

Sweden in past, current and future economic crises

-- a report for the OECD Economics Department

Professor John Hassler

Institute for International Economic Studies

Stockholm University

1. Introduction

This report has been commissioned by the OECD Economics Department. The purpose of the report is to discuss issues related to the consequences for Sweden of the global economic crisis. The report discusses four issues in four separate sections. In section 2, the current crisis is compared to the economic crisis in the early 1990's. Despite the fact that GDP fell more and quicker during the current crisis, public finances and unemployment followed a much more beneficial trajectory than during the earlier crisis. The purpose of the section is to demonstrate this difference and provide some tentative explanations. An important conclusion is that the positive fiscal surplus and the small debt before the current crisis is not a sufficient explanation for the difference in outcomes.

In section 3, some challenges for future fiscal policy are discussed. In particular, the issue of how large surpluses need to be in upturns so as to give sufficient room for fiscal expansions in downturns is discussed. In the current crisis, many governments have seen soaring spreads and increasing costs of financing deficits. The section discusses the lessons for Sweden to be drawn from this observation.

Section 4 in the report is devoted to a discussion about the retirement age. Sweden seems to have managed to break the trend towards earlier retirement. However, what has already been achieved is not likely to be enough, given that longevity continues to increase.

The final topic, if the unemployment insurance system should have cyclical variation in its generosity, is discussed in section 5. Such variation is the rule in the U.S. and Canada but not used in Sweden. The section discusses pros and cons of such a system as well as of systems for work sharing.

2. Swedish public finances in the current and previous macroeconomic crises

The current world-wide recession has affected Sweden no less than most other OECD countries and the fall in Swedish GDP between 2008 and 2009 was the largest recorded since 1931. The GDP-gap was more negative 2009 than under the recession in the early 1990's and the accumulated GDP-deficit is also projected to be larger. Real GDP fell by 6% during the crisis year of 2008 and 2009, which was close to 3% more than the OECD average. During the crises in the early 1990s, it took three years for real GDP to fall 5%. Figure 1 illustrates the fact that the current crisis led to larger and quicker fall in GDP than the crisis during the 90s. Despite this fact, the negative effect of the recession on public finances has been contained. The weakening of the public sector budget balance has been substantial but much less so than during the crisis in the 1990s. The debt buildup has been small and according the government's projections, the automatic strengthening of the budget following the closing of the output gap, will be sufficient to restore a public surplus in 2013.

Figure 2 shows general government net lending since 1970 including forecasts for the coming years. While the current crisis led to a increase in net lending by close to 6%, this is dwarfed by the deterioration during the 90s, when net lending increased by 14%. The fact that Sweden, in contrast to many other countries, this time managed not to enter a situation of public finances in free fall has gained substantial international attention and is the subject of analysis in this section.

The Swedish fiscal developments during the current crisis have been favorable both in an international comparison and compared to the crisis in the 1990s. It is important to explain the causes of the positive Swedish experience and it is tempting to point to the budgetary framework

that was introduced in the late 1990s.¹ This framework includes a government budget surplus target of 1% over the business cycle and an expenditure ceiling. The norms and rules of the framework has largely been followed and this has led to strong pre-crisis public finances. Specifically, Sweden has managed to keep the average budget balance positive since the mid 90s while allowing a substantial counter-cyclical. In particular, Sweden entered the crisis with a surplus of 3.5% in 2007 while the average of EU plus US and Japan was negative. The period of surpluses also implied that government debt was small in an international comparison when the global crisis hit. Gross debt according to the Maastricht was below 40% and the government's net financial position was positive at 18% of GDP in the beginning of 2008.

It is clear that strong pre-crisis public finances have been beneficial for Sweden. Sweden has allowed its automatic stabilizers to work and the deficit has increased about as much as the EU-average over the crisis period. Despite this, the risk premium on government bonds is virtually zero and in contrast to many other OECD countries, the deficit is likely to vanish more or less by itself as growth picks up. The crisis exit strategy of Sweden therefore is not likely to require growth reducing fiscal reconciliation measures like the ones necessary in many other countries. However, although the strong public finances have benefited Sweden, it seems unlikely that the mere fact that the pre-crisis surplus was high directly caused the difference between the fiscal outcomes in the 90's and the late 00's. In fact, as seen in figure 2, the government surplus was about as high just before the two crises. Furthermore, just before the onset of the crisis in the 90s, general government gross debt was fairly low, at slightly above 40% of GDP and practically in line with the 2007 level. Similarly, the budget surplus was high and debt low before the crisis in the mid 70s. But, while the crises in the 70s and the 90s led to dramatic increases in debt, the debt buildup during the current

1 See Boije, et al. (2010) for a description and an analysis of the Swedish budgetary framework.

crisis is hardly visible in comparison.

A similar picture arises also if one looks at government net financial assets, depicted in Figure 4. Although the net position was somewhat better before the current crisis than in the early 90's, it seems unreasonable to attribute much to this difference.

The analysis so far points to the conclusion that something else than the level of pre-crisis surpluses and government debt is likely to be responsible for the difference in fiscal consequences. Clearly, an important component may be the new budgetary framework that allowed the government to control the development of the budget more stringently. However, a more fundamental reason is that the overall status of the economy was substantially worse during the earlier crisis. When Sweden entered into the crisis in the 90's it quite soon became clear that the substantial and painful structural changes needed to be undertaken. For example;

- A long trend of increasing public expenditures need to be stopped and likely reversed.
- The competitiveness of the Swedish export industry could no longer depend on recurrent devaluations. Instead large shares of important sectors needed to be restructured and many jobs permanently closed. The laid off workers could not be absorbed by an expanding public sector.
- Incentives to work needed to be increased and even if they were, the historic very low unemployment rate could not be maintained.

The crisis in the 90's made it apparent that the governments had mismanaged the economy in general for a long time. The change in perceptions led to a drastic fall in consumer confidence, consumption and investments. This affected the whole economy and employment fell in most sectors. Table 1, shows that employment in several important sectors not only fell in the beginning

of the crisis, but employment continued to fall over the medium run horizon. This is, in particular true for manufacturing, construction, commerce and the sectors dominated by public employment like healthcare and public administration. Assuming some foresight among employers, it is not difficult to understand that labor hoarding was not an option for a large share of employers during the crisis in the 90s. In contrast, although employment has fallen in many sectors during the current crisis, the bulk of the fall is accounted for by manufacturing. The total fall in employment between 2008Q1 and 2010Q1 was 94900 individuals, while the loss of employment in manufacturing was 78550 individuals. More importantly, while the loss in e.g., manufacturing employment in the 90s turned out to be permanent, it seems more likely that employment will recover this time. Therefore, the willingness to hoard labor should be much larger now, explaining the substantially weaker relationship between the fall in output and the fall in employment which is key for the favorable development of public finances despite the large fall in GDP.

Figure 5 provides more evidence in line with the argument of labor hoarding. The figure shows that capacity utilization in manufacturing fell much more dramatically during the current crisis. This indicates that the fall in output was to a larger extent than during the previous crisis accounted for by a reduction in capacity utilization. During the crisis in the 90s, output instead seems to have fallen due to permanent destruction of non-competitive jobs.

The conclusion from this section is that the comparatively favorable fiscal developments in Sweden during the current crisis are not directly due to a high surplus and a low debt before the crisis. Neither should the development be attributed to sheer luck. The new budgetary framework and the care taken in not spending on ineffective stimulus packages did play an important role. But the main explanation is that Swedish macroeconomic policy from the mid 90s had successfully dealt with important structural problems. An extraordinary strong but not long-lasting negative shock to the demand for Swedish export goods did therefore not lead to expectations of large and

costly structural changes. Therefore, important tax bases remained largely intact and the increased demand for government transfers was manageable.

3. Room to maneuver – surpluses in good times and deficits in bad

The key lesson from the previous section is that sound macroeconomic policies in general can allow a country to withstand a very large negative shock without being seriously hurt in the short and probably also in the medium and long run. Surpluses in good times and a not too large government debt allowed expansionary fiscal policy and the full working of insurance systems that help individuals hit by unemployment and other income reductions. A government budget that is balanced or in surplus over the cycle leading to a small debt is therefore a necessary (but, as stressed above, not sufficient) ingredient in a successful macroeconomic policy.

During the current crisis, as well as in many earlier instances of financial and economic crisis, many countries have seen risk premia on their bonds rise quite dramatically, making it increasingly costly to finance their debt. A key issue in the current debate is how large the surplus in good times needs to be in order for deficits in bad times not to be so large as to be difficult to finance. There are basically three ways the literature has dealt with this issue. The first is mainly concerned with finding appropriate targets for the budget surplus over the business cycle, while the latter two deals with government debt.

The first approach was taken by the Swedish government committee on stabilization policy in a monetary union (Calmfors, 2002). Here, the idea is to base the surplus target on a maximum accepted probability of the deficit becoming larger than the 3% threshold in the EU Growth and Stability Pact. In the sub-report (Ohlsson, 2002), the distribution of GDP growth rates as well as the

sensitivity of the government deficit to changes in the GDP growth rate is estimated on Swedish post-war data. Ohlson (2002) finds that a 1% decrease in the growth rates leads to an increase in the central government budget deficit of 0.8 or 1.2 percentage points of GDP, depending on whether lagged GDP growth is included in the regression or not. He also finds that growth rates are approximately normal with a mean of 2.7% and a standard deviation of 1.9%. If the target for the average budget surplus over the business cycle is set to 2%, Ohlson calculates that the threshold would be breached with a yearly probability of 0.2% (every 500 years on average) if the budget sensitivity is 0.8 and with a yearly probability of 4.5% (every 24 years) if the sensitivity is 1.2.

In this year's report from the Swedish Fiscal Policy Council, it is argued that the calculations reported above may overestimate the risk of breaching the 3% threshold since it is likely that the surplus is higher than the target just before a crisis, given that surplus target applies over a full business cycle. The starting point for the calculation should be something higher than the average, allowing a larger fall than five percentage points if the target for the average surplus is two percent. While this argument is formally correct, it appears more important to note that the normal distribution is likely to be a bad approximation for the probability of extreme events. If the assumption that growth rates are normal with mean 2.7% and standard deviation 1.9%, the probability of the fall of Swedish GDP of 5% that occurred last year is so low as to happen only once every 39500 years. If this is true, we certainly do not need to take precaution for the possibility that it happens soon again.

Another issue is that the budget sensitivity may not be a constant. As discussed in the previous section, if a crisis also induces negative changes in the expectations of medium and long run income and profits, the deficit can increase more when growth falls than under more normal circumstances. The same is likely to be true if a recession coincides with large asset price realignments. This did not happen in Sweden during the current crisis and the budget surplus and

GDP therefore fell around one for one. However, it is certainly not inconceivable that more negative developments could occur again.

A second way of calculating appropriate fiscal policy targets focus on the debt and is taken in a report to the Swedish Fiscal Policy Council this year (Bi and Leeper, 2010). Here, the purpose is to construct a model that explains the risk premium as due to the risk that the government is unable to repay its debt. The starting point is the fact that as for individuals, governments face what is often called a *natural borrowing limit*. This limit exists since under reasonable assumptions, the discounted value of future income minus necessary expenses is finite.² A debt that is larger than this amount is impossible to repay and no rational lender should lend when the debt approaches this level. In the model of Bi and Leeper, stochastic elements imply that the probability that the borrowing limit is approached is smoothly but non-linearly increasing in the current outstanding debt. Calibrating the model to Swedish data, Bi and Leeper (2010) finds that the risk premium starts increasing substantially at around 80% and that default is certain when the debt is around 100% of GDP.

To give a quantitative perspective of this result, it is instructive to first note that fiscal sustainability requires that the debt to GDP ratio is non-explosive. Focusing on balanced growth paths, the debt to GDP ratio thus must converge to a constant. Now use the fact that the budget constraint of the government can be written $B_{t+1} = (1+r_t)B_t - G_t + T_t$ where B_t denotes government debt, r_t the interest rate, G_t government expenditures net of interest rate payments and T_t government revenues, all measured in period t . Divide both sides of the equation by GDP and let lower case b , g and t denote their uppercase counterparts, but expressed as ratios to GDP. Finally,

2 An exception would be if the economy is dynamically inefficient, i.e., when the steady state growth rate is higher than the interest rate.

denote the growth rate of GDP by γ and consider a steady state where all variables are constant. We then find that in a steady state, the debt to GDP ratio is constant and given by

$$b = (t-g)/(r-\gamma).$$

This equation can be used to calculate the natural borrowing limit by setting values to the right-hand side parameters. A standard Laffer argument implies that t is bounded below unity – there is a maximum share of GDP that the government can raise in taxes and other revenues and this is strictly smaller than unity.³ Also g is bounded from below, at least at zero. These two observations imply that the numerator in the right-hand side expressions have a maximum. Given the growth rate γ and the interest rate r , assumed to be out of the governments control, this implies that there is a maximum debt to gdp ratio, b , that can be maintained in steady state. The interpretation is that if the outstanding debt is equal to this maximum, all taxes need to be set so as to maximize revenues (the top of the Laffer curve) and government expenditures (net of interest rate payments) set to their minimum in order for the debt ratio not to rise. Clearly, the debt can not be larger and if it reaches this limit, it cannot be reduced.

Bi and Leeper use a more elaborate stochastic model, but the underlying argument is the same – governments face a natural borrowing limit above which it must default. The problem with the argument is that with quantitatively reasonable values of the parameters, the maximum debt is very large. Suppose for example that it is economically possible for a government to run a permanent primary surplus ($t-g$) of 5%. If this is done without changing Swedish government revenues at around 55%, expenditures need to be cut to around 50%, which is well above the EU-average. Clearly, this might be politically difficult, but is certainly not technically impossible. Suppose

³ In fact, Trabandt and Uhlig (2009) use a calibrated model showing that the Swedish government is already close to this maximum.

furthermore that the long run difference between the nominal interest rate on government bonds and the nominal growth rate is 1.5%, which if anything is a bit high. With this calibration, a debt of $0.05/0.015=3.33$ can be sustained. It appears clear that a more realistic calibration would result in much higher maximal debt levels. The reason why Bi and Leeper come to the opposite conclusion is that they assume that the government cannot cut expenditures and that the interest rate is a whole 5 percentage point higher than the growth rate. These are unrealistic assumptions.

Given that technical inability to repay debt appears unlikely to explain default and risk premia a third approach to studying debt and risk premia instead looks at default as a voluntary decision by the debtor. Here, the decision maker weighs the costs and benefits of a default and default occurs if the benefits dominate. Since the benefits tend to increase in the debt level, it is natural to conjecture that, *ceteris paribus*, default probabilities increase in the current debt level.

A fundamental starting point for this literature on sovereign default is Bulow and Rogoff (1989). They assume that the cost of default is permanent exclusion from borrowing. However, they assume that a country that defaults can save at the world market interest rate. Although one in principle could think that financial markets could coordinate so as to ban a defaulter also from saving, it has an intuitive flavor that it would be possible also for a defaulter to place its saving abroad. Given this assumption, Bulow and Rogoff show that exclusion from borrowing is never a punishment sufficiently strong to prevent default. In fact, default happens with probability one and no country should thus be able to borrow anything. The reason is that by defaulting and saving, a higher consumption can always be achieved than if debt is honored. This result is labeled the *Bulow-Rogoff paradox*.

In a growing literature, various solutions to the Bulow-Rogoff paradox have been proposed. For example, Amador (2008) shows that political economy constraints may prevent saving after a default and this makes default less attractive. Another explanation is used by Arellano

(2008), who assumes that default leads to a temporary output loss. She calibrates the model to Argentina and shows that it can reproduce, in particular, the observed volatility of interest rate spreads and defaults for Argentina. It does produce a fairly large average interest rate premium on Argentinean debt that, however, falls short of the observed average risk premium unless a very high degree of risk aversion among lenders is assumed.

The literature on sovereign default has provided important contributions to our understanding of the quality and strength of default incentives faced by countries in emerging market and thus how rational lenders should set default risk premia. However, we still lack similar quantitative models for developed countries like Sweden. On the other hand, it seems reasonable that default is a decision also in more advanced economies. Costs and benefits are weighed against each other, albeit not necessarily by a benevolent country leader but instead in a political process. The lesson for Sweden should then be that the relationship between debt levels and interest rate spreads is highly dependent on how the market perceives the incentives for and against default. In part, this might depend on basic political preferences that are hard to communicate to the market. Because of the latter, reputation-building can be important – a country that is known to repay also when the political and economic costs are high might be able to borrow more than a less trustworthy government. Somewhat ironically, one might note that the Swedish crisis in 90s may have had long run positive side-effects. Namely, it allowed Sweden to demonstrate that it repays its debt and is able to deal with politically and economically costly restructuring if necessary.

Reputation is costly and takes time to build. Thus, also alternative institutional means to decrease the perceived risk of default may be considered in order to shift out the relation between interest rate spreads and debt. A starting point for an analysis of this is the inherent time-inconsistency of borrowing. When taking up a loan, borrowers have an incentive to commit not to be able to default (too easily) but *ex ante*, the incentive to breach these commitments increases and

may dominate. A standard remedy for problems like this has since the classic paper by Rogoff (1985) been to delegate decisions to an agent with weaker incentives to give in to temptation. Here, one might think of giving the decision on the budget to an independent fiscal board. Such a delegation has been suggested to deal with the deficit-bias. Here, the standard counter-argument to delegation is that it interferes with key political decision making. When discussing default incentives rather than the deficit bias, this argument may be weaker. This since it does not seem necessary to delegate in normal times but only in situations when the market starts to worry about the default risk and interest rate spreads increase. Of course, delegation has to be legally prepared so as to be possible to execute swiftly if deemed appropriate.

The issue of relaxing the relation between debt and interest rate spreads is particularly important if other considerations, such as demographic changes, intergenerational equity and tax smoothing call for a large debt buildup. However, the long-run forecasts of Sweden do not suggest that a large debt buildup is optimal from either of these perspectives. If this is true, institutional change to allow larger debt might be less of an issue.

4. Retirement

The issue of how taxes and transfers affect broadly defined labor supply is arguably the most important issue in public finance, both from an efficiency point of view and for fiscal sustainability. Broadly defined labor supply includes individual decisions among several margins. The two most studied are the extensive margin *whether to work* or not and the intensive margin *how many hours per year to work*. How these margins are affected by taxes and transfers is a very well researched issue. Another key margin is the retirement decision. Here, the knowledge about how the retirement decision responds to economic incentives is much smaller, not the least for Sweden. One of few studies is Palme and Svensson (2003). By using micro data, they find that economic incentives are

important implying that that the construction the pension system, taxes and other transfers systems that affect the retirement system are of key importance. The quantitative implications remain vague, however, requiring intensified empirical work.

From 1970 to 1995, the average age at which Swedish males retired fell by four years from 66.1 to 62.2 years. At the same time the expected remaining lifetime at the 65 increased by close to 2 years from 14.1 to 15.9.⁴ During the decade thereafter, the retirement age increased by a year to 63.4 (in 2006) while the expected remaining lifetime increased by 1.5 years to 17.4. For females, the average retirement age was fairly constant at around 61 years from 1970 to 1995 while the trends in remaining lifetime was similar as that of men, with a steady increase from 17.5 to 20.6 from 1970 to 2006.⁵

The increased longevity does not in itself imply that the socially optimal retirement age should increase. This also depends on how the relation between productivity and health on the one hand and age on the other has changed over time. However, it seems reasonable that also when taking these factors into account, both passed and expected future increases in longevity should lead to increases in the optimal retirement age.⁶ Under these assumptions, the trend-wise fall in the retirement age during the period from 1970 to 1995 can be considered a policy failure due to poorly constructed social insurance systems. The fact that the negative trends seem to have been broken may be attributable to the pension reforms and other changes that have increased incentives to work longer, as argued in the 2009 report from the Swedish Fiscal Policy Council.

The current pensions system with a defined contribution rate and automatic adjustments of benefits to increased longevity provides fairly strong incentives for individuals to postpone their

⁴ Source: SOU (2008)

⁵ Source: SOU (2008)

⁶ If not, the current Swedish pension system with a fixed contribution rate seems poorly constructed. Instead, increased longevity should lead to higher contribution rates.

exit into retirement. For a constant retirement age, a higher expected remaining lifetime leads to a larger fall in income at retirement. However, it is clear that the retirement decision remains distorted in the sense that the full value of the production generated by a marginal delay in retirement does not accrue to the individual. It is also obvious that in an optimal (second best) allocation, one should not aim for no distortions at this margin while other margins necessarily must remain distorted. How strong incentives should be instead depends on how elastic the retirement decisions is with respect to economic incentives relative to other labor supply margins. Given this, it is quite unfortunate that we have so little knowledge about the retirement elasticity.

A general finding regarding the standard intensive and extensive labor supply elasticities is that they depend a lot on individual characteristics. For example, the extensive margin is low for prime age males with medium or high wages while it is substantially higher for women and low wage individuals. Although, very little is known about the cross-sectional variation in the elasticity of the retirement decision, one could not rule out that also here there is substantial variation. If there are such differences, the incentives for staying in the labor force as average longevity increases might need to be differentiated.

Recently, the Swedish National Government Employee Pensions Board (Statens Tjänstepensionsverk), responsible for pensions to central government employees, reported a quite substantial increase in the age at which state employees retire. As seen in Figure 6, the average age of new retirees from state employment has increased by over 4 years for men and close to two years for women over the last 10 years. This is substantially more than the average change in the Swedish population. Although more evidence clearly is needed a tentative conclusion is that this change is due to a particularly high elasticity of the retirement decision for male state employees.

It is well known that individuals with higher education tend to retire later (Burtless, 2008 and Gutiérrez-Domènech, 2006). The findings regarding the strong increase in the retirement age for

state employees also indicate that the responsiveness to economic incentives vary across groups. The stronger work incentives for people above 65 seem to have not only increased the average retirement age but also increased the cross sectional variability as pointed out in SOU, (2008). This also points in the direction of substantial cross-sectional differences in the sensitivity to economic incentives.

A high cross-sectional variation in the retirement age elasticity indicates a policy problem. On the one hand, incentives to work longer are required for long-run fiscal sustainability. Such incentives reward late retirement relative to early. It is likely that unchanged behavior needs not only to be punished relatively but also absolutely. In any case, the outcome of stronger incentives for late retirement is likely to be a potentially large increase in interpersonal differences in life time income and consumption. This calls for more differentiated pension rules. In a world of perfect information, individuals with a high elasticity of the retirement age should be given strong incentives to work long. Punishing them for retiring early has no welfare cost since they simply retire later. On the other hand, individuals whose retirement decision is less elastic should not be punished for retiring early. Obviously, this problem is not new and attempts to mitigate it include systems for disability pension or sick pension or early pension due to bad labor market conditions. Previous experience with these systems shows the difficulty in designing such systems. Many of the reasons for why a person has a special need to retire earlier than others are difficult to verify objectively.

More knowledge is needed before clear policy conclusions can be drawn. In particular, it is important to know how the elasticity of the retirement decision varies between different individuals. However, it seems likely that the tension increases between on the one hand the goal of providing incentives for those who can work long to do so and on the other, providing insurance to those who cannot work long. When the characteristics driving the differences in the potential for later

retirement are observable, they should be allowed to affect pension rules. A system with more differentiation across occupations as regards to the normal retirement age and the age at which health insurance and job security stop being in effect might be a reasonable way to go.

The discussion above has implicitly assumed that differences in the elasticity of the retirement age depend on characteristics of the individual and her job. However, it is possible that also differences in access to alternative means of income, like private pension plans can be part of the explanation. If that is the case, it is likely to affect the policy conclusions. It is therefore also of key importance to get a better understanding of why the elasticity of the retirement decision varies between individuals.

5. Cyclical Variation in the Unemployment Insurance

The U.S. and Canada have procedures for changing the rules of the unemployment insurance system over the business cycle. Specifically, the maximum duration of benefits increases if regional unemployment rates increase beyond particular thresholds. In addition to this automatic response, congress often makes discretionary decisions on duration extension when the economy is in recession. The cyclical variation in generosity is fairly large, in particular in the U.S., where the maximal duration may be almost doubled from the regular 26 weeks.

There are theoretical reasons for having a cyclical variation in the unemployment insurance. The basic microeconomic tradeoff when constructing efficient unemployment insurance is between providing insurance, on the one hand, and providing incentives to search for a new job on the other. There are reasons to believe that this tradeoff may vary over the cycle. If a recession leads to high unemployment and few vacancies, the value of inducing high search effort may fall while the value of providing insurance increases. This change in the tradeoff would call for a more generous unemployment insurance and, perhaps in particular, a slower reduction in benefits over the

individual unemployment duration when the economy is in recession (see Sanchez, J. M., 2008).

Michalat (2010) constructs a model where unemployment is due both to wage rigidity and to search frictions. The author proposes a decomposition of unemployment such that the part due to wage rigidity is defined as the unemployment rate that would result if recruiting costs were zero and the remainder is defined as frictional unemployment. By calibrating the model to U.S. data it is shown that the shares of the two components vary dramatically over the cycle. When unemployment is below 5% it is only frictional but when it reaches 9%, the frictional component only accounts for 2 percentage points. As stated by the author “in bad times, there are too few jobs, the labor market is slack, recruiting is inexpensive, and matching frictions contribute little to unemployment.”

The Swedish Fiscal Policy Council last year proposed the introduction of an automatic mechanism that increases the duration of the initial period of unemployment benefits at 80% of the previous wage. The increase should be triggered if the unemployment rate is above a particular threshold *and* it is higher than previous year’s unemployment rate by a given amount. The latter criterion is also included in the U.S. and Canadian systems and is in a rough manor meant to capture the possibility of variations in the natural rate of unemployment.

The results by Michalat (2010) seem to support the proposal of the Fiscal Policy Council. However, one should bear in mind that the macroeconomic consequences of the introduction of a U.S./Canadian system in Sweden and the U.S. may be quite different.⁷ First, the natural rate appears more stable in the U.S. than in Sweden. The criterion that unemployment must have increased relative to last year is therefore a quite inadequate fix for variations in the natural rate, making the

⁷ Note though, that the proposed variability is small relative to the case in the U.S. The proposal is to let the point in time when benefits are cut from 80 to 70% vary over the cycle. In the U.S., it is the time when benefits go to zero that changes.

automatic system more problematic in Sweden.

Second, the consequences for wage formation of increased unemployment generosity may be different and possibly larger in Sweden than in the U.S. This since unions play a substantially more important role and the unemployment insurance is already more generous in Sweden. The risk and cost of increasing the natural rates and the share of long term unemployed is likely to be higher in Sweden.

The current recession in Sweden is not due to domestic problems regarding wage formation, as discussed above. Partly because of this, it would probably have been socially beneficial to temporarily increase unemployment benefits during the last year when unemployment rates shot up and the expectation was that large industrial restructuring was not necessary. During the crisis in the 90s, the situation was quite different and a temporary increase in benefits may then have been more problematic. Introducing an automatic system of variations in benefit generosity may therefore be worse than having some discretion. A possible alternative is to have a system that allows temporary increases in generosity that are automatically rolled back in a pre-specified way.

Blanchard and Tirole (2008) discuss an arguably more fundamental problem in designing good unemployment insurance systems. They note that publically funded unemployment insurance implicitly subsidizes layoffs.. To understand their argument, think of the cost of unemployment benefits born by the tax payers as an externality. By laying off a worker, the firm induces costs on tax payers. Since these costs are not internalized by the firm (nor by the worker) too many layoffs are likely to result. This effect can be counteracted by various forms of employment protection but Blanchard and Tirole (2008) argue convincingly that a layoff tax, equal in value to the expected unemployment benefits paid by the government, is the most direct way of making firms internalize the cost a layoff inflicts on the government's budget. It is also important to note, that severance payments from the firm to the worker does not do the trick since it simply makes the

worker more willing to accept a layoff by changing the division of costs between the worker and the firm. To induce the right behavior, the firm and the worker must together bear the externality cost.

In Sweden, firms can fairly easily and cheaply reduce their workforce by layoffs. Unless firms make an agreement with the unions, they must follow the principle of last in, first out. However, unions have an incentive to accept reasonable deviations from this rule. Therefore, it seems reasonable to argue that the cost of layoffs is low, potentially leading to a too high rate of layoffs in business cycle downturns. In a downturn as the 2008-9 crisis, when export demand for Swedish goods fell dramatically, one could argue that the reduction in hours worked should have been shared more equally over the relevant workforce. Instead, the implicit subsidy to layoffs may have led to a concentration of this reduction to a smaller number of individuals who are forced to stop working altogether, while the remaining workers work full time. In an attempt to counteract this, the large union IF Metall, with around 400 000 members mostly in manufacturing, in March 2009 made a work sharing agreement with the employer's federation. According to the agreement individual firms can be allowed to make temporary reductions in both work and pay with up to 20%.

According to the yearly report from the National Mediation Office (Medlingsinstitutet 2010), around half of the firms in metal and vehicle industries made temporary work sharing agreements. According to the same report, the employers estimate that the agreement has led to more than 10 000 workers remain employed in the current crisis.

It seems important to stimulate work sharing agreements, possibly also by introducing a system of temporary subsidies to work sharing agreements in recessions. It is also important to realize that the value of work sharing is likely to be countercyclical. Permanent subsidies to work sharing may reduce structural change and thereby hamper long-run growth and should therefore not be considered.

6. Concluding summary

Sweden has fared well in the current crisis relative to its previous experience and in comparison to many other countries. The reason for this is partly that Sweden had sound public finances before the crisis with a quite high surplus and low debt. The main reason is, however, that sound macroeconomic policies over the period from the crisis in the 90's until today had made Sweden able to endure a temporary shock to export demand without large other repercussions. The fiscal surplus was as higher in 1990 than in 2007, but this did not help much when crisis hit in the 90's since that crisis made it apparent that the Swedish economy needed a complete overhaul. Such structural change takes time, is costly and puts a great strain on all parts of the economy.

The current fiscal policy framework, including a surplus target of 1% over the cycle should be maintained, but is not a substitute for good general macroeconomic policies. The current and previous governments have demonstrated a strong commitment to fiscal responsibility. This is a substantial asset for Sweden. The ability for a government to borrow in economic downturns is typically not much limited by its economic capacity. Rather, the critical issue is whether lenders believe that governments and voters want to pay back government debt. The relationship between spreads on government debt and the debt level is therefore not stable enough to allow simple rules to prevent fiscal crisis.

A key issue for fiscal sustainability is that the share of total life spent working does not deteriorate. Given that time spend in education is likely to continue to increase, the average retirement age should increase. Recent developments in Sweden have demonstrated that the decision when to retire does respond to economic incentives. Reforms that have increased the returns to working seem to have been important for the increase in the retirement age among in particular government employees. However, stronger economic incentives usually come at the cost of less insurance. Regarding retirement, the risk is that the necessary strengthening of incentives to

work increases the intra-individual spread in lifetime income. It is therefore important to monitor this development and possibly allow a larger differentiation across occupational groups, giving stronger incentives to retire late in occupations where a long working life is reasonable but allow earlier retirement with adequate benefits in other occupations.

The final issue addressed in this report is if the rules in the unemployment insurance system should be automatically varied over the business cycle. One can make the argument that the tradeoff between insurance and incentives is likely to vary over the business cycle. A similar, and perhaps stronger argument, can be made for policies that facilitate work sharing. A complication, however, is that not all business cycles are the like. Increasing unemployment benefits does effect wage formation and how negative the consequences of this is for job creation is not the same in every downturn. This calls for caution, at least for radical reform.

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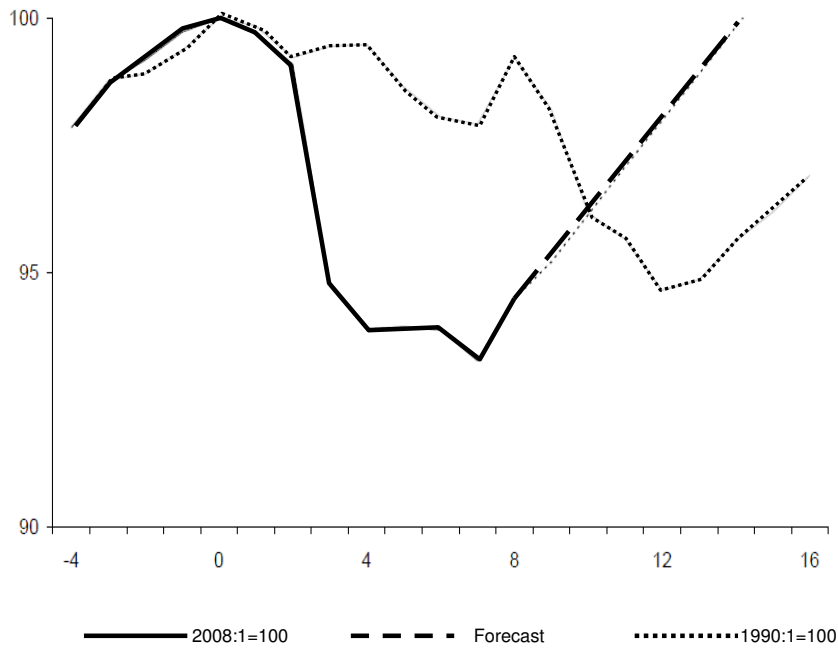
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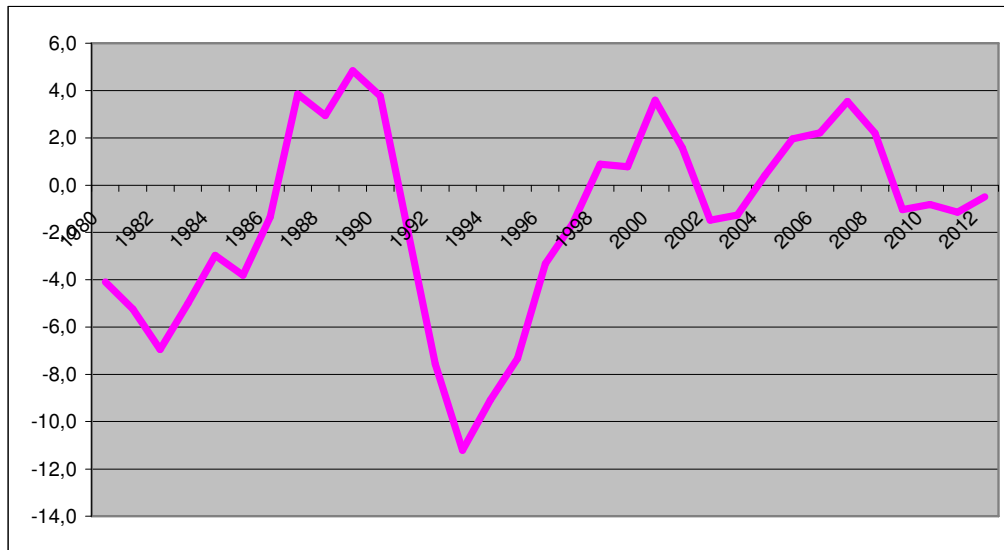
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Figure 1. Real GDP relative to value before crises during 90's crises and current crisis.



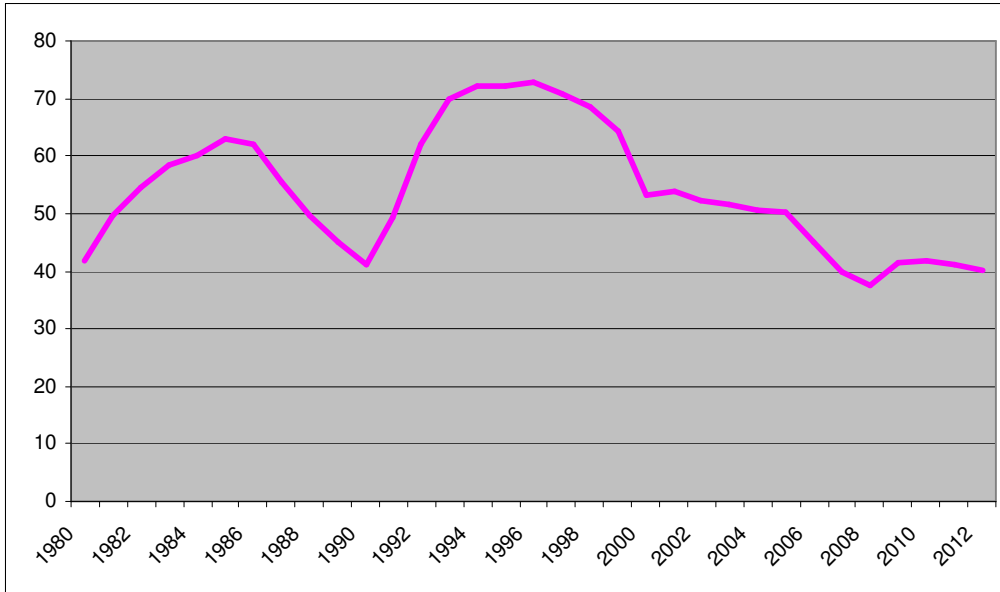
Source: Swedish Fiscal Policy Council (2010).

Figure 2. General government net lending.



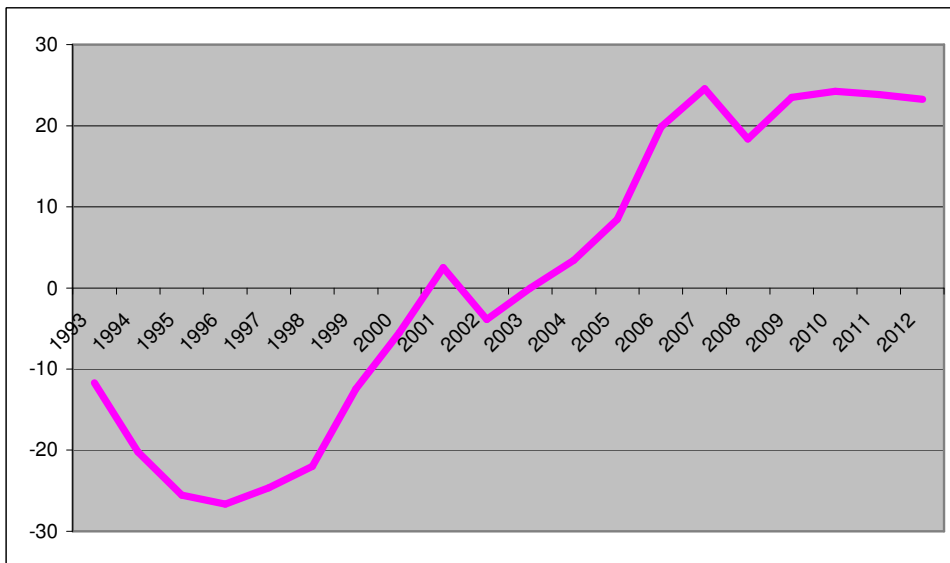
Source: NIER (2005, 2010).

Figure 3. General Government Gross Debt (Maastricht definition)



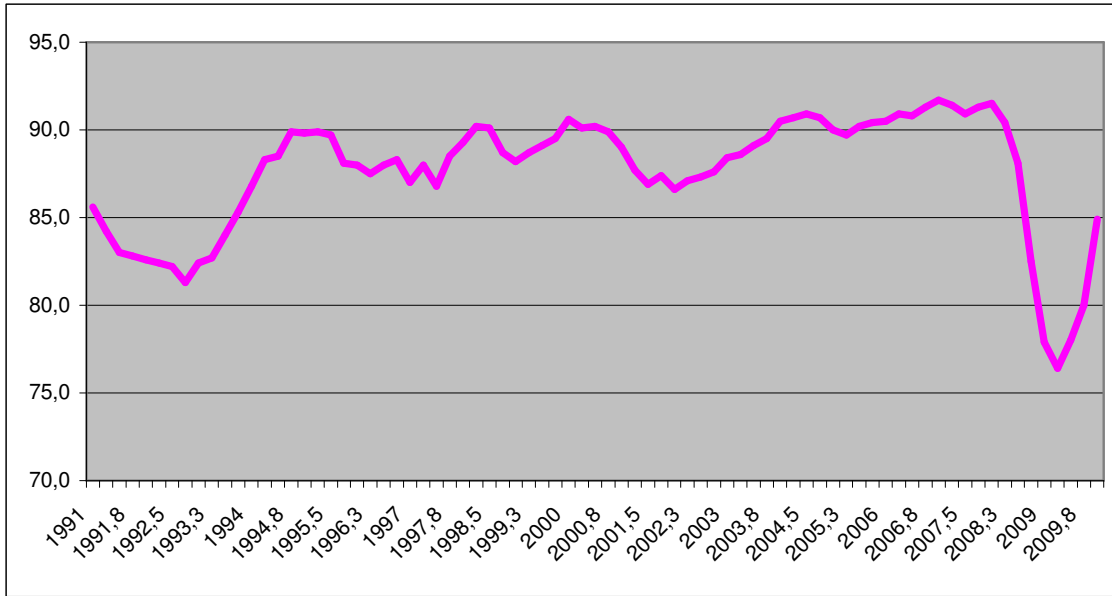
Source: NIER (2010)

Figure 4. General Government Net financial Assets



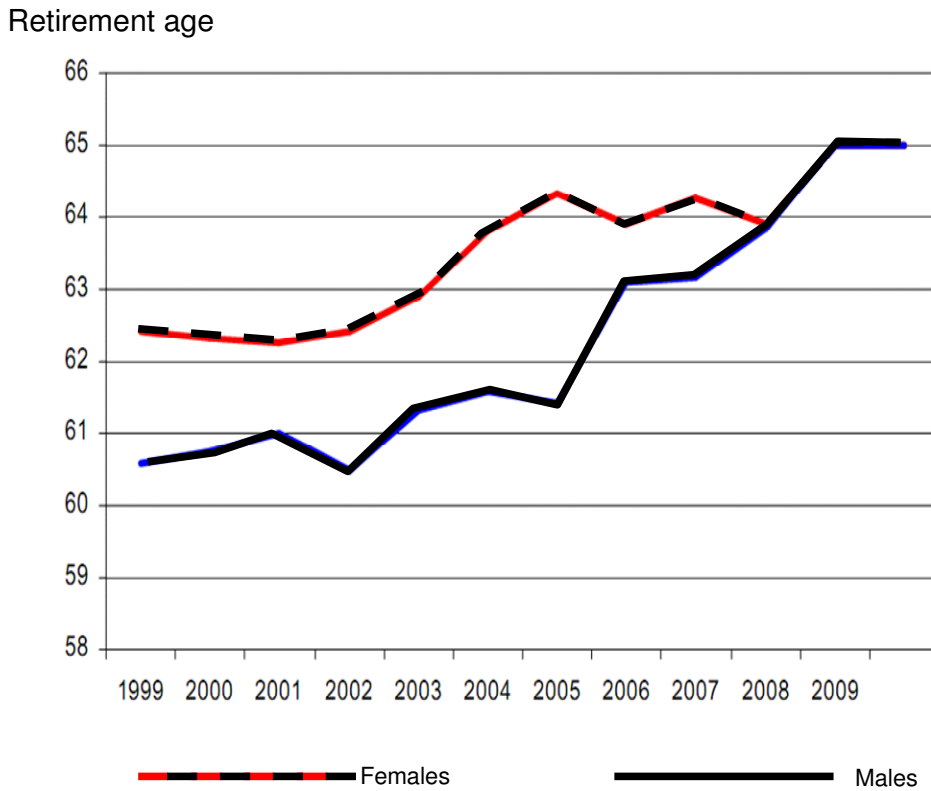
Source: NIER (2010)

Figure 5. Capacity utilization in Manufacturing



Source: NIER (2010).

Figure 6. Average age of new state employee retirees



Source: SPV (2009)

Table 1. Employment change

Industry	2008Q1-2010Q1	1990Q1-1992Q1	1990Q1-1997Q1
Agriculture, forestry and fishing	-7200 -7.6%	-12800-8.6%	-40800 -27.5%
Manufacturing, extraction and energy	78550-11.8%	-135400-13.7%	-202300 -20.4%
Construction	-5600-1.9%	-28600 -9.2%	-107400 -34.6%
Commerce	11600 -2.1%	-36600 -6.3%	-88600 -15.4%
Transport	-3850 -1.6%	-11800 -3.8%	-50300 -16.4%
Hotel, restaurants	-650 -0.5%	-3100 -3.3%	1700 1.8%
Information and Communication	10700 -5.9%	-4100 -3.7%	-30100 -27.1%
Financial services	18000 2.6%	13700 3.6%	53400 13.9%
Public administration	14200 5.6%	8800 3.8%	-21800-9.5%
Education	5050 1.0%	15800 3.2%	-24700-5.0%
Health care	26950 -3.8%	-30400 -4.3%	-99500-14.2%
Personal and cultural services	13850 6.6%	8800 11.4%	41100 53.1%
No information	-800 -10.5%	-100 -1.8%	-1700-30.9%
Total	94900 -2.1%	-215800 -4.9%	-571000-12.9%

Source: Swedish Fiscal Policy Council (2010)

Table 2.

	1970	1975	1980	1985	1990	1995	2000	2006
Men	66,1	65,0	64,1	63,7	62,9	62,2	62,7	63,4
Women	61,4	61,6	61,3	61,5	61,8	61,6	61,9	62,7

Retirement ages in Sweden. Source: SOU (2008)