Labor Market Behavior in Sweden and the U.S.

An Introduction

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The functioning of the labor market is of central importance for the possibility to realize several traditional objectives for economic policy. Macroeconomic *stabilization* policies attempting to affect inflation and unemployment will require quantified knowledge about how wages are formed and unemployment determined. Likewise, a policy intended to improve resource *allocation* and to foster economic *growth* must be based on information on how workers respond to changes in the available compensation packages and how on-the-job training is acquired. Finally, it is obvious that the application of an *income distribution* policy should be based on a firm understanding of how the initial wage and income inequalities were generated.

The IUI-symposium on labor economics in July 1979 offered a unique opportunity to discuss some of the above mentioned topics in a comparative U.S.–Swedish setting. Emphasis was on unemployment and unemployment policies, labor supply and wage determination. Several papers included comparisons between Sweden and the U.S.—two countries with supposedly very different labor markets.

Sweden vs the U.S.

Swedish employers and employees are operating in a labor market setting that exhibits several unique features compared to the situation in other countries and especially in the U.S. One characteristic feature of the Swedish post-war economy is the extensive application of various *selective labor market programs*. During the deep recession 1976–1978—with an unemployment rate around 2%—these pro-

grams employed almost 4% of the labor force. In addition to traditional labor market programs (manpower training, temporary public jobs), several institutional changes have taken place during the 70s. Of special importance is the employment security legislation from 1974, which tends to make employer-initiated job separations very costly.

Other policy parameters with implications for labor market behavior are defined by the Swedish *tax system*. Total tax yields, as a percentage of GNP, have increased from 21% to 53% during the period 1950 to 1977; Sweden has now the highest tax rates in the OECD-area. Of special relevance is that Swedish tax scales are highly progressive, with marginal tax rates around 60–70% for most of full-time working employees.

A third noteworthy feature of the Swedish labor market setting is the role played by *centralized collective bargaining*. An explicit objective for the Trade Union Confederation has been to enforce a more "equitable" wage structure, in practice regularly interpreted as requiring a reduction of prevailing before tax wage differentials. This wage policy has presumably been at variance with the wage structure that a market "solution" would imply.

The policies pursued in Sweden have had substantial effects on labor market behavior. The labor market programs have been able to reduce individual welfare losses associated with high unemployment. To illustrate, there has been a substantial reduction in the layoff rate subsequent to the 1974 employment security legislation. On the other hand, there might have been adverse allocation and growth effects. The employment preserving measures as well as the progressive tax system have most likely weakened the incentives for labor to move in response to offered wage increases and obstructed productivity-augmenting structural changes in the economy. This is partly reflected by the decline in the new hire rate subsequent to the 1974 legislation and many believe the burden of the reduced new hire rate to have been disproportionately borne by youth and other job market entrants.

Compared to Swedish conditions, the U.S. labor market may seem relatively free from government regulation. It is, however, important to note that in the U.S. "market solutions" to an important extent are also influenced by collective bargaining processes. The outcome of collective bargaining in the U.S. occasionally displays striking similarities with some recent Swedish labor market legislation. The emphasis on *tenure* is a case in point here; U.S. practice as well as Swedish legislation apply "last in—first out" as the basic layoff rule.

Whereas firm-specific employment security has been emphasized in Swedish labor market policies of the 1970s, this has not been a

universal element of what may be called the Swedish labor market model. Most social benefits and pension schemes in Sweden are unrelated to tenure in a particular firm, in contrast to the extensive application of various firm-specific fringe benefit schemes in the U.S. Seniority rules and firm-specific benefits will, of course, not necessarily have adverse productivity effects. The weakened mobility incentives may be offset by other effects conducive to on-the-job learning and work efficiency. Experience from the Japanese labor market underlines the relevance of such explanations of productivity growth. Suffice it here to say that the incentive structures facing Swedish and U.S. workers have different content—but not necessarily different effects. A Swedish employee contemplating job mobility will find that the major part of his prospective income increase will be absorbed by taxes. The U.S. worker, in contrast, can expect to keep the major fraction of an income increase; on the other hand, he or she must consider the possibility of firm-specific fringe benefit losses associated with job mobility. Simple views of institutional and incentive differences between Sweden and the U.S. can be quite wrong at places.

One might expect the revealed inclination for social innovations on the part of Swedish authorities to have a mirror image in the form of a substantial ongoing program of policy evaluation and research. Some policy-oriented research has been undertaken, but in the area of our chosen topic—labor market behavior—it is not difficult to find numerous areas which have been analyzed only briefly so far.

For instance, practically no research has been devoted to the macro economic effects of the system for temporary jobs (relief works), despite its pivotal role in Swedish labor market policy; relief workers accounted for about 1% of the labor force during the last recession of the 1970's.

Empirical evidence on incentive effects of the Swedish income tax system is also sparse or close to non-existent. Conventional wisdom suggests substantial, negative responses on labor supply from a steeply progressive tax system. In the U.S. the *joint* income of married couples is taxed. In Sweden married persons are taxed at rates independent of the earnings of the spouse. Hence one should expect differences in the contribution of married women to labor supply between the U.S. and Sweden. Numerous policy differences of this kind should give rise to differences in the supply composition of the U.S. and Swedish labor markets but predictions made have been left more or less untested so far.

Our knowledge of how centralized negotiations affect the process of wage changes is also very limited. To what extent has union policy been able to influence the structure of wages and wage changes over time?

These examples represent only a few of the areas which have been left relatively unexplored by empirical research. The first part of this volume discusses some policy issues of importance and tests certain fundamental hypotheses about labor market behavior. What is the role of inflationary surprises for unemployment fluctuations and how valid is the human capital interpretation of returns to education?

Unemployment and Unemployment Policies

The first set of studies considers the role of *labor market policy* in Sweden. *Stafford's* introductory paper primarily reviews the major public policies designed to influence unemployment in Sweden and the U.S. and comments on their effects. There are many conceptual problems associated with measuring unemployment. *First*, there is the problem of deciding what it should stand for: Do we want a measure of individual welfare costs (psychological sufferings, social hardship), or a measure of the output losses associated with an underutilized labor force? We need at least two, probably several, measures to capture these two different concepts. *Second*, one has to decide what existing measures in fact represent and to what extent comparability can be obtained. Stafford's paper shows that the countries are in fact very similar in terms of structural variables that explain intercountry differences in unemployment rates. He finds that the fraction of 18 year olds enrolled in school shows a strong positive association with unemployment indicating that the larger the youth cohorts entering the labor market the larger is youth unemployment. The basic difference between the labor markets in the U.S. and Sweden turns out to be the much larger emphasis placed on selective labor market policies in Sweden. This difference presumably explains a substantial part of the observed unemployment rate differentials.

Johannesson explores the composition and development of Swedish labor market policy in detail. He shows that expenditures on labor market policy have increased gradually during the post-war period, with marked increases during recessions and with negligible decreases during boom years. Policy-priorities have changed in interesting ways. The relative importance of supply side measures in Sweden—heavily emphasized during the 1960's—have been reduced in favor of demand-oriented measures during the 1970's. These demand-oriented measures have, furthermore, been oriented primarily towards preventing unemployment through layoffs in the private sector.

Holmlund's paper investigates the effects of different labor market

policy programs in Sweden. The policies considered include traditional programs—such as temporary jobs and manpower training—as well as recent policy innovations and the employment security legislation in particular.

Holmlund uses a longitudinal data set in order to estimate how participation in labor market programs affect future unemployment risks. The results obtained indicate, *inter alia*, a marked autocorrelation in individual unemployment probabilities; workers with previous unemployment experiences are facing much higher current unemployment risks even after controlling for various personal characteristics. However, these adverse effects of previous unemployment appear to be mitigated by participation in labor market programs.

Another interesting observation is that the higher separation costs introduced through the employment security legislation have decreased layoffs but have also induced more careful screening procedures on the part of firms. The net effect so far, however, turns out to be a substantial reduction in measured unemployment.

The paper by *Gramlich and Ysander* evaluates the role played by Swedish relief work programs for the local governments' employment demand. To what extent are relief workers performing jobs "normally" done by regular employees, thereby reducing normal labor demand? Given the great emphasis placed on relief works in Sweden, the possibility of such displacement effects should clearly be taken account of and Gramlich's and Ysander's paper represents an interesting econometric method to do so. The aggregate data used hardly allow any far-reaching conclusions; the results do, however, indicate considerable displacement effects in the public road work while no such effect is observed for health and welfare relief workers.

Unemployment Fluctuations and Inflationary Surprises

The next theme in the volume deals with the determinants of short-run unemployment fluctuations. *Burdett's* study approaches this issue from a search-theoretic viewpoint. The problem addressed is how changes in labor demand affect the outcome of a job search process. A shift in labor demand conditions will affect the worker's job offer probability as well as his reservation wage. The outcome depends strongly on the extent to which changes in conditions are fully predicted by the worker.

Burdett uses a search model where expected discounted lifetime income is maximized. *Unpredicted* improvements in labor market conditions will decrease the expected duration of unemployment because they do not affect reservation wages. Burdett, however, also demonstrates that *fully predicted* changes in labor market conditions

may have unambiguous implications for the outcome of the search process. In particular, Burdett derives the sufficient restrictions that must be placed on the wage offer distribution in order to obtain determinate results.

The paper by *Björklund and Holmlund* investigates the extent to which fluctuations in actual unemployment duration are explained by short-run deviations between actual and expected wages, as predicted by search theory, and the extent to which they are caused by fluctuations in job offers. The paper demonstrates that unexpected inflation can explain some of the short-term unemployment in Sweden. But it also turns out that inflationary surprises can explain only a small part of actual fluctuations in unemployment duration. Changes in job availability are found to be the most important determinant.

In addition to these results the study by Björklund and Holmlund offers a comparison of unemployment patterns in Sweden and the U.S. It is interesting to see that cyclical unemployment fluctuations in Sweden are almost exclusively due to changes in unemployment duration whereas unemployment inflow is a significant additional source for aggregate unemployment fluctuations in the U.S.

The Supply of Labor

A third group of studies in this volume is focused on issues related to *labor supply*. Among these is the paper by *Axelsson, Jacobsson and Löfgren*, which includes estimates of neo-classical labor supply functions on Swedish household data. The results are well in conformity with earlier results from U.S. studies as far as males are concerned: men's labor supply appears to be relatively insensitive to changes in the wage rate. Male labor supply is furthermore shown to be unaffected by the presence of children in the household. The Swedish female labor supply functions have significant negative slopes, contrary to most results obtained in U.S. studies. However, when local tax rates are introduced in the labor supply equations, negative tax elasticities are arrived at. The simultaneous prevalence of negative (gross) wage elasticities and negative tax rate coefficients is somewhat puzzling and possible to interpret only with some difficulty. As the authors point out, measurement errors in reported hours will imply a negative bias in the wage rate coefficient.

The question of labor supply responses to changes in tax rates is also in focus in the paper by *Jakobsson and Normann*. Their procedure, however, is quite different from the traditional econometric approach pursued in the aforementioned paper. Jakobsson and Nor-

mann start off with an explicit utility function of the individual with (net) income and leisure as arguments. Utility maximization yields labor supply as a function of an exogenous wage rate and exogenous tax parameters. This "micro-model" is embedded in a simulation model of the Swedish system for personal income taxation and the labor supply responses to certain policy changes are investigated. The results are also evaluated by means of an explicit social welfare function, that takes account of individual utility levels as well as the dispersion of individual utilities.

The simulations reveal the existence of *perverse government revenue effects*. In other words, increases in marginal tax rates will actually *decrease* government tax revenues because labor supply diminishes as a consequence of the increased marginal tax rate. This result is, however, not consistent with the estimated tax rate elasticities obtained by Axelsson, Jacobsson and Löfgren and clearly indicates the need for further research on labor supply effects of the highly progressive Swedish tax system. To Jakobsson and Normann the Swedish income tax shedules differ greatly from those that would be prescribed by the theory of optimal taxation. They also conclude that more lump sum transfers should increase social welfare and that which policy to choose is quite independent of the importance attached to a more or less even income distribution in the social utility function.

Applications of Human Capital and Signalling Theories

The paper by *Gustafsson* deals with the labor supply issue from a different viewpoint. The focus here is not how wage rates affect labor supply behavior but instead how previous labor supply decisions influence current wages. Of primary interest is the extent to which male-female wage differentials can be explained by differences in education and work histories between the sexes. Standardizing for these human capital related variables, it turns out that Swedish women earn about 20% less than Swedish men; the corresponding U.S. earnings differential appears to be somewhat larger.

The human capital interpretation of the return to education is challenged in *Albrecht's* paper. The basic objective is to develop an econometric procedure to test the *signalling* model and the question is whether employers use education for purely informational purposes in their hiring decisions. The role of education is decomposed into a pure "productivity" component and a pure "information" component. The basic idea explored is that employers will be forced to rely more heavily on education when considering those applicants

about whom they have the least information. The hypothesis is tested—but not supported—by means of a data set that includes information on hired job applicants as well as refused applicants.

The Determinants of Wage Changes

The remaining two papers in the volume are both studies on the process of *wage changes*. *Schager's* paper focuses on wage drift in Sweden, i.e., the difference between total wage increases and centrally negotiated increases. Several earlier studies have documented a close (Phillips-) relationship between wage drift and unemployment for post-war years. During the 1970's, however, this relationship seems to have vanished. Schager's theoretical framework of the wage drift process is focusing on firms' active recruitment behavior and suggests that the *duration* of vacancies should be the variable most closely related to the tightness of the labor market. The empirical results strongly confirm this hypothesis. Another noteworthy result in Schager's paper is that also profits appear to be a significant factor behind wage drift. A remarkable finding is that inflationary expectations—measured by changes in consumer prices—play a negligible role for wage drift.

The determinants of wage increases are also the topic for *Jonsson's and Klevmarken's* paper. Their approach represents an interesting attempt to integrate the human capital wage theory with Phillips curve oriented views of wage changes responding to market disequilibria. The analysis—performed on pooled cross-sectional data for salaried employees—shows that both market changes and the outcome of central negotiations are important to explain age-earnings profiles. The study clearly indicates that downward wage rigidity is a characteristic feature of the labor market; salaries are much more sensitive to excess demand situations than they are to excess supply. Another interesting finding is that central negotiations have a substantial net effect on salary growth when the market is characterized by excess supply but no significant effect when excess demand prevails.

Conclusions

As this brief overview indicates, the conference dealt with a variety of important issues. We believe that the volume has filled some gaps in our knowledge of labor market behavior and that it will stimulate further research as well. Unexplored and important research areas abound.

For instance, the desirability of careful *evaluation research* could

hardly be underestimated in a country like Sweden which devotes 2–3% of GNP to labor market programs. The study of displacement effects included in this volume outlines a methodology that can be applied to other—and hopefully richer—data sets. Evaluation of labor market programs should also provide some information on individual welfare effects of program participation as compared to unemployment.

The quantitative importance of labor market programs makes it necessary to address the displacement issues from a broad allocational perspective as well. To what extent is subsidized employment in sheltered or semi-sheltered workplaces crowding out private sector employment? Our knowledge here is extremely scarce.

Another issue that should be further analyzed concerns incentive effects of the Swedish system for personal taxation. The somewhat conflicting results from two studies in this volume are cases in point here. But the tax system has, of course, implications for a broader set of labor market phenomena, e.g., the mobility of labor between firms, regions and labor force states.

It is also important to understand the extent to which the different agents in the labor market are involved in active search activities. Traditional search models emphasize job search among workers, whereas active search on part of the firms have been largely ignored in the literature. A better understanding of unemployment and mobility patterns in the labor market will require a more careful analysis of firms' search and recruitment behavior.

Finally, much discussion today centers around the allocation effects and the macroeconomic consequences of alternative labor market policies. The papers presented in this volume have dealt with the allocation theme only in passing, but the papers still represent a wealth of evidence on the matter. Combined with other evidence it should eventually be possible to shed some coherent light on a number of very pressing and complex policy problems of today that so far appear to be resolved without recourse to the necessary background knowledge.