Higher payroll taxes can also be depicted as upward shifts of the WS curve, though the curve would subsequently be expected to come down again because of long-term backward shifting onto reduced real wages, except in the lower section of the curve, where minimum wages may prevent such shifting of payroll taxes onto wages.

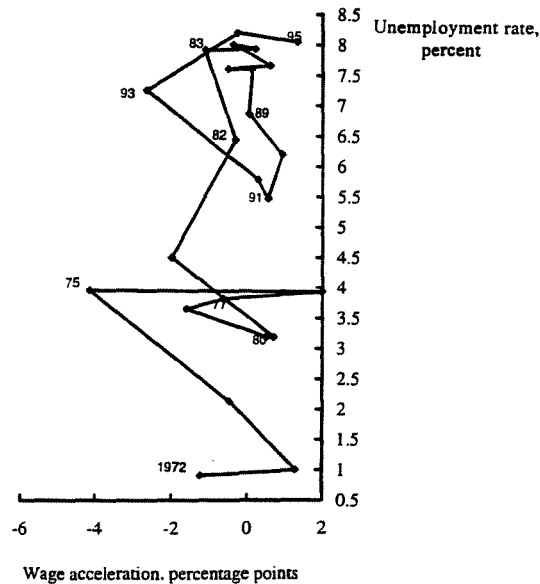
There are strong indications that the equilibrium unemployment rate has increased during recent decades in most countries in Western Europe. This suggests

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<sup>1</sup>In the context of a more elaborate model, job-security legislation splits the aggregate labor demand curve into two: one for the insiders and a lower one for outsiders because hiring and firing costs make it expensive to replace insiders by outsiders (Lindbeck and Snower, 1988).

that there is a component of “structural” unemployment in Western Europe. In the case of West Germany, this is illustrated in Figure 2 by statistics for the NAIRU for nominal wages (OECD Economic Surveys, Germany, 1995). While constant wage inflation in West Germany in the 1970s required an unemployment rate in the interval 1-4 percent, the corresponding figure has been 5-8 percent from about the mid-1980s.

Figure 2. NAIRU for wages in West Germany



Source: OECD Analytical Database

So far I have discussed the possibility that the rise in unemployment in Western Europe is the result of an increase in the equilibrium unemployment rate. An alternative, or rather perhaps complementary, interpretation of the prolonged rise in unemployment in Western Europe, is that demand and supply shocks have long-lasting effects on the unemployment level because of various mechanisms of *unemployment persistence*. With this interpretation of events, the problem would be that unemployment tends to come down only very slowly in Western Europe after having been pushed up above the equilibrium rate by various supply and demand shocks.

To highlight this issue, it is necessary to expand the model to include an aggregate product market. This is done schematically in panel B of Figure 1. The

product-supply function (PS) is simply a mirror image of the LD-function, derived by substituting labor demand into an aggregate production function,  $H(N, b)$ . This makes product supply ( $Q$ ) a negative function of the real wage and a positive function of labor productivity ( $b$ ):

$$(4) \quad Q = H(N, b) = J(w, b) \quad \text{PS-function.}$$

This is quite conventional. Our aggregate product demand function (PD) is also rather conventional. Product demand is assumed to be a positive function of real money balances ( $m/p$ ), the real exchange rate ( $ep^*/p$ ), gross national income, i.e., aggregate output ( $Q$ ), and a shift parameter ( $A$ ). The latter reflects, inter alia, discretionary policy actions.

$$(5) \quad Q_d = K(m/p, ep^*/p, Q, A) \quad \text{PD-function}$$

where  $m$  is the quantity of money,  $p$  the price level,  $e$  the exchange rate and  $p^*$  foreign prices. Here, aggregate product demand has been assumed to be independent of the distribution of national income on wages and capital income. If aggregate product demand rises by a higher wage share (for instance, because of a higher marginal propensity to consume out of labor income than out of capital income), the PD-curve in Figure 2 would slope upwards instead of being vertical (as in the figure). It would instead slope downwards in the opposite case (for instance, because the marginal propensity to invest is higher for capital income than for labor income). The slope of the labor curve, however, is not important for the principles of the subsequent analysis.

Equilibrium in the product market requires that  $Q_d = Q$ : the aggregate price level adjusts to equilibrate the product market in the long run, after long-term equilibrium employment and output have been determined in the labor market (and the production function).

*Restrictive demand management* (a reduction in  $A$ ), as pursued at several occasions by various OECD countries from the mid-1970s to the early 1990s, may now be depicted as a leftward shift of the PD curve, for instance to  $PD'$ . As long as wages and prices do not change, aggregate product demand will fall from  $Q_0$  to  $Q_1$ . As a result, the "effective" labor demand falls below  $N_0$ , to a point inside the long-term labor demand curve. Say it winds up at point  $b$ , with labor demand  $N_1$ , in panel

$A$  of Figure 1;  $N_1$  is simply derived from the production function  $Q = H(N, b)$ , for  $Q = Q_1$ . Thus, actual unemployment winds up above the long-term equilibrium unemployment rate. Indeed, this is probably what has happened in Western Europe after the earlier mentioned demand shocks from the mid-1970s until the early 1990s. In the terms of our model, this illustrates that demand management is able to influence aggregate employment and unemployment by shifting actual labor demand *off* the long-term labor demand curve, and hence outside equilibrium unemployment.

The *oil-price hikes* in 1973/74 and 1979/80 instead shifted the LD curve downwards, as such hikes are approximately equivalent to a negative productivity shock (as value added falls). Unchanged aggregate employment in the short run then requires either a rise in public-sector employment (moving the LD-curve back to the right), or a downward shift of the WS curve. Neither of these circumstances occurred in most countries in Western Europe in connection with the first oil price shock in 1973-1974. This is another reason for the rise in unemployment in the mid-1970s in Western Europe; see Lindbeck 1996.

Why, then, has unemployment persisted for so long in Western Europe after these unemployment-generating demand and supply shocks? Both theoretical considerations and empirical evidence suggest that long periods of unemployment make individuals search less, which tends to result in a more or less prolonged upward shift in the WS curve. An increase in the number of outsiders, which automatically occurs during recessions, has similar effects on the WS curve, assuming that insiders are less concerned with the employment possibilities of outsiders than with their own economic situation.

Shortage of physical and human capital during business upswings has also been singled out as an important mechanism that generates unemployment persistence. This argument builds on the hypothesis that the stock of both physical and human capital tends to deteriorate during prolonged recessions, and that physical or human capital shortage will therefore restrict the possibilities to increase aggregate employment in the next boom by way of demand expansion. In the context of Figure 1A, this can be depicted as a downward drift of the LD curve.

My earlier discussion of the consequences of various welfare-state arrangements can now be tied in. More generous benefits, wider tax wedges, stricter job-security legislation and higher minimum wages not only raise the equilibrium unemployment rate; they also accentuate various persistence mechanisms. The main exception is that subsidies to investment in human capital contribute to shifting the LD-curve to the right.

Unfortunately, econometric studies carried out so far have not been able to distinguish clearly between changes in equilibrium unemployment and unemployment persistence. As a result, the *statistically calculated* equilibrium unemployment rate tends to shadow the actual rate. This means that the relative importance of unemployment persistence and higher equilibrium unemployment can only be guessed today. There is, however, at least one reason to assume that high unemployment persistence is a more important explanation for prolonged unemployment in Western Europe than the rise in the equilibrium unemployment rate: most welfare-state reforms and regulations that are likely to have raised the equilibrium unemployment rate had already taken place in the 1950s and 1960s, i.e., long before the dramatic rise in unemployment occurred. Indeed, it was not until after strong demand and supply shocks had pushed up the actual unemployment rate that serious and prolonged unemployment problems emerged in Western Europe.

#### (vi) Concluding remarks

Welfare-state arrangements and full employment policies are still complementary to some extent, as traditionally asserted. There is no question that full employment and high labor-force participation help make ambitious welfare-state arrangements sustainable. The reverse causation -- from the welfare state to the employment situation -- is more problematic. Though large welfare-state spending programs and related taxes do function as automatic stabilizers during ordinary business cycles, there is, as we have seen, a risk that automatic budget responses to short-term macroeconomic fluctuations will destabilize rather than stabilize the national economy in deep recessions. This risk is most obvious in countries that have a history of rapidly rising government debt (as a share of GNP).

The long-term consequences of various welfare-state arrangements for aggregate employment and unemployment are also rather complex. Investment in human capital, which is an important aspect of welfare-state policies, will most likely enhance the long-term employment prospects of potential low-income groups. It is unavoidable, however, that generous benefits for people out of work will reduce labor-force participation and raise "search" and "wait" unemployment for some individuals. Wide tax wedges have similar effects.

Workfare arrangements and tight administration of benefit systems can certainly mitigate these problems. But there are limits to what can be achieved this way. Moreover, when benefits are tightly tied to previous work history, a new "class society" of beneficiaries tends to emerge, encompassing an underclass of beneficiaries with weak attachment to the labor market. This problem became acute after full employment broke down in Western Europe in the late 1970s.

Direct labor-market regulations also have quite complex, and often ambiguous, consequences. While minimum wages boost the incomes of some low-wage earners, they certainly impair the employment prospects of those who are "priced out of the labor market". Moreover, while job-security legislation may be hailed for reducing fluctuations in aggregate employment over the business cycle, it prolongs the recovery of employment after long and deep recessions.

The most general conclusion of my lecture is perhaps is that while welfare-state arrangements and full-employment policies are often fairly consistent, it is necessary to revise the traditional, rather idyllic vision of a symbiotic relation between them. When contemplating future welfare-state reforms as well as when attempting to return to full employment, the complex relations between the two have to be weighed much more carefully than has been done so far. The purpose would be not only to mitigate the problem of benefit dependency, but also to restore a functioning labor market in Western Europe, and to solve the problem of the "working poor" in the United States.

I have also emphasized that neither existing welfare-state arrangements, nor a rollback and reform of these arrangements, are substitutes for macroeconomic policies designed to keep aggregate product demand on a level with the production capacity of the economy. The stepwise increases in unemployment in Western

Europe during the last quarter of a century give stark illustrations of this point. It is necessary *both* to avoid unemployment-generating shocks *and* to mitigate unemployment persistence after such shocks have, nevertheless, occurred.

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