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Introduction

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The Swedish economic model is perhaps the most ambitious and publicized effort by a capitalist market economy to develop a large and active welfare state. For a long time, many viewed the Swedish model as a more humane and successful form of capitalism and thus as a model for other countries to emulate. This view was shaken when Sweden fell into severe economic crisis in the early 1990s.

Between 1990 and 1993, open unemployment rose from 1.4 percent to 9 percent of the labor force. An additional 5 percent of the labor force participated in labor market programs so that 14 percent of the labor force was jobless. The employment rate fell by 12 percentage points from its pre-crisis peak. The economic decline brought government spending above 70 percent of national income, raised the budget deficit to 12 percent of gross domestic product (GDP), and forced the government to reduce public-sector employment. Between 1990 and 1994, the ratio of debt to GDP doubled. Even before the crisis, however, Sweden's economic performance was not exemplary. Slow productivity growth had eroded Sweden's position in real per capita income relative to other Organization for Economic Cooperation and Development (OECD) countries; private-sector employment had not

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grown since the 1960s; and recurring current account deficits led to currency devaluations. The Swedish model was no longer anyone's envy.

In response to the crisis, Sweden undertook substantial and in some cases painful policy reforms to correct problems. These reforms presumably helped the economy recover more quickly from the economic decline than it otherwise would have, while still preserving the low levels of poverty and modest levels of income inequality that characterized the Swedish model. But even over a decade of recovery left some problems unresolved—particularly in the labor market, where employment did not recover to precrisis levels.

This volume is about Sweden's recovery from crisis and the role that the country's welfare state institutions and policy reforms played in that recovery. Many of the reforms reflect distinctly Swedish problems connected to its large welfare state. But Sweden's experience has broader lessons for other countries. It is especially relevant as the United States and the rest of the world struggle with the financial and economic crisis that began with the 2007/2008 U.S. financial meltdown. The immediate causes for Sweden's early 1990s crisis are similar to those that set off America's late 2008 crisis: the deregulation of financial markets and excessive credit expansion fueled a real estate bubble that burst, causing a contraction of economic activity that spread from the banking sector to the economy as a whole. Prior to the crises, moreover, both the United States and Sweden faced persistent deficits in the balance of trade and in the government budget. In both cases, the ensuing economic contraction drew comparisons with the 1930s and induced huge injections of liquidity into the financial system to avoid the collapse of banking and credit.

That Sweden recovered more rapidly than most analysts expected offers an optimistic note about the possibility for recovery from the large economic downturn with which the United States and the rest of the world are struggling as this volume goes to press. Sweden and the United States differ greatly in various ways, from the size of the economy to the importance of the welfare state. The similarity in their economic crises highlights the universality of economic problems and suggests that differences in institutions notwithstanding, the United States and other countries may learn something from Sweden's response to its earlier crisis. Indeed, some commentators have drawn attention to the way Sweden successfully dealt with its financial meltdown[1] and present Sweden as a model for the United States and other countries to follow. What interests them now is Sweden's ability to pragmatically deal with problems borne of policy blunders and unforeseen events—not its welfare state.

1. See, for example, Carter Dougherty, "Stopping a Financial Crisis, the Swedish Way," *New York Times,* September 23, 2008, and Holger Schmieding, "A Lesson from Stockholm," *Newsweek,* October 13, 2008. See also *The Economist,* "Stockholm Syndrome," November 29, 2008, to December 5, 2008.

NBER-SNS Analyses of the Swedish Economic Model

This book is the second National Bureau of Economic Research (NBER) study of the Swedish economy. The first study began in 1993, when the Center for Business and Policy Studies (SNS) and the NBER convened a team of American and Swedish economists to study the problems of the Swedish economy. The hope was that the combination of outside specialists, unencumbered by Swedish political discourse and sensibilities, and of Swedish economists, knowledgeable about Sweden's data and institutions, could clarify issues and sharpen debate at a time of crisis in Sweden. As Sweden is an exemplar of the large welfare state, its experiences could also illuminate the economics of this variant of capitalism more broadly. Welfare state and institutional interventions are so large in Sweden that if these policies have substantial economic consequences, they should show up in Sweden.

Much of what the American outsiders saw in Sweden puzzled them. They found it remarkable that Sweden had *eliminated* poverty through interventions in markets without running into serious economic problems before the crisis. They wondered how wage-bargaining institutions could compress the distribution of pay without creating widespread unemployment among the least skilled. If lower-skilled Swedes were paid more than they would earn in an unconstrained market, why did employers continue to hire them? They wondered also at the market work ethic of Swedes in the face of a huge tax-induced wedge between productivity and disposable income that produced a ratio of posttax spendable income to pretax earnings in Sweden that was less than half the comparable U.S. ratio. Why did the average Swede invest in schooling and work as much as they did (albeit less than Americans), with limited pecuniary rewards? Was the early 1990s crisis the death knell of the welfare state, or was it a transient downturn that sensible policy reforms would cure?

The main conclusions of this first study were presented at a conference in Stockholm in 1995 and published in the NBER volume *The Welfare State in Transition* in 1997 (Freeman, Topel, and Swedenborg 1997). The take-home message was that Sweden's recovery required economic reforms to strengthen the role of the market in various domains. We argued that Sweden's success in eliminating poverty and reducing inequality gave it economic space to make such reforms without undoing the welfare state successes that Assar Lindbeck had called a "major achievement of modern civilization."[2] Given the crisis of the early to mid-1990s, failure to make reforms indeed seemed to pose the greatest threat to the welfare state.

The analyses in *The Welfare State in Transition* suggested that the Swedish welfare state was an interrelated system, whose parts fit together and

2. Lindbeck (1993, 97).

reinforced each other in sometimes surprising ways. Researchers analyzing different aspects of the Swedish economy stressed different linkages, but the picture that emerged was of an economic system with a logic that differed from that of the market-driven United States. Welfare state and wage policies that limited poverty and inequality generated other policies designed to offset the likely adverse economic effects of the first set of policies. For example, wage compression was associated with near-constant private-sector employment, which meant that full employment required expansion of jobs in the public sector. This required high taxes, but it also required the production of government services that people would support politically. In turn, high taxes made it easier for high-skill workers to accept wage compression. The taxes and compressed wage structure also raised the incentive for short working hours with long vacations, leading to work sharing of sorts. Finally, these incentives and responses fed back onto the industrial structure, regulatory policies, and wage and price determination.

Our analysis questioned the long-term viability and value of some of these policies due to the loss of economic efficiency at the tax and benefit/program levels the country had chosen. It highlighted the possible fragility of such a system when faced with economic problems and the need for changes in policies to sustain the system. We noted that some programs seemed relatively ineffective in accomplishing their goals. The active labor market programs, which some analysts viewed as underpinning Sweden's traditional full employment, in particular, did not appear to produce the benefits that justified their large costs, and public works displaced private investment and production. Other spending programs, such as subsidized day care, caused huge distortions in private decision making. Regulations hindered competition and productivity growth. High marginal taxes and compressed wages distorted choices on the allocation of effort and hours among activities and reduced investment in human capital from what it might otherwise have been. Generous social insurance benefits caused *moral hazard* and overuse of unemployment and sickness insurance. All of these distortions hindered economic growth.

Some critics viewed *The Welfare State in Transition* as slanted toward an Anglo-American, market-driven form of capitalism. It is true that the difference between the U.S. and Sweden's welfare state affected how the American economists saw issues, but our research was not a case of dueling paradigms. The Americans were impressed by Sweden's success in eliminating poverty, especially given the failure of the U.S. War on Poverty. And the studies were undertaken with Swedish colleagues, some of whom viewed the U.S. economic model skeptically. In any case, we were not alone in worrying that Sweden faced large economic costs because of engineered outcomes that often diverged far from market fundamentals. Even before the crisis, Swedish policymakers had begun to reform the tax code and product market regulations, and firms and unions had moved toward more decentralized wage setting. The crisis accelerated reform efforts, forcing the government to reduce public-sector jobs and to cut the replacement rate for unemployment insurance, among other changes. The 1993 Lindbeck Report (Lindbeck et al. 1994) criticized many aspects of the Swedish economy and suggested 113 specific reforms to restore the country's economic health.

How would Sweden deal with the crisis? The magnitude of the early 1990s Swedish economic decline led many economists and policymakers to fear that recovery would be long and arduous. Japan had experienced a decade of economic stagnation. Germany became mired in high joblessness and low growth as it struggled to join East Germany with West Germany. It was a decade after the Thatcher reforms before British economic performance picked up noticeably. And East European transition countries suffered years of economic decline before market capitalism began to improve outcomes compared to their communist past.

In 2005, we decided to do a follow-up analysis of the Swedish welfare state to assess its recovery from crisis, engaging most of the same analysts as in the original study. The result is the current volume, *Reforming the Welfare State: Recovery and Beyond in Sweden.* The main message here is that Sweden had a relatively robust and successful recovery in which the welfare state maintained low levels of poverty, even as market reforms led to modestly higher inequality. But the evidence also shows that the recovery did not bring Sweden back to the precrisis levels of employment, which previous policies may have made artificially high.

How robust was the recovery? It was stronger and faster than almost anyone expected. Between 1995 and 2004, productivity grew at 2.4 percent annually, well above the OECD average of 2.2 percent. Manufacturing productivity grew faster than in any other OECD country.[3] Overall economic growth was higher than in any comparable period since the 1960s, and private-sector employment expanded for the first time in decades. In part, the robust recovery reflects the fall of output far below productive capacity in the crisis. In part, it reflects higher growth through much of the developed world after 1993. Sweden's per capita output *relative* to other advanced countries remained below its precrisis level. But in contrast to the American experience, where gains from productivity growth largely went to the wealthiest, the Swedish recovery raised income throughout the income distribution, though more so for the higher paid than for the lower paid.

What policies contributed to the recovery? The first important policy change was that Sweden adopted flexible exchange rates and inflation targeting. This caused an immediate and substantial weakening of the currency, leading to a prolonged period of export-led growth. The growth of exports put the current account into surplus for over a decade. Other

3. See table 1.1 in the *OECD Economic Surveys: Sweden* report (2007).

critical policy changes included a contraction of the public sector, reduced generosity in social insurance systems, and the deregulation of many markets. The accompanying appendix provides a broad overview of important reforms and shows that the country adopted more market-oriented policies in many domains. In the government sector, Sweden sought to eliminate its budget deficit through expenditure cuts, tax hikes, and a slimmer public sector. These policies and the rapid economic growth in the recovery reduced government spending to 52 percent of GDP in 2006—higher than in most advanced countries, but significantly below the precrisis level—and reduced central government debt from nearly 80 percent of GDP in 1996 to about half that in 2006—bringing Sweden in line with other advanced economies and well within EU guidelines.[4]

Did the crisis and ensuing reforms undo Sweden's success in eliminating poverty and maintaining low levels of inequality? The interesting fact is that inequality and poverty did rise, but by remarkably little. The welfare state provided strong safety net support for those at the bottom of the income distribution so that poverty remained low. Inequality increased modestly (as it did in many countries), but Sweden remained among the lowest inequality countries in the world. Swedish income inequality remains far lower than in the United States and rose by less in the 1990s. The collective-bargaining system proved flexible to the needs of the economy in wage settlements, and the market-oriented reforms that raised inequality provided incentives that seem to have helped the recovery. Swedish workers and young people responded to the new market realities with sizable mobility and investments in education. Educational earnings differentials that were modestly higher than in the past (but far below those in the United States) made university education more economically attractive. Sweden moved to the top of global rankings in the number of university graduates and PhDs relative to the age-relevant population.

Were there economic problems that the recovery did not fully resolve? The recovery did not bring Sweden back to its historical position as an exemplar of high employment. As of 2006, the employment-population ratio was substantially below precrisis levels. Labor force participation stabilized at 77 percent of the working-age population, below the government's 80 percent target. In 2006, open unemployment was 5.4 percent (7.1 percent, according to the International Labor Organization [ILO] definition, a measure that Sweden has now adopted and that adds students looking for work). With 2.6 percent of the workforce on active labor market programs, however, the joblessness rate was 8 percent—far above what it had been before the crisis—and by the ILO definition, joblessness exceeded 9 percent. One

4. Government expenditures in percent of GDP went from 24 in 1950 to 30 in 1960, 43 in 1970, 60 in 1980, 58 in 1990, 54 in 2000, and 52 in 2006. This first reflected the rapid expansion of the welfare state and then showed the gradual retrenchment after the 1990s crisis (Statistics Sweden 2008).

reason for high joblessness was that the duration of jobless spells increased to resemble the long periods found in many EU countries.

What has Sweden done since the recovery? In 2006, Sweden elected a center-right government that undertook further policy changes along the lines begun by the Social Democratic government that led the country during the recovery. The new government reduced replacement rates in unemployment insurance (UI) and limited the duration of benefits; it also changed and reduced the extent of active labor market programs. To assure incomes and work opportunities for low-paid workers, the government introduced an earned income tax credit that was designed to draw them into employment while buttressing their living standards. It exempted individuals from payroll tax if they were unemployed, sick, or on early retirement for over a year, and it reduced taxes for firms. One of the contributors to this volume, Anders Forslund (2008), estimated that increasing work incentives may have lowered unemployment by 1.5 to 2 percentage points compared to what it otherwise would have been.[5]

Recovery and Beyond

The studies in this volume examine the way changes in the labor market, in tax and benefit policies, in local government policy, and in industrial structure and international trade affected Sweden's recovery. The analyses clarify the trade-offs between the egalitarian outcomes that Sweden seeks and economic efficiency. Welfare state interventions that lower inequality generally distort private decisions and create social costs. The costs rise with the square of the distortions,[6] so they can become very high in a large welfare state. This makes it important for Sweden to find and adopt the least costly ways to attain given distributional goals and to weigh carefully the costs and benefits of redistribution. Whether any given level of egalitarian outcomes exceeds the costs of interventions is a value judgment to be made by Swedes, in general, and by Swedish policymakers, in particular.

Our studies fit into the following three broad categories.

Income Equalization, Gender Equality, and Wage Compression

As noted, a hallmark of the Swedish welfare state is its far-reaching egalitarianism. This equality has been achieved through a combination of wage-setting institutions that narrow the dispersion of market wages, of government benefits that supplement the incomes of the lower-paid and nonworking population and that often encourage work by linking the benefits to employment, and of taxes that reduce the incomes of the higher paid.

5. Forslund (2008).
6. This is the standard result in computing welfare triangles, in which taxes or other costs induce behavioral responses that extract additional costs beyond the direct cost of the intervention.

In chapter 1, Anders Björklund and Richard Freeman examine the extent to which the economic crisis and recovery affected the egalitarian goal of the welfare state. They show that while inequality increased in the 1990s, Sweden maintained its position as one of the most egalitarian economies in the world and continued its successful conquest of poverty. Rising inequality in Sweden took the form of faster income growth for higher-income families rather than of lower real income for poorer families. The welfare state buttressed the incomes of those at the bottom. The area in which inequality increased most dramatically was in the distribution of hours worked, due to a higher rate of nonemployment and lower labor force participation among low-wage individuals, reflecting Sweden's failure to recover its full employment status after the crisis. In their contribution to the first NBER volume, Björklund and Freeman highlighted the fact that Sweden's narrow income distribution reflected not only a compressed wage structure, welfare state tax, and spending policy, but also reflected narrow dispersion in hours worked, as most adults had jobs and worked comparable hours.

The increase in inequality raised incentives for some forms of productive behavior. Relative to others, earnings increased for persons with university degrees and in firms with greater value added. This presumably contributed to rising enrollment in higher education and to shifts in the workforce from lower- to higher-productivity sectors. The authors cite evidence that within Sweden, areas with higher inequality had greater growth over the period. Surprisingly, given that returns to higher education remained lower in Sweden than in most other advanced countries, Swedish young persons invested heavily in higher education, particularly at the doctorate level. Sweden produced five times as many doctorate scientists and engineers per capita as the United States. The increased supply of relatively low-cost (due to wage compression) scientific workers helped Sweden move to the forefront of OECD countries in research and development relative to GDP and placed it second to the United States in the OECD measure of investment in the knowledge economy.

Did the increased inequality affect Swedish preferences for egalitarian outcomes? Survey evidence suggests that attitudes hardened against inequality, which may have influenced some reversals of policy when the crisis was over. There was no decrease in reported well-being or life satisfaction, despite continued high joblessness, implying that the unemployed adapted their attitudes to the new state of the job market. Even with high levels of equality, Swedes still wanted greater equality.

Gender equality is another egalitarian goal to which Sweden is committed, and economic policy has sought to improve the economic status of women. In the 1997 NBER study, Sherwin Rosen noted that all employment growth from the 1960s to the 1990s occurred in the public sector, and virtually all of it occurred among women. He argued that subsidies to day care to encourage female employment were motivated as a second-best policy in a high-tax society, but the Swedish level of subsidies was excessive and created large efficiency losses. In chapter 2 of this volume, Ann-Sofie Kolm and Edward Lazear ask how two cornerstones of Swedish family policy—paid parental leave and subsidies to day care—and two additional policies that the country recently enacted—subsidies to other household goods and earned income tax credit—affect the incentive to work of married and divorced women with children. They note that paid parental leave encourages labor force participation of mothers but prolongs the periods that mothers stay home with their children, which may reduce future income. Reserving a month of paid parental leave for fathers induces women to return to work sooner. Subsidizing day care encourages market work and improves the future economic situation of mothers, including single mothers. Because of this, single mothers are more likely to be self-sufficient than to be dependent on the state. This reduces Rosen's estimated social cost of the program. In-work benefits aimed at low-income women with children can increase labor force participation, at the cost of negative incentive effects at the incomes where the tax credit is phased out. On net, Kolm and Lazear conclude that the programs strengthen the economic independence of women. They create a high excess burden by being financed through higher taxes, but because the benefits go disproportionately to women, while the costs are borne disproportionately by men, the policies aid women.

Despite their institutional differences, both Sweden and the United States are among the world's leaders in female market work. Female labor force participation is somewhat higher in Sweden than in the United States, but annual work hours among women aged 16 to 54 years in Sweden are 12 percent lower than in the United States—988 annual hours in Sweden versus 1,118 in the United States. However, women with children are more likely to be in the workforce in Sweden than in the United States, plausibly because of the subsidization policies.

High rates of unionization and collective bargaining are central to the Swedish model. The analysis in our earlier volume stressed the importance of collective bargaining in compressing wages and expressed concern that solidarity wage policy that raised the pay of the less skilled would eventually increase their unemployment. This appears to have happened to some extent. In chapter 3, Peter Fredriksson and Robert Topel note that since the crisis, wage formation has become more decentralized. Centralized bargaining continues to set minimum wages in different sectors, but firms and unions bargain above the minimum and decide on specifics in local bargaining. The decentralization contributed to rising wage dispersion, as wage outcomes were more likely to reflect market valuations for particular skills. The ratio of 90th percentile to 10th percentile of gross earnings of full-time workers in Sweden increased substantially from 1992 to 2003. In 1992, the wage of an individual at the 90th percentile of the wage distribution was about 73 percent higher than that of a worker at the 10th percentile. By 2003, the

90th-percentile wage was over double the 10th-percentile wage. Even with this increase, however, the 90/10 wage ratio in Sweden was far below that in the United States in 2003.

Some of the 1990s increase in wage dispersion in Sweden presumably reflects catching up with market forces, but the catch-up does not seem complete, given the changing economic environment. Joblessness remains high. The immigrant population from non-OECD countries, who are disproportionately in lower-skill groups, is much larger than in the past and now makes up roughly the same proportion of the working-age population as in the United States. Also, global competition in traded goods and services with low-wage countries has become more intense. The educational premium remains low, and like other dimensions of compressed wage differences, it may impede human capital investment, which is key to economic growth and long-run welfare. Assuming that an additional year of schooling raises skill proportionately as much in Sweden as in other advanced economies, we would expect to find similar financial *returns* to schooling in Sweden as elsewhere. In fact, the Swedish returns are much lower, reflecting the compression of differentials due to wage-setting institutions. The low return to education in the late 1960s through the 1980s kept enrollment in higher education below what it otherwise would have been, but enrollments rose as the differentials widened and would likely rise even more with higher returns. Egalitarian wage policies also may have reduced Sweden's stock of highly skilled workers by encouraging the most skilled Swedes to emigrate. Immigrants from egalitarian Nordic countries are especially concentrated at the top of the U.S. wage distribution.

Employment outcomes are worse for low-skilled persons and non-OECD immigrants than for other workers. In 2003, the employment gap between non-OECD immigrants and the Swedish-born population was 23 percentage points. The small market for private services in Sweden may help explain this. If Sweden had the U.S. mix of industries, the greater scale of retail trade, hotels, and restaurants would have raised employment for the low skilled by about 6 percent. However, in the 1990s, the minimum wage increased in hotels and restaurants, which disproportionately employ the less skilled, presumably contributing to the low share of these sectors in the economy.

Impacts of Compressed Incentives

How have labor supply decisions responded to the taxes and benefits of the welfare state and to the changes in those taxes and benefits during the recovery? Economists emphasize that incentives matter in decisions, but the key issue is how much they matter. Measured by number of contracted hours of work, the evidence in all countries is that men do not alter hours worked much to changes in incentives, while women alter hours moderately. In Sweden, estimated elasticities of hours worked to net wages are on the order of 0.05 to 0.12. Distortions in choices other than simple hours, such as educational and occupational choice and entrepreneurial activity, are more difficult to measure.

In chapter 4, Thomas Aronsson and James Walker survey studies on labor supply from crisis through recovery. They note that the welfare state creates strong incentives to be in the labor force by making many benefits conditional on labor force participation, but it also creates strong incentives not to work many hours, which helps explain why Swedes work relatively few hours. Much of the labor supply adjustment in Sweden, however, takes place in dimensions other than contracted hours of work. One such adjustment is through sickness absence. Swedes, like people in other developed countries, have steadily gotten healthier since the 1960s. The physical burden of the typical job has declined, and life spans have increased with advances in medical care and public health. Yet, Swedes are more prone to take sickness leave than in the past, and Sweden has proportionately more persons on sickness leave than any other country. Why? The natural explanation is the generous social insurance system and associated moral hazard to make use of the system, even when one is not truly sick. Empirical studies show that sickness absence in Sweden varies when qualifying periods and replacement rates change. There is substantially more absence when it is less costly to call in sick. Another area of adjustment is in the length of working life, which in part depends on pension policies. Sweden's 1999 pension reform converted a defined benefit system to a notional defined contribution system, quasi-funded and more actuarial. The reform increased the long-term viability of the pension system and improved incentives to save and work. Here, Sweden is ahead of the United States—where the private pension system has been in crisis and where there is no national consensus on how to deal with Social Security—and the United Kingdom, where pension system reforms created a funding crisis.

Empirical evidence on the elasticity of taxable income with respect to the marginal tax rate suggests higher labor supply responses in other dimensions than in hours worked. Taxable income captures not only the effects of taxes and a compressed wage distribution on hours of work but also their effects on effort, career choice, and grey economy activity. Swedish studies find an elasticity of taxable income in response to tax rates comparable to U.S. estimates—around 0.4. Holmlund and Söderström (2008) report that as a result of responses to high taxes, lowering top marginal rates would have little effect on tax revenues. Another Swedish study explains the greater market work in the United States than in Sweden by differences in taxes.

A cornerstone of the Swedish model is reliance on active labor market policy (ALMP) to deal with labor market problems. One controversial finding in our earlier volume was that labor market programs did little to move workers to employment and were not worth the substantial resources that the country devoted to them. In chapter 5 in this volume, Anders Forslund and Alan Krueger report that ALMP did little to help Sweden recover from the unemployment crisis of the early 1990s. During the 1990s, unemployment increased more rapidly and fell more slowly than one would expect from historical experience. Both the inflow to unemployment and the duration of unemployment increased. Duration peaked in 1995 at twenty-five weeks unemployment, but when treating breaks in unemployment due to participation in ALMP as part of joblessness, jobless durations increased steadily during the 1990s, reaching 110 weeks (over two years) by 2000. Over 14 percent of the unemployed in 1999 and over 7 percent in 2005 were registered as unemployed for more than three years. The ALMP contributed to long jobless durations by allowing participants to remain eligible for continued unemployment benefits.

If ALMP training produced better matches between workers and jobs or if it improved skills, the benefits from the programs might exceed the cost of inducing longer periods of joblessness. Evaluation studies of the effectiveness of particular programs, however, indicate that training programs in the 1990s had little or no impact on labor market success. Perhaps the rapid growth of the programs in the crisis and the fact that participation qualified people for unemployment insurance reduced their effectiveness as training. The only programs that led to a new job more quickly than simple job search were those that most resembled regular jobs. But the more the program resembles regular jobs, the more likely it is that the program displaces private-sector jobs that produce the same or similar services. Estimates of this displacement effect are well over 50 percent. It is noteworthy that time-use data shows that unemployed Swedes spend considerably less time (one-tenth the time) on job search than do unemployed American workers. A plausible reason is the more generous unemployment compensation in Sweden.

In 2000, Sweden changed its ALMP policies. It broke the link between program participation and UI so that participation in ALMPs would no longer qualify an individual for new periods of UI. It introduced the activity guarantee, which requires full-time presence of the participants—time that participants can use for job search or for other program participation, such as job training, at the normal UI rate. This is designed to rule out participants who are using UI to finance leisure or to supplement black market income.

A major concern in our earlier study was that the crisis would produce the long spells of unemployment and high inequality in job holding found in many large EU countries. That is what happened. In chapter 6, Lars Ljungqvist and Thomas Sargent argue that the reason is that the unemployment benefit system has not adjusted to new forms of economic turbulence. Building on their contribution to our 1997 volume, they identify institutional features that might explain differences in equilibrium unemployment between a welfare state like Sweden's and a more laissez-faire economy like that in the United States.

The problem in attributing the greater unemployment in Sweden and much of Europe to generous welfare state benefits is that the countries with large welfare states and more generous unemployment benefits had lower unemployment than the United States from the 1950s through the 1970s and had higher unemployment thereafter. The question is, why would welfare state policies contribute to unemployment in the latter period and not in the former? The authors observe that the change in relative unemployment rates was not due to an increased inflow of persons to unemployment but rather to increased unemployment duration. In Europe, duration increased so that the long-term unemployed came to make up about half of total unemployment, while in the United States, the durations of unemployment spells did not change much. They argue that the change is due to the *interaction* of welfare state benefits with changing economic shocks. In the 1950s through the 1970s, employment protection and generous UI lowered frictional unemployment in Europe. In the 1980s to 2000s, by contrast, they hypothesize that technological change and globalization meant that the skills of unemployed workers became obsolete more quickly, which meant that the long duration of UI eligibility in Europe came to prolong the duration of joblessness. The reason is that unemployment insurance is paid relative to the past wage, so if skills decline, thereby reducing earnings on a new job, workers have a greater incentive to stay on benefits.

Ljungqvist and Sargent also develop a new indicator of joblessness in Sweden that treats the growth of the number of persons on long-term sickness leave and early retirement as a disguised part of unemployment. They take the percentage of individuals who were on long-term sickness leave or early retirement in 1974 and 1963 respectively as estimates of the size of those populations in the absence of the later shocks that induced overuse of the benefit systems, and they treat the increased percentages of persons on those programs over time as disguised unemployment. Adding this form of joblessness to measured unemployment produces an adjusted jobless rate for Sweden in 2005 of nearly 16 percent of the labor force.

Industrial Structure, Public Sector, and International Trade

Steven Davis and Magnus Henrekson in chapter 7 argue that Sweden is missing less-skilled jobs that compete with household or black market work. These jobs are found in the private-service sector, which is exceptionally small in Sweden. They attribute the missing jobs to tax policies and wage-setting practices that distort the industrial structure of employment.

Tax policy distorts the industrial structure by creating a tax wedge between what the buyer of services must earn before tax to purchase the service and what the seller of a service receives net of tax. The bigger the wedge, the smaller the share of workers in the formal service sector will be. In Sweden, this wedge is twice as big as in the United States. The authors estimate that a Swedish buyer of a service must earn 2.5 to 3.5 times more than the seller of the service to make it fruitful to buy services rather than to do it themselves. High payroll, income taxes, and consumption taxes make it economically sensible for many persons to engage in household and black market production rather than to buy services in the market, even though the market is more productive in delivering those services. The compression of the wage distribution makes it more expensive for the more skilled to hire the less skilled to undertake various jobs, while lowering the opportunity cost of the more skilled to do the work. The result is an inefficient allocation of time and effort. They also suggest that within the service sector, employment protection may make it difficult for small firms to form and expand, particularly in competition with the public sector in social service production.

Consistent with this, time-use surveys reveal that Swedes devote more time to household work than do Americans, who are more likely to rely on markets. Many Swedes also work in the underground economy. Statistics Sweden now makes an upward adjustment to Swedish GDP accounts to capture black market activities. The largest adjustments are in auto repairs, restaurants, taxi services, and hair dressing. The National Tax Board estimates black market activity at 4 to 5 percent of GDP. Davis and Henrekson conclude that because manufacturing is unlikely to be an engine of job growth, Sweden will need to consider policies to encourage the development of private-service jobs. Finally, they note that cross-country evidence indicates that high taxes reduce the employment and output shares of tax-sensitive industries, such as retail trade, hotels, and restaurants.

In their contribution to the first NBER-SNS study, Stefan Fölster and Sam Peltzman found that Sweden's high prices and weak productivity growth were partly attributable to lax competition policy and anticompetitive regulations. These policies made it difficult for new firms to enter some markets, effectively protecting less-efficient producers. The country's change in policies in these areas has opened up regulated markets to competition and has contributed to an increased import penetration, from 29 to 48 percent, which presumably helped to raise productivity and to keep prices lower than they otherwise would have been. But because the public sector is so important in Sweden, Fölster and Peltzman in chapter 8 in this volume shift their focus to how local public-sector policy affects the local economy—particularly the private sector.

Local governments in Sweden account for approximately one quarter of GDP and of total employment, which is about twice the corresponding U.S. figures. They dominate most publicly financed social services, such as health care, education, child care, and elderly care, as well as many technical services. Some privatization has occurred, with the private providers' share of publicly financed services reaching 20 percent in Stockholm and 9 percent in the country as a whole in the mid-2000s.

Using panel data for 290 municipalities and various indicators of public policy, including local tax rates and an index of perceived business friendliness from a survey of business, Fölster and Peltzman find that municipalities that have low tax rates or that are perceived as friendly to business have higher incomes. Reading the relation between tax rates and income as going from tax rates to income, they estimate that a 1-point increase in local tax rates, corresponding to a 3 percent tax hike, is associated with 2.4 percent lower income. The implicit elasticity suggests that most of the revenue increase from the tax hike is eroded by a reduction in the tax base. Causation could run the other way, however, as low-income municipalities must have higher taxes to fund mandated public services. But Sweden's intramunicipality equalization system largely equalizes the tax base and different spending needs due to demographic differences to enable local governments to provide mandated services uniformly. This makes it unlikely that the main causal effect runs from low incomes to high taxes. Moreover, taxes at the beginning of the period are associated with lower growth—a striking finding that aroused considerable interest and controversy at our conference.

At the opposite end of the economic spectrum is the global economy. In our earlier volume, Edward Leamer and Per Lundborg warned that increased competition from low-wage countries such as China and the ex-Soviet bloc would reduce the country's success in the international economy. Unless Sweden could maintain a more skill-intensive product mix in its exports—moving away from the comparative advantage of these new entrants—it would find itself in head-on competition with low-wage countries in labor-intensive products.

In chapter 9, Leamer presents correlations between the product mix of different countries' exports in 1987 and 1999 that reveal dramatic changes in the competition between high-income and low-income countries. In 1987. the correlation between the export product mix of high-income countries and low-income countries in the U.S. and EU markets was low, because capital-rich countries specialized in capital-intensive products, while labor-rich countries specialized in labor-intensive products. By 1999, this had changed. Product mixes in all countries had become more similar. The correlation between the product mixes of China and Sweden in exports to the European Union rose to over 0.50, implying some direct competition between high-wage Sweden and low-wage China. China also became a more serious competitor with Sweden in the U.S. market. The reason is that China has increased its presence in Sweden's most important export sectors: machinery and electrical machinery. Still, because there are great differences in technology and products within industries, within-industry specialization should allow Sweden to avoid much direct competition with low-wage Chinese firms for some time. Leamer concludes that the key issue is to invest in human and physical capital in order to avoid direct competition with low-wage countries. Yet, that may not be enough. He speculates that the Internet and the personal computer may be altering the labor market's compensation for talent, creating "a Hollywood kind of inequality" that cannot easily be compensated by increased education. Talent has become the scarce resource and must be rewarded more to work more hours. Such wage inequality creates a problem for an egalitarian welfare state.

The Welfare State in (Continuous) Transition

> The old saying, "If it ain't broke, don't fix it"—I never bought into that. I think you try to get things working the best you can and don't wait until the whole thing is falling apart and then figure out there's a problem. A lot of times you see the problems before they actually occur if you look carefully.
>
> —Bill Belichick, U.S. football coach, at a press conference on December 22, 2005

The first NBER-SNS project analyzed the Swedish economy when it was "broke," and it was unclear if the economy could make a strong or rapid recovery. Recovery required tough reforms and more reliance on market forces, we argued. Sweden rose to this challenge in many ways.

In the decade following the crisis, Sweden adopted a flexible exchange rate and a more disciplined monetary policy; lowered government employment and the government share of national income and eliminated a huge budget deficit; lowered unemployment insurance modestly; and began to reform its sickness pay insurance—all of which arguably helped the economic recovery by reducing distortions in economic incentives. The country also deregulated markets, reformed taxes, privatized the delivery of some social services, and strengthened the pension system in economically sensible ways. The reforms were accompanied by a moderate rise in income inequality, but the vast majority of Swedes benefited from the changes, with disposable incomes improving throughout the income distribution. Real disposable income increased for the first time in decades.

The economy is no longer broken, but it still faces important challenges. In an interconnected welfare state, problems can compound to endanger fiscal stability and the sustainability of prosperity, as the early 1990s experience made clear. Because the welfare costs of social interventions rise with the square of the magnitude of the intervention, it is critical that countries with large welfare states run programs efficiently and squeeze programs that do not deliver the desired gains in equity. Currently, public benefit schemes, including unemployment, sickness insurance, and early retirement, support 20 percent of working-age individuals. This requires sizable budgetary expenses and taxes that reduce the rewards to working relative to benefit levels. Wage compression and large tax wedges contribute to the weakness in the job market by creating incentives for nonmarket and black market work relative to employment in small private-service firms in the regular market economy.

Given the evidence that active labor market programs do not work well in Sweden and that the sickness insurance system encourages more sickness leave than elsewhere, these would seem to be areas where further reforms could improve efficiency without harming equity. The evidence also shows that Sweden's high taxes, which create a large wedge between an individual's productivity and ability to consume, cause disincentives and distortions and could be lowered at little or no cost to egalitarian goals. In light of economic developments worldwide that favor skilled labor, there is a potential long-term danger that over time, Sweden's wage distribution will deviate more and more from market realities, which raise the cost of egalitarianism.

On the basis of its post-1994 recovery, the Swedish economy seems capable of bending to changing market forces without sacrificing its extraordinary success in eliminating poverty, but that presumably will require continual policy innovation. The large fraction of national output devoted to public consumption that benefits all citizens, regardless of their personal incomes, and its strong social safety net give Sweden, more than many other countries, the space to experiment with policies that produce more efficiency without sacrificing egalitarian goals.[7] With a population that seems to respond substantially to modest changes in incentives, perhaps because given changes carry more weight in a relatively egalitarian society than in a society with a highly unequal distribution of earnings, even modest changes might produce substantial gains in efficiency.

Conclusion

We began this introduction by noting that the Swedish welfare state was arguably the most ambitious effort by a capitalist market economy to reduce inequality and eliminate poverty. The 1990s crisis and the slow economic growth that preceded it highlighted the Swedish model's deficiencies and fragility. During our first study, there was fear that the Swedish model was no longer viable. If the precrisis assessment of the Swedish model was overly optimistic, the crisis-period assessment was overly pessimistic. Sweden's recovery shows that it is possible to run a reasonably successful market economy while still devoting considerable resources to a welfare state that maintains economic equality and to surmount an economic crisis. This is probably easier to do in smaller economies than in larger ones and in more homogeneous countries than in more heterogeneous ones, so Sweden's experiences are not easily transferable to the United States or other

7. In its 2007 Sweden report, the OECD (79) shows that neither eliminating the top state income tax bracket nor reducing the state income tax by 5 percent would alter Sweden's position as the country with the second-most equal income distribution (after Denmark) among OECD countries. Eliminating the state income tax completely, thereby making the income tax scale flat (lowering top marginal rates from 55 to 30 percent), would move Sweden from number two to number four in the ranking of countries, according to income equalization.

large economies. It is also easier to do so in a society where the vast bulk of the citizenry is committed to egalitarian goals, as in Sweden, rather than in societies where the polity is divided over the weight to place on equity compared to efficiency. Faced with crisis, Sweden modified policies and reduced some benefits that had substantial efficiency costs. It became more market reliant and open to competition and to individual choice, giving a stronger economic base for maintaining the welfare state. Sweden's market-oriented reforms arguably had a first-order impact on efficiency but only a second-order impact on equity, buttressing the welfare state while improving the general economic welfare of Swedes.

We recognize that our reading of the evidence contrasts with the views of some other analysts of Sweden's welfare state, who are less inclined toward market reforms and who are fearful that moves to the market invariably endanger the welfare state. Walter Korpi, a long-time scholar and defender of the welfare state, argues that economists put too much emphasis on the adverse effects of high taxes (and presumably, wage compression) on incentives and economic efficiency:

> If citizens find that they get significant benefits in return for their taxes, their take-home pay is no longer the only basis for work incentives. . . . If tax payments are seen as providing individual benefits and the free-rider problem can be overcome, the effects of tax wedges will tend to decrease. (Korpi and Palme 1998, 682)

To be sure, citizens with the attitudes described by Korpi are likely to respond less to taxation than others, which will decrease the distortionary effects of taxes, benefits, and compressed wages. But it is hard to see why individuals should have these attitudes—the taxes they pay are not tied to the benefits they receive, so why would the benefits induce a willingness to work? The conditioning phrase, "If . . . the free rider problem can be overcome," merely sweeps the problem under the rug. Experiments with prisoner's dilemma and public-goods games show that some people behave as free riders, while others are more likely to play cooperatively. More directly, the problem is apparent in the Swedish data we have been discussing—it is simply implausible, for example, that the extraordinarily high rates of sickness absence in Sweden reflect anything other than free riding on a system that provides benefits for not working.

The critical question is whether responses to tax wedges/wage compression are large enough in the aggregate to affect market outcomes. One approach to this question has been to compare the growth performance of countries with different degrees of market intervention or sizes of governments or to compare Sweden's performance with that of other developed economies (Korpi 2005; Agell, Ohlsson, and Skogman Thoursie 2006; Håkansson and Lindbeck 2005; Fölster and Henrekson 2001). However, specifying aggregate growth equations is a risky operation that has not yielded clear conclusions.

The analyses in this volume take a different approach, empirically examining the impacts of Swedish institutions at a more micro level. They direct attention to several areas in which responses to tax wedges/wage compression do seem to affect market outcomes: hours worked in the market compared to hours worked in household production or grey market activities; the abnormally small private-service sector; the expansion of university training as the education differential rose; the abnormally large amount of time spent in sickness leave; and the increased duration of unemployment spells associated with the long duration of benefits and time on active labor market programs that do not improve skills much, if at all. The issue of the magnitude of the effects of tax wedges is one of positive social science, not one of normative analysis. Whether the estimated costs in efficiency are large or small relative to the gains in equity from any intervention is a normative issue that the body politic decides through democratic processes. The typical American is much less committed to egalitarian ideals than is the typical Swede, is more trusting of markets, and is more sensitive to the costs of government programs, which leads the United States to rely more on markets than does Sweden. But the basic economics in assessing the effects of programs in attaining their goals and the efficiency costs thereof is the same. Decisions about how to deal with the costs and trade-offs between economic performance and equity that we and other economists point out will be made within the context of the social institutions and goals desired by Swedes. It is, after all, the *Swedish* model.

We have been impressed that in dealing with the crisis and other economic problems that have beset the Swedish model, public- and private-sector decision makers have been creative in finding economically sensible solutions to problems—in some cases, with greater success than the United States, such as in pension reform. Our research suggests that such adjustments are a necessary part of a welfare state operating in a market economy. Welfare state policies cannot remain static but must continuously evolve to meet changing economic realities. New market conditions driven by technology, trade, and international migration impinge on what policy and institutions can achieve. The welfare state should be a learning state that adjusts policies to changes in their costs and in their success in attaining egalitarian ideals. The reforms that Sweden has undertaken since the crisis show, political differences among parties notwithstanding, that Sweden is a pragmatic reformer, willing and able to undertake reforms when necessary, while continuing to preserve the essence of its welfare state.

Facing and dealing with the trade-offs between equity and performance requires considerable political and social will. Countries that admire Sweden's distributional outcomes presumably would need similar capacity to respond to costs and crisis. From one perspective, a welfare state requires greater social and political perspicuity about economics, particularly by policymakers, than an economy driven more by the invisible hand of markets.

The latter has problems of its own, as the current meltdown in U.S. financial markets has demonstrated. Nevertheless, the welfare state remains a work in progress that must balance the benefits of more egalitarian outcomes against the social costs of market inefficiencies caused by those very benefits. Perhaps the most important lesson for other countries from the Swedish experience is that it isn't easy to be Sweden.

Appendix

Important Policy Changes, 1985 to 2008 (Year it became effective in parentheses)

The years of enactment show that important market-oriented reforms were decided by Social Democratic and center-right governments alike. Sweden had a center-right government from 1991 to 1994 and again from September 2006—five of the twenty-three years covered in this box. The broad outline of reforms has had broad political support and has meant that welfare state arrangements have remained largely intact, but government expenditures have been reined in and the economy has become more competitive.

Macro policy reforms:

Financial market deregulation (1985)
Restrictions on international portfolio investment lifted (1989)
Flexible exchange rate cum inflation targeting (1992)
EU membership (1994)
Electoral periods at national and local levels lengthened from three to four years (1994)
New budget process for central government (1997)
Independent central bank (1999)
Surplus target for consolidated public budgets (central and local governments, public pension system; 2000), currently set at 1 percent of GDP

The deregulation of financial markets contributed to the credit expansion in the late 1980s and subsequently to the serious crisis in the early 1990s. Later macro policy reforms helped the economy stabilize by maintaining a low rate of inflation and by reducing public expenditures and the deficit. The new budget process, with expenditure ceilings for central government expenditures set for three years at a time, meant that total expenditures could no longer be arrived at by adding together individual expenditures from the bottom up. The lengthening of electoral periods was intended to lengthen the decision horizon of policymakers. European Union membership was finally more of a political than an economic change. It did not drastically alter Sweden's relationships with the EU market, because access in most areas had been granted under the previous European Economic Space (EES) agreement, but it made Sweden a more integrated part of the political union.

Tax and funding reforms:

Tax reform (1991)
Pension reform (1999)
Gift and inheritance tax abolished (2005)
Wealth tax abolished (2007)
Earned income tax credit (2007)
Tax relief on household services (2007)

The 1990/1991 tax reform, which broadened the base and reduced top marginal rates, reduced the many distortions caused by the old tax system. The pension reform was forward-looking and transformed the pay-as-you-go system to a quasi-funded and more actuarial system, which is more resilient to demographic and economic changes. The earned income tax credits are significant in size and help to make work more profitable than living off of social benefits for low earners. Tax relief for household services is intended to offset the tax wedge, which discourages the purchase of such services outside the grey/black economy and the growth of a small private-service sector.

The abolition of the gift and inheritance tax was intended to facilitate small, owner-run firms to pass to the next generation. The abolition of the wealth tax was motivated by the fact that it was no longer paid by the really wealthy, that most other EU countries had done away with it, and that it may encourage those who had moved their funds abroad to bring them back to Sweden.

Competition policy and deregulation of traditional monopolies:

Taxi (1989)
Railways (1989)
Aviation (1992)
Telecommunications (1993)
Telephone and postal services (1993)
New competition law (1993)
Electricity (1996)

The deregulation of network industries and other traditional monopolies allowed new entry and increased competition in these industries, and as a result, it contributed to increased productivity. The new competition law recognized that the government could play a role in ensuring a competitive economy.

Public-sector reforms:

Private provision of local government-financed services (after 1990)
Voucher system for primary and secondary schools (1991)

The services continue to be tax financed. The school voucher system allows private schools (including for-profit schools) to compete freely with the public school system.

Replacement rates in social insurance:

Sickness insurance lowered (1993 to 1998), then restored (1998)
Unemployment insurance lowered (Capping has eroded replacement rates for above-median wages since 1992; from 2007, it was also lowered below the cap, from 80 to 70 percent after forty weeks and from 70 to 65 percent after sixty weeks.)

Terms and replacement rates in social insurance have changed frequently, back and forth. When benefit conditions have been tightened, sickness rates and unemployment have gone down. Replacement rates in UI for above-median earners have fallen substantially.

Active labor market program reforms:

Participation no longer qualifies for UI (2000)
Programs scaled down (2007)

The ALMP has undergone a substantial change, which, at least in normal times, means that there will be considerably fewer participants in the reformed programs.

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