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**Paper by invitation**

At the time this is written, the author is a member of the Swedish Fiscal Policy Council. The views expressed in this paper are those of the author and do not necessarily reflect those of the Swedish Fiscal Policy Council. Georg Marthin provided excellent research assistance.

## Best in Class: Public Finances in Sweden during the Financial Crisis

**Summary:** This paper studies why public finances in Sweden have remained very strong during the current financial crisis. Unlike almost all other European countries, Sweden has had budget surpluses and a government debt ratio around 40 percent of GDP during the recent crisis. We attribute this to two important factors. First, Sweden entered the crisis with strong public finances and second that unemployment did not rise as much as normally during recessions. The Swedish fiscal framework that was introduced after the banking crisis in the early 1990s with expenditure ceilings, a top-down budget process, balanced budget requirement for local governments has played an important role. We show that the behavior of budget deficits has changed significantly recently, from a deficit bias to a surplus bias. Aggregate demand remained strong during the crisis even though exports fell sharply. As unemployment in the manufacturing sector increased, it was to a large extent offset by increased employment in the service sector.

**Key words:** Fiscal policy, Debt, Sustainability, Financial crises, Sweden.

**JEL:** E02, E61, E62, E65.

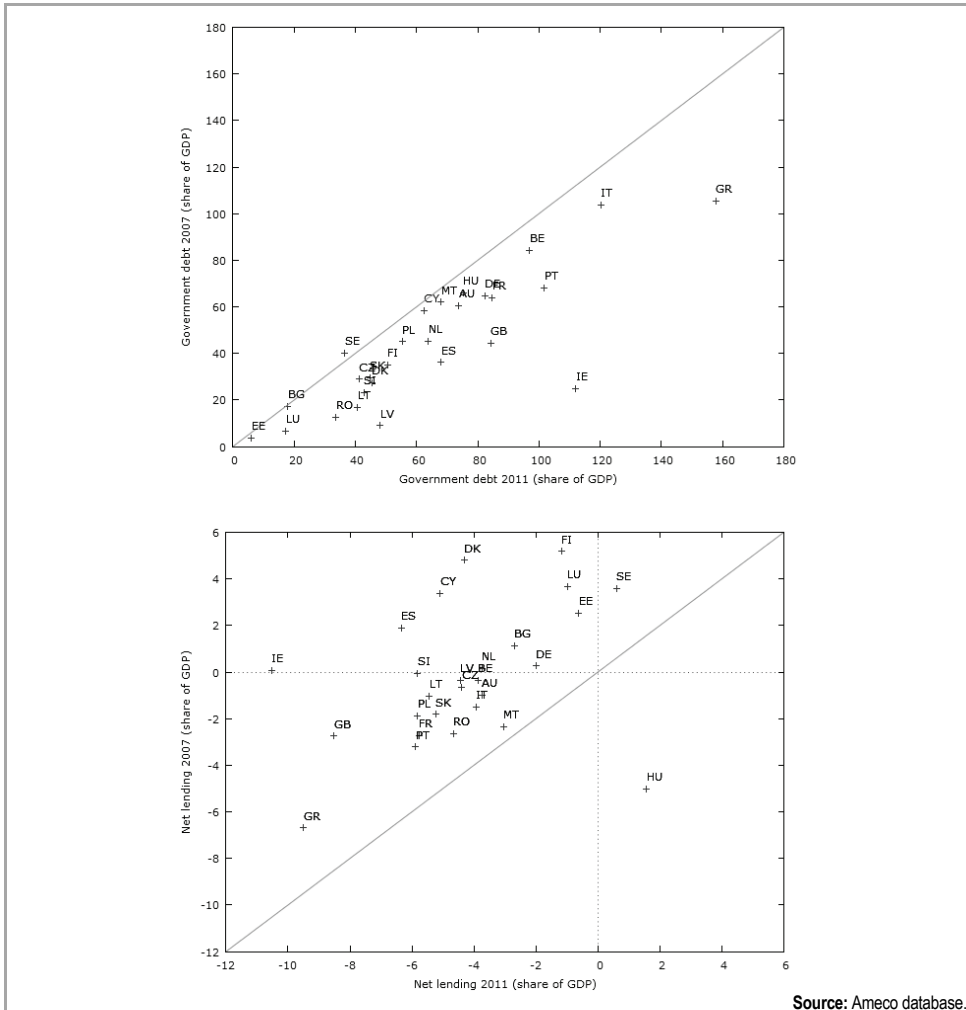
The Great Recession that followed in the steps of the global financial crisis that started in the US in 2007 has had a devastating impact on the public finances in most European economies. Rescue programs in addition to expansionary fiscal policies to counteract the effects of the crisis have increased budget deficits and debt ratios to levels that would have been unthinkable just a few years ago. The pattern that financial crises tend to generate sovereign debt crises is not new, however, as recently shown by Carmen M. Reinhart and Kenneth S. Rogoff (2010). Rising deficits and debt tend to follow after most financial crises. The current crisis nevertheless demonstrates how quickly a financial crisis may develop into a sovereign debt crisis. In Europe the crisis is so serious that it even threatens the foundation of the European Union (EU) project and the euro as a currency.

In some European countries, for example in Greece, the fiscal crisis has developed into a full-fledged sovereign debt crisis. There is a well-founded fear among investors as well as policymakers that the Greek debt crisis could spread to other euro-zone countries. As the crisis in Greece unfolds, investors may start worry about other European countries, in particular countries where the banking sector hold EU governments' debt and countries with similar levels of debt and deficits. To some extent, this has already happened, government bond prices have fallen significantly and market interest rates including interest rates on CDS contracts have increased in many countries, for example, Italy, Portugal and Spain.

As a response to the acute debt crisis in Greece, the EU countries agreed to create a new mechanism that could provide financial support to euro-zone member countries in financial difficulties, the European Financial Stability Facility (EFSF). EFSF is backed by a guarantee from the euro-zone member countries for a total of €780 billion and it has a lending capacity of €440 billion and issues bonds or other debt instruments on the capital markets. Another mechanism, the European Financial Stabilisation Mechanism (EFSM), was also created in 2010. This mechanism provides financial assistance to EU member states in financial distress and is backed by an implicit EU budget guarantee. On behalf of the EU, the EU Commission can borrow up to €60 billion on the capital market. Ireland and Portugal have received financial support from this mechanism, €22.5 billion for Ireland and €26 billion for Portugal. When this paper is written, three euro-zone countries (Italy, Ireland and Portugal) and one EU country (Hungary) have requested financial support from International Monetary Fund (IMF) and EU. A number of EU countries either had their credit ratings downgraded (Cyprus, Greece, Ireland, Italy, Portugal and Spain) or have been given warnings of possible future downgrading (France and Hungary) by various credit rating agencies.

That the situation in Europe and in the EMU countries is severe may best be illustrated by the fact that most countries (24 out of 27 in 2010) have budget deficits exceeding the 3 percent reference value and debt ratios exceeding the 60 percent limit stipulated by the Stability and Growth Pact (SGP). In order to illustrate the recent developments of public finances in EU, Figure 1 compares debt ratios (government debt as a share of GDP) and budget deficits (net lending as a share of GDP) in 2007 and in 2011. The data has been downloaded from AMECO, an annual macroeconomic database of the European Commission's Directorate General for Economic and Financial Affairs (DG ECFIN). A 45-degree line has been added to the graph. Countries appearing to the right and below this line have higher debt level (or lower net borrowing) in 2011 compared to 2007. Looking first at the graph on the left hand side showing debt ratios. It is clear from this graph that debt ratios in most European countries have increased during the last four years, in some cases dramatically so. There are, however, a few countries that can be found close to or on the 45-degree line, for example Sweden, Estonia and Bulgaria, where debt levels have been almost constant over time. At the other extreme we find Greece where the debt ratio has increased from 105 percent to 157 percent and Ireland where the debt ratio has increased from 25 percent to 112 percent.

The right hand side graph in Figure 1 illustrates the change in net lending over the same time period. It is evident from this graph that almost all EU countries (3 out of 27 countries) complied with the SGP requirement that net lending should not exceed 3 percent in 2007. The situation in 2011 is completely different, most countries breach the 3 percent limit (20 out of 27). The two graphs clearly illustrate how quickly the fiscal position can change, from close to surplus to large deficits over a four-year period. The few exceptions from this rule are of interest. How can it be that some countries manage to balance public finances during a global financial crisis? In this regard, Sweden is an interesting case. Sweden was severely hit by the financial crisis. For example, real GDP fell by around one-half percent in 2007 and by over



**Figure 1** Government Debt as a Percentage of GDP and Net Lending as a Percentage of GDP in EU Countries 2007 and 2011

five percent in 2009. Unemployment has increased by over three percentage points since 2007 and exports fell by over sixteen percent in 2009. Despite these negative impulses, Sweden still has had net lending surpluses since 2005. Given this exceptional performance, the Swedish case has attracted considerable international interest recently. The Swedish minister of finance, Anders Borg, was named European finance minister of the year by the Financial Times in their latest ranking of finance ministers in Europe. The question is how this exceptional performance of public finances in Sweden can be explained. The purpose of this paper is to shed light on this question. I suggest that the currently strong public finances in Sweden can be explained by two main factors. First, Sweden entered the crisis with strong public finances and second that unemployment did not rise as much as normally when GDP

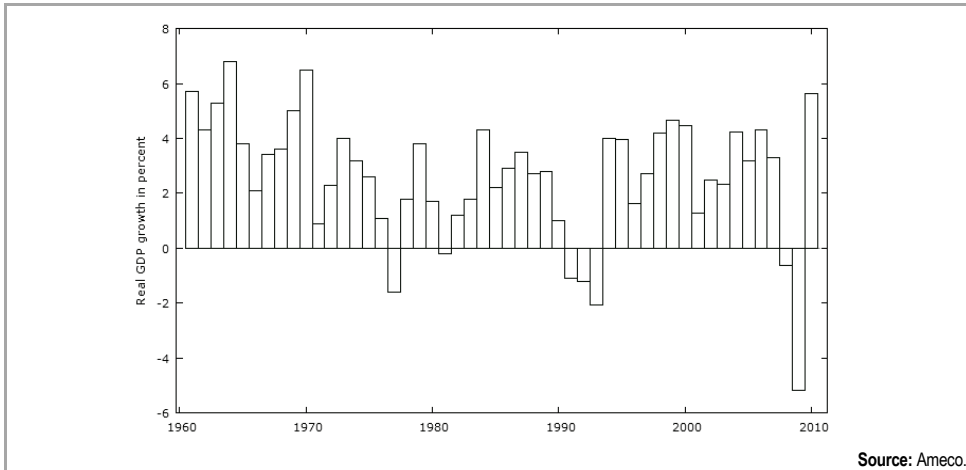
fall. One may argue that the current crisis only has had minor influence on the Swedish economy and that in turn would explain why public finances have not been strongly affected. This is not the case. I compare the macroeconomic behavior during the current crisis and during the banking crisis in the early 1990s and show that the current crisis has been more severe for the Swedish economy compared to the banking crisis.

The remainder of the paper is organized as follows. In Section 1 I briefly describe the macroeconomic development and the behavior of public finances during the last decades. Then, in Section 2, I compare the economic development during the current crisis with the banking crisis in the 1990s. Section 3 describes the Swedish fiscal policy framework. In Section 4 I ask the question whether the fiscal policy framework has had an effect on public finances. Section 5 analyzes why public finances are so strong in Sweden. Section 6 summarizes the main findings.

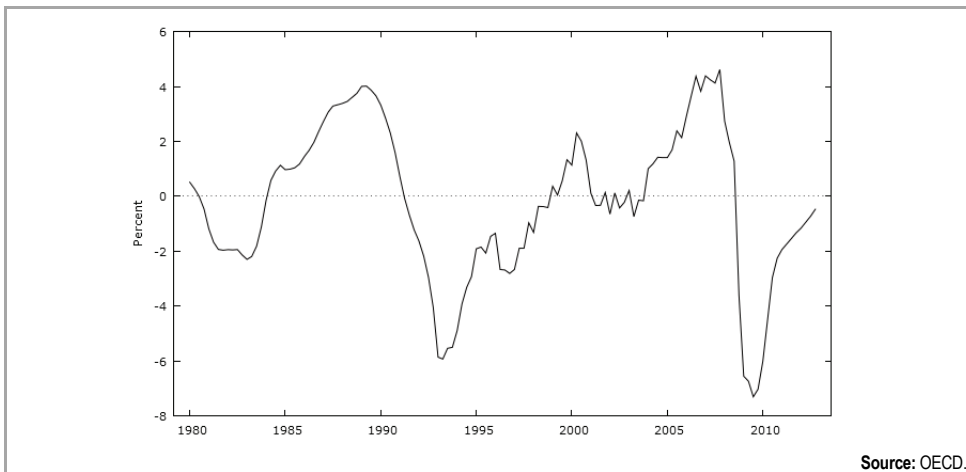
## 1. Macroeconomic Development during the Crisis

Recessions, i.e., drops in GDP, are rare episodes in most countries, so also for Sweden. During the post-World War II period, there are only four episodes including the current financial crisis; 1977, 1981, 1991-1993 and in 2008-2009 as can be seen in Figure 2 showing real GDP growth in Sweden since 1961. These four episodes stand out as exceptions from the general pattern with fairly high economic growth. Looking more closely at the growth rates, one notes that there seems to a pattern of slower growth followed by somewhat higher growth, i.e., cyclical fluctuations. In addition, the graph illustrates the asymmetry between expansions and contractions where the latter appear briefer than the former. Comparing the depth of contractions we also note that the fall in GDP during the current crisis even exceeds the fall during the banking crisis in the early 1990s. This is a surprising finding. In Sweden, the general opinion holds that the banking crisis in the early 1990s was an exceptional and one-time event. The current fall in real GDP is also exceptional in a historical perspective. There are only very few occasions when real GDP growth fell more than it did during the current crisis. There are only three other episodes of falling real GDP growth of the same magnitude during the last 100 years, 1917-1918, 1921 and 1940. For comparison, during the crisis in the 1930s, real GDP fell by 3.1 percent. Reinhart and Rogoff (2008) identify the Swedish banking crisis as one of the five most catastrophic episodes in the postwar period with major declines in economic performance over a long period of time. The other four banking crises they identify are Spain in 1977, Norway in 1987, Finland in 1991 and Japan 1992.

Figure 3 showing the Organization for Economic Cooperation and Development (OECD) estimates of the Swedish output gap illustrates again the dramatic falls in economic activity during the current crisis and during the banking crisis. The graph also shows that the fall in the output gap fell more rapidly and to lower levels during the current crisis compared to during the banking crisis. The general picture emerging from Figures 2 and 3 is that the decline in economic activity during the current crisis exceeds the decline during the banking crisis.



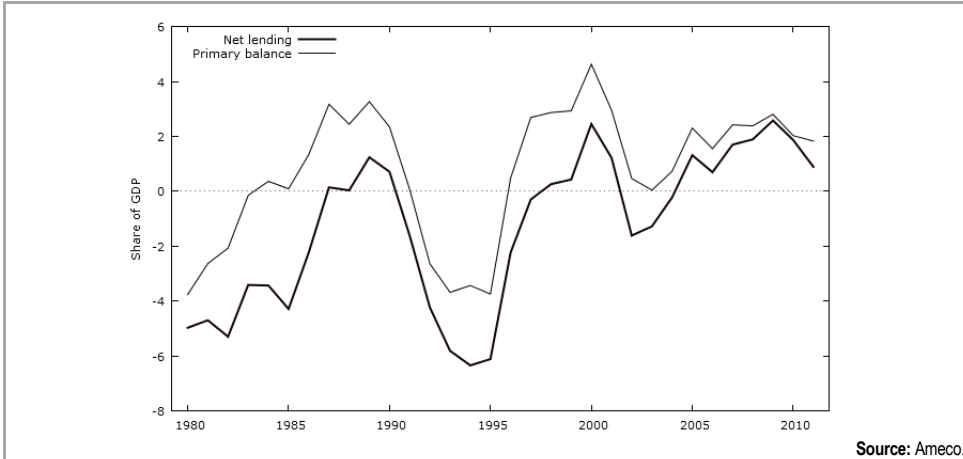
**Figure 2** Real GDP Growth in Sweden 1961-2010



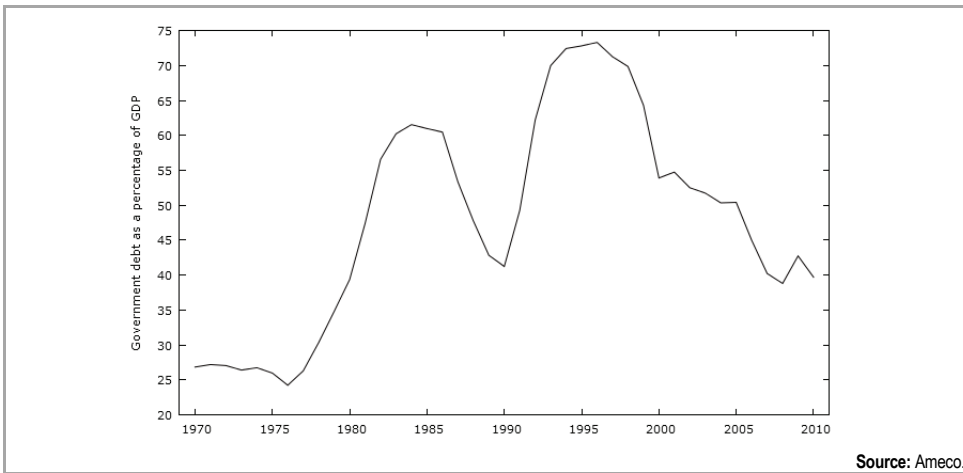
**Figure 3** GDP-Gap in Sweden 1980-2010

In Figure 4 we show how total government net lending and the primary balance have developed since the beginning of the 1980s. The buildup of government debt during the 1980s as is also illustrated in Figure 5 showing government debt as a percentage of GDP. When the banking crisis hit the Swedish economy, government debt had declined somewhat, from slightly above 60 percent in 1984 to around 41 percent in 1990. During the 1990s, government increased as a result of the deep recession that followed in the aftermath of the banking crisis together with costs related to the attempts to rescue the banking sector. The net lending deficit was over 6 percent of GDP in 1994 and 1995. Over the period 1989 until mid 1992 the budget deficit as a percentage of GDP fell from a surplus of 3.3 percent in the fourth quarter of

1989 to a deficit of 11.4 percent in the second quarter of 1993. Over the same period government debt as a percentage of GDP increased from 45 percent to over 76 percent.



**Figure 4** Net Lending and Primary Balance as a Percentage of GDP in Sweden 1980-2010



**Figure 5** Government Debt as a Percentage of GDP in Sweden 1970-2010

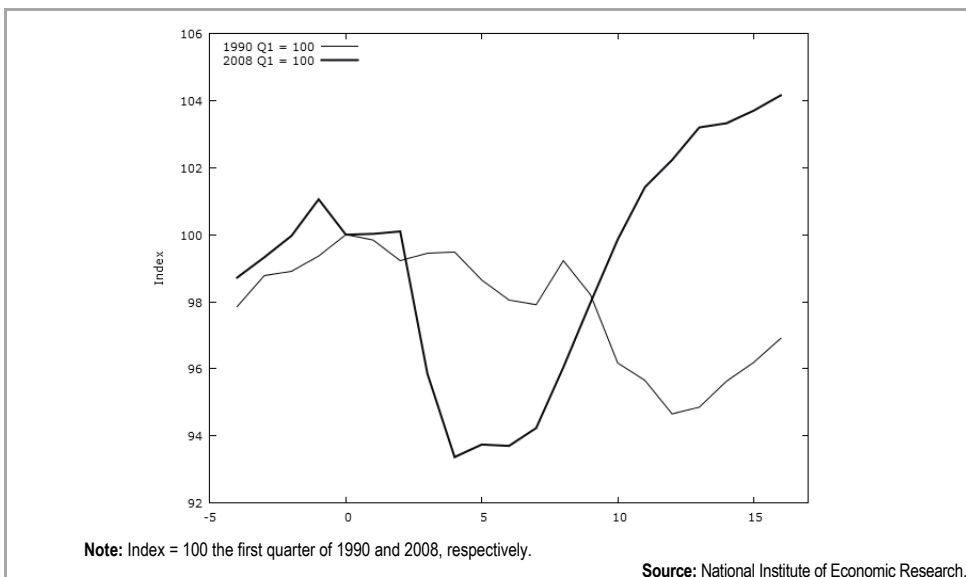
The fall in output was accompanied by deteriorations on the labor market. Unemployment has risen by slightly more than three percentage points since the last quarter of 2007. Unemployment was 5.9 percent in the first quarter of 2008 and peaked at 8.8 per cent in the fourth quarter of 2009. Then unemployment declined somewhat in 2010 and was 7.3 per cent during the third quarter of 2011. Employment followed the same general pattern as unemployment. Labor force participation rate has remained fairly constant during the crisis, around 71 percent since year 2000.

Employment declined from 76 percent in the first quarter of 2008 to 73 percent in the fourth quarter of 2009. Since then, employment has been steadily increasing. It is noteworthy that the entire decline in the number of persons employed since 2008 had been recouped in March 2011. However, the employment rate is still lower than in 2007, in the first quarter of 2011 it was 75 percent.

## 2. Comparing the Current Crisis and the Crisis in Early 1990's

In this section we compare the development of the Swedish economy during the banking crisis in the early 1990s with the current crisis in more detail, see for example Stefan Ingves and Goran Lind (1996), Peter Englund (1999) and Lars Jonung, Jaakko Kiander, and Pentti Vartia (2009) for an analysis of the causes, consequences and the resolution of the Swedish banking crisis. As in the previous section we focus on the main picture, i.e., GDP, unemployment, and exports. The reason why we also compare exports is that the dramatic fall in GDP, to a large extent, can be explained by declines in exports, see Swedish Fiscal Policy Council (2010).

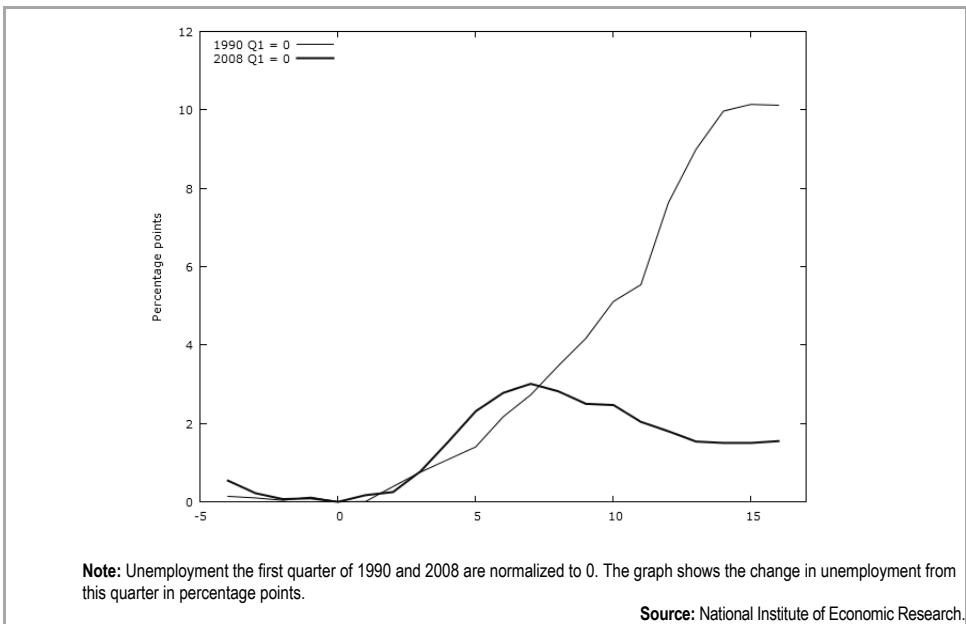
The decline in nominal GDP over the past year has been uniquely large as was also illustrated in Figures 2 and 3 above. In Figure 6 we compare the developments of GDP 4 quarter prior to the outbreak of the crisis (1990 first quarter and 2008 first quarter, respectively) and 16 quarters after this event. Note that the last three observations of GDP (2011 third quarter until 2012 first quarter) are forecasts provided by the National Institute of Economic Research. We normalize GDP to 100 at the outbreak of the two crises in order to make comparisons clearer. As can be seen in Figure 6, GDP fell by six per cent from the first quarter of 2008 to the last quarter of 2009. The current economic downturn has unfolded more dramatically than the crisis



**Figure 6** GDP Developments during the Current Crisis Compared with the 1990s Crisis

in the 1990s. Then it took three years from the cyclical peak before GDP had fallen by five per cent. During the current crisis GDP fell more violently and it reached its trough after only 4 quarters. After the trough GDP increased and returned to its pre-crisis level after 10 quarters. After the banking crisis GDP increased slowly and gradually and was still below its pre-crisis level after 4 years. The current crisis unfolded quickly and violently but was fairly short-lived.

Next, we turn to unemployment. Figure 7 shows the development of unemployment before and after the outbreak of the two crises. As above when studying GDP, we normalize unemployment in this case to 0 at the outbreak of the two crises. Unemployment has increased more during the previous crisis. Unemployment then rose by ten percentage points from 1990 to 1994. The labor market has deteriorated sharply in the wake of the exceptionally strong slowdown in output and demand during the current crisis. From the last quarter of 2007 to the last quarter of 2009, unemployment rose by almost three percentage points, which is about the same as in the first two years of the crisis in the 1990s. Despite the similarities in the early part of the crisis, labor market developments have been much less dramatic than during the banking crisis.



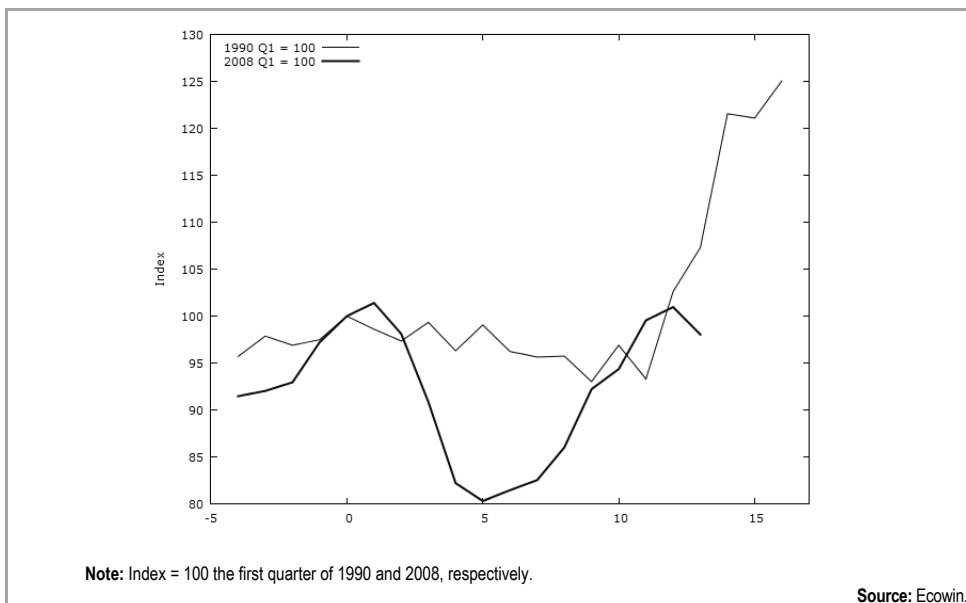
**Figure 7** Unemployment Developments during the Current Crisis Compared with the 1990s Crisis

The difference between the current crisis and the banking crisis is striking. Employment has begun to increase again in recent quarters. The fall in employment was both greater and more persistent in the 1990s. The employment rate fell twelve percentage points from 1991 to 1994, and never returned to the levels prevailing prior to that crisis. Labor force participation has fallen considerably less than it did



during the corresponding time in the previous crisis. In relation to the very different responses of GDP during the two crises it seems that there is no stable relationship between GDP growth and employment as has been suggested by Okun's law. Indeed, estimates of Okun's law for Swedish data suggest that the relation is very different during contractions, in particular during the banking crisis and the current crisis, see Swedish Fiscal Policy Council (2010). They show that employment fell considerably more during the first part of the banking crisis than normally. The fall in employment from the first quarter of 1991 to the second quarter of 1993 was more than one percentage point greater than what it would have during normal times. By contrast, employment fell considerably less during the recent crisis than it would have during normal times. In particular, during the last two quarters of 2009 the deviation is 1.4 and 3.2 percentage points respectively.

How should we interpret these differences? First of all there is a difference since the crises and the mechanisms behind the crises were different. Aggregate demand remained very strong during the recent crisis while exports fell sharply (see Figure 8 below). The fall in employment in the manufacturing sector was to a large extent offset by increases in employment in the service sector, which is labor intensive. Secondly, there have been various structural reforms on the labor market and there have been an attempt to increase the effectiveness of labor market policies. The implementation of an earned income tax credit may also have contributed.



**Figure 8** Exports Developments during the Current Crisis Compared with the 1990s Crisis

Finally we consider the behavior of exports during the two crises. We illustrate and compare exports developments in the same way as we studied GDP above. We normalize exports to 100 in the first quarter of 1990 and the first quarter of 2008

and show the developments four quarters prior to the crises and 16 quarters after the crises. Note that we only have data for the first 13 quarters after the most recent crisis. During the banking crisis, exports remained fairly constant but at a somewhat lower level and then started to increase sharply after 12 quarters (in the first quarter of 1993). The pattern during the recent crisis is quite different. Exports fell rapidly during 2008 and reached its trough in the first quarter of 2009 and then started to increase slowly. In the first quarter of 2011 exports returned to its pre-crisis level. One explanation to this very different development is that the Swedish currency depreciated considerably after the abandonment of the fixed exchange rate in November 1992. The nominal effective exchange rate depreciated by about 12 percent during 1993 and further 9 percent during 1994 whereas it depreciated by 12 percent during 2008 but appreciated by 4 percent during 2009.

Comparing the developments during the two crises we find a larger drop in GDP and in exports while unemployment increased less during the recent crisis. The absence of large increases in unemployment explains why public finances did not deteriorate as much during the recent crisis as it did during the banking crisis. The underlying reason for this is that aggregate demand remained strong during the recent crisis and the fact that increases in employment in the service sector did offset lower employment in the manufacturing sector. Another contributing factor may have been the Swedish fiscal framework that has been in place since the banking crisis in the 1990s. In the next section we briefly describe the fiscal framework and then in the following section we answer the question if the fiscal framework has led to a significantly shift in the developments of public finances.

### 3. The Swedish Fiscal Framework

The financial crisis in Sweden during the early 1990s constituted a major shift in both macroeconomic policy in general and the institutional framework in particular, see Urban Hansson-Brusewitz and Yngve Lindh (2005) and Peter Claeys (2008) for recent analyzes of the Swedish fiscal framework. Sweden had prior to and during the banking crisis a fixed exchange rate regime where the currency was fixed against a basket of currencies where the weights were given by the trade weights of its major trading partners. The banking crisis that hit the Swedish economy in the beginning of the 1990's quickly transformed into a currency crisis and the Swedish central bank (the Riksbank) and the government were both determined to uphold the exchange rate regime while at the same time trying to resolve the banking crisis. The policy failed and there was a tremendous pressure on the exchange rate and finally the Riksbank had to abandon the fixed exchange rate on November 19, 1992. The government and the Riksbank had to reconsider the institutional framework for monetary policy and in January 1993 Sweden became the fourth country to introduce an inflation target that was made statutory in 1999. The monetary policy framework also stipulated that monetary policy should take output gap, unemployment into account when designing the policy but these goals are considered as only secondary. Financial stability meaning securing a stable system of payments was also introduced as secondary goals. Later the Riksbank itself has widened this to also include financial stability in the same way as many other central banks have done. The new monetary

policy framework has been successful. Inflation has been reduced and has fluctuated closely around the target. This is in sharp contrast to the very high and persistent inflation rates in the Swedish economy during the 1980s.

The financial crisis and the policies implemented to resolve the banking crisis lead to a sharp increase in budget deficits and government debt and it was deemed necessary to implement a budget consolidation when the acute crisis was resolved. As a part of the budget consolidation it was decided to introduce a new fiscal policy framework, see Ministry of Finance (2011) for a detailed description of the framework. The goal of fiscal policy is to maintain fiscal stability as formulated in the new fiscal framework that was motivated and built upon the experiences from the banking crisis. The main objective of fiscal policy in Sweden is to attain fiscal stability and the framework consists of four main parts, a balanced budget requirement for municipalities and county councils, an expenditure ceiling for the central government, a top-down budget process where expenditures limits are established first and then the government allocates expenditures within this limit to individual budget areas, and a surplus target for the entire public sector.

The balanced budget requirement on local governments was introduced in 2000 and implies that every local government must plan for a balanced budget but are allowed to budget for a temporary deficit under special circumstances. Such special circumstances include situations when the financial position is strong or if outlays one budget year involves costs that have lasting effects on the budgets the next year or years. Examples of such costs are cost cutting effects in next years budget or if budget deficits are due to unforeseen special events such as large losses on asset holdings. If budget deficits would occur, these should be corrected within three years. It should also be emphasized that the balanced budget requirement is a minimum requirement, in general local governments are required to practice what is called sound economic management (equivalent to a 2 percent surplus). The government conducts surveillance over the financial situation and local governments are required to submit an annual report to the government.

The second part of the fiscal framework is an expenditure ceiling for government outlays that was introduced in 1997 and made statutory in 2009. This ceiling is decided by the parliament (the Riksdag) for at least three years ahead and refers to all central government expenditures except interest payments on government debt. In practice the government presents a proposal each year on the expenditure ceiling three years ahead and then the parliament decides. The expenditure ceiling includes a budget margin (a safety margin) to be used in case there are large unexpected changes in government revenue. The idea is to provide space for newly decided expenditures as well as for automatic expenditure increases in case there is a downturn in the economy.

When the total outlay has been decided, the government then allocates to individual expenditures, which is the third pillar, a top-down budget process. This budget process requires that the sum of all budget proposals lie within the total expenditure ceiling creating a clear distinction between the total size of the budget and the composition of expenditures. As mentioned above, the expenditure ceiling also includes a budget margin. This budget margin is defined and decided by the government using

the guideline that the should be 1 percent for the current year (year  $t$ ), 1.5 per cent for year  $t+1$ , 2 per cent for year  $t+2$  and 3 per cent for year  $t+3$ .

It is important to note that the expenditure ceiling complements and supports the surplus target, which is the fourth pillar of the fiscal framework. The surplus target was approved by the Riksdag in 1996 and has been fully implemented since 2000. Since 2010 it is a statutory requirement for the Government to propose a surplus target for general government net lending. Under the recent Budget Act, the government shall propose a surplus target for general government net lending and then the Riksdag decides. It is important to note that the term surplus target may be misleading. Nothing in the fiscal framework or in the Budget Act requires that the target must be a surplus in general government net lending. The target could be balance or a deficit depending on the economic developments and the level of government debt. The term surplus target was first used when it was introduced in 1996 probably since it was decided that the target was a surplus. Today it is a well-established term in the Swedish society even if it may be misleading. The current decision by the Riksdag is that the surplus target should be maintained during the current governments term of office and for as long as is deemed necessary for public finances to be long-term sustainable. The target was initially set to 2 percent but when Eurostat in 2007 decided that saving in the premium pension system could no longer be included in financial saving, the surplus target was technically adjusted, from 2 to 1 percent of GDP.

The surplus target is evaluated using mainly forward-looking indicators and is used in order to assess the scope of reform or as an indicator suggesting future consolidation measures. A potential problem with the definition of the surplus target is that it refers to an average over the business cycle. Since the business cycle cannot be measured precisely there is a need for measurable alternative indicators. These indicators are discussed in detail in the next section.

It is of course impossible to evaluate the surplus target without uncertainty and there is a risk that actual developments deviate from the forecast of future general government net lending. Furthermore, when using structural measures of net lending and potential GDP there are several other measurement errors that could potentially affect the forward-looking indicators making them obsolete. On the other hand, the government is only using the different indicators as guidelines taking uncertainty into account. If indicators suggest a future deviation from the surplus target they have to be corrected. How a deviation is to be corrected has to be based on an overall assessment taking into account stabilization, redistribution and structural policy objectives.

The fiscal framework is monitored both according to the rules laid out in the Stability and Growth Pact (submission of convergence reports) and by national bodies including the National Financial Management Authority, the National Audit Office, the Fiscal Policy Council and the National Institute of Economic Research. Each of these has specific responsibilities but is also allowed to focus on all aspects of fiscal policy and the long-run sustainability of public finances.

It is also noteworthy that the Swedish government provides a declaration of the principles governing the use of monetary and fiscal policy for stabilization pur-

poses. The government declares first that under normal circumstances, monetary policy is the primary means of stabilizing fluctuations in the Swedish economy. Fiscal policy should only be used in case the economy is hit by severe disturbances. If an active fiscal policy is used, the government says that measures must be designed in such a way that net lending will convert to the surplus target when the economic situation has returned to its normal state. Therefore it is argued that only temporary measures should be used in order to stabilize the economy. Permanent measures, if they are used at all, should contribute to permanently higher economic growth and higher long-term employment. This suggests that the surplus target is viewed as the most important pillar of the fiscal framework.

#### **4. Does the Institutional Framework Work?**

The most important instrument for steering fiscal policy in Sweden is, as has been argued above, the surplus target, i.e., that general government net lending should be one percent of GDP over a business cycle. Since it is difficult to determine the peaks and troughs of business cycles, the Government has decided to use five different indicators when evaluating the surplus target. These are backward- and forward-looking averages of actual and structural net lending. In practice it seems that the Government puts more emphasis on structural net lending, i.e., the fiscal balance in a balanced state of the business cycle. There are, however, a number of reasons why this may not be the optimal indicator, for example difficulties when adjusting for automatic stabilizers and when computing the GDP gap. The impact of automatic stabilizers may vary over the business cycle implying that the adjustment is sensitive to actual cyclical swings. The GDP gap is the deviation of GDP from potential GDP. There are several different methods available to compute potential GDP. For example, the National Institute of Economic Research uses one method whereas OECD is using a different method. The average of the GDP gap for Sweden commonly used is negative on average implying that the gap is defined as the GDP level compatible with a constant rate of inflation. Since inflation is more flexible upwards than downwards, it implies that the Riksbank must pursue a monetary policy that results in a negative GDP gap on average if inflation should be kept around the inflation target. However, such a measure of the GDP gap is not optimal when estimating structural net lending. It is no surprise then that the general conclusion from the Governments own evaluations that the surplus target is met. In the ten-year period 2000-2009, average net lending was 1.3 per cent of GDP. In the coming years, net lending is expected to be 0.3 percent in 2011 and then gradually increase the next coming years. According to the 2011 Spring Fiscal Policy Bill all indicators suggest that the surplus target will be met with a good margin. This conclusion is also supported by estimates of the so called S2-indicator which measures the permanent change in net lending as a percentage of GDP necessary to comply with the intertemporal budget constraint. According to this measure, public finances in Sweden are long-term sustainable.

Since the surplus target is formulated in terms of variation over the business cycle it would be interesting to first date the Swedish business cycle and then evaluate the surplus target. Such an approach provides an alternative to the use of different indicators for example the ones currently used by the government when evaluating

the surplus target. Michael U. Bergman (2011) dates the Swedish business cycle using several different methods and using the two established definitions of a business cycle, i.e., growth cycles or classical business cycles. It is noteworthy that different measures and methods seem to suggest very similar dating. The dating of peaks and troughs is not very sensitive to the particular method used. A business cycle can be measured either from one trough to the next or from one peak to the next. Using this dating we can evaluate the surplus target. Furthermore, since the surplus target was introduced in 1996 but was not used prior to 2000 it allows us to compare and contrast the behavior of net lending prior to and after the implementation of the surplus target.

Table 1 shows the average of general government net lending as a share of GDP during each business cycle since 1970. Business cycles are measured either as growth cycles (deviation from a trend) or as classical cycles. We also distinguish between business cycles measured from either trough-to-trough or from peak-to-peak. An interesting question is whether the introduction of the surplus target has constituted a trend break or not. Since the measurement of the Swedish business cycle is somewhat dependent on the method used to date the cycle we report results for both definitions of the business cycles. The pattern that emerges in table 1 is that the general government net lending during business cycles prior to 1996 well exceeds the current surplus target. On average, the general government net lending was negative over the business cycles until mid 1990s. There are very few periods or business cycles where the surplus target was fulfilled as can be seen in the table.

**Table 1** General Government Net Lending as a Share of GDP during Swedish Business Cycles 1970-2010

	Business cycle	Classical cycle	Business cycle	Growth cycle
Peak-to-peak	1971-1975	4.5	1970-1976	4.8
	1975-1979	1.9	1976-1980	-0.2
	1979-1984	-4.7	1980-1990	-1.5
	1984-1990	0.9	1990-1995	-5.5
	1990-1997	-4.8		
Average		-0.4		-0.6
Trough-to-trough	2000-2007	1.3	2000-2008	1.4
	1972-1977	4.3	1972-1977	4.3
	1978-1981	-3.5	1977-1983	-3.4
	1981-1985	-4.6	1983-1993	-1.7
	1986-1993	-0.9	1993-1997	-6.5
Average		-2.2		-1.8
	1997-2003	0.4	1997-2003	0.4
	2003-2009	1.2	2003-2009	1.2

**Note:** Classical cycle denotes business cycles computed using a Markov Switching model as suggested by James D. Hamilton (1989) and Growth cycle denotes the business cycle computed using filtering techniques such as the HP-filter and different band-pass filters. The table reports averages of general government net lending as a share of GDP during one business cycle.

**Source:** Tables 6 and 7 in Bergman (2011).

We also find that the surplus target has been fulfilled during the most recent period. It is likely that the introduction of the fiscal framework has contributed to long-term sustainable public finances. At the same time it is important to remember that both the 1970s and the 1980s were characterized by several international and national crises that may explain the deterioration of public finances during these decades. The oil price shocks during the 1970s and early 1980s had a strong negative impact on the world economy and also on the Swedish economy. The overheated Swedish economy during the second half of the 1980s caused the Swedish banking crisis in the early 1990s and generated the large budget deficits and an increasing government debt. However, the initial condition in early 1970s is very similar to the current situation with a long period of high economic growth and stable public finances. As can be seen in Table 1, Sweden had a general government net lending surplus prior to the first oil price shock in 1973-74 (OPEC I).

When the first oil price shock hit the world economy, public finances deteriorated quickly. The immediate policy response in Sweden was an expansionary fiscal policy with the goal of overthrowing the recession that was expected to follow after the oil price shock. The result was a cost crisis caused by too large wage increases that was met by repeated devaluations. The crisis started in 1979 when the world economy was hit by the second oil price shock that again was met by repeated devaluations in 1981 and in 1982. These devaluations only had a temporary effect. The liberalization of the Swedish credit markets towards the end of the 1980s contributed to a boom that finally was followed by the banking crisis in the beginning of the 1990s. This general pattern of consecutive international and national crises illustrates that even if the initial fiscal position is strong it is not unlikely that public finances deteriorates quickly when the economy is hit by a negative shock or consecutive negative shocks. In the end, budget deficits may be too large and public finances will cease to be long-term sustainable. As was mentioned in the introduction, this pattern is not new or unique it is a general pattern during boom-bust cycles. A financial crisis very often transforms into a sovereign debt crisis.

The conclusion from this analysis is that the surplus target has been satisfied since it was introduced in year 2000. It is also remarkable that the behavior of net lending has changed considerably over time and it is tempting to interpret the empirical evidence as support for the idea that the fiscal framework is important and can lead to improved public finances. However, an alternative interpretation is that after the banking crisis there was a general consensus among economists as well as the government and parliament to introduce more discipline in fiscal policies. To further strengthen the framework, the expenditure ceiling as well as the surplus target is now statutory. Regardless of how we interpret the evidence it is clear that the combination of the fiscal framework and the political consensus has had a strong influence on the development of public finances in Sweden. This is also illustrated by the political support for the other components of the fiscal framework such as the expenditure ceiling.

## 5. Why are the Public Finances so Strong in Sweden?

In previous sections we have compared the macroeconomic behavior during the recent crisis with the one during the banking crisis in early 1990s and we have evaluated the surplus target using a more direct method. Our analysis suggests that even though GDP fell more during the recent crisis, employment has remained high and did not fall as much as it did during the earlier crisis whereas exports fell more and remain at a fairly low level compared to the almost constant level of exports during the banking crisis. At the same time we noted that the banking crisis led to large budget deficits, the deficit in net lending was around 6 percent of GDP during a three year period during the first half of the 1990s. The difference between the banking crisis and the recent crisis is striking. Sweden has had budget surplus since 2005, the average surplus is 1.7 percent of GDP until 2010. This can be compared to the average budget deficit in EU-27 of 3.45 percent and 3.2 in both EU-17 and EU-12. The question is whether this remarkable difference is due to stronger initial position of public finances or differences in the development during the crisis.

To illustrate we present in Table 2 a decomposition of the difference in net borrowing in 2010 and in 2007 between Sweden and both EU-27 and the euro-zone (EU-17). In the table we decompose the differences in net borrowing into different factors, the difference in initial position in 2007 and the expected change in net borrowing in Sweden if the Swedish net lending would have weakened in line with the average EU-27 or euro-zone country. Using data for the EU countries we estimate the relationship between the change in net lending over the period 2007 and 2009 on a constant and the fall in nominal GDP between 2008 and 2009. This gives us an average relationship between changes in net lending and the fall in GDP that then can be used to compare the implied fall in net lending in Sweden if its net lending had declined in relation to the average decline in EU-27 (and in the original euro-zone countries). The deficit in government net lending as a percentage of GDP was 6.8 percentage points lower in Sweden than in the EU-27 in 2010, see Table 2. Out of these 6.8 percentage points, 4.5 are explained by higher net lending before the crisis in 2007. If net lending had weakened in line with the average relation with GDP for the EU countries net lending in Sweden would have been about the same as in EU. Instead, net lending decreased by 2.23 percentage points less in Sweden than it would if Sweden had followed the average relation with GDP in EU. Similar conclusion holds also if we compare to the euro-zone as can be seen in Table 2. The conclusion is that the reason why Swedish public finances remained strong during the crisis was both a stronger position before the crisis and a better development during the crisis.

What can explain the fact that public finances did not deteriorate as much in Sweden as in other European countries? The main reason is that employment fell considerably less than normally, i.e., during periods where GDP fall. This is discussed in detail in Swedish Fiscal Policy Council (2011) where they compare the trends in GDP and government net lending in a select number of OECD countries. The reaction of Sweden's public finances to the cyclical developments was relatively limited. In general, public finances deteriorated more in countries that experienced relatively large decreases in GDP. The fall in GDP was larger in Sweden than in



**Table 2** Differences in Government Net Borrowing 2010 between Sweden and EU-27 and between Sweden and EU-17 as a Share of GDP

	EU-27	EU-17
Difference in net borrowing in 2010	6.80	6.48
of which		
Difference in net borrowing in 2007	4.50	4.30
Difference in contribution from fall in GDP	0,07	0.20
Residual	2.23	1.98

Source: Ameco, Eurostat and own calculations.

OECD (and in EU-27 as well as EU-17). At the same time they find a significantly better development in public finances than in OECD. An interesting observation they make is that the deterioration of net lending in Greece and Portugal was less than the average in OECD countries. A possible conclusion is that the current large deficits in these countries mainly are due to large initial deficits in net lending. Entering a financial crisis with budget deficits is not a good position to start with. Those countries can be compared to countries such as Sweden that entered the global financial crisis with public finances in good shape. For example, net lending fell considerably more in Denmark, Germany, Italy and Slovakia than in Sweden, even though the decrease in GDP in these countries was about the same as in Sweden.

When comparing the current crisis with the banking crisis in the 1990s we found that net lending deficits were small during the current crisis compared with the earlier crisis. Even though GDP fell more in 2008/09 than in 1991-1993, government net lending decreased 3.4 percentage points from 2007 to 2010, whereas it decreased almost 15 percentage points from 1990 to 1993. This may indicate that public finances have become less cyclically sensitive. One possible reason may be that public expenditure now amounts to about 50 per cent of GDP compared to about 60 per cent in the early 1990s suggesting that the automatic stabilizers have become weaker. Another contributing factor may be the earned income tax credits and reduced benefits levels in unemployment insurance that have recently been introduced. In Sweden unemployment benefits are set in nominal terms and are very seldom adjusted for inflation. The current ceiling of the maximum unemployment benefits was set in the beginning of 2000, for example. This implies that the real value of the benefit falls over time and since wages tend to increase more than inflation it follows that the maximum benefit as well as the basic benefit falls as percentage of average wages. Another important factor is that the 1990s crisis differed in character from the current crisis. The earlier crisis was a domestic financial crisis whereas the current crisis is global.

Despite the larger fall in GDP growth in the current crisis, employment fell less than the historical pattern would suggest. For example, during the last two quarters of 2009 the deviation is 1.4 and 3.2 percentage points respectively. One possible explanation for this difference is that the mechanisms behind the crises are different. During the Swedish banking crisis domestic demand fell whereas it has been relatively strong during the current crisis. Employment in the service sector has remained

high because of this. Even though exports fell sharply during the current crisis explaining the large drop in GDP growth and in the output gap, employment remained relatively high in the export sector. The general pattern is that the fall in employment during the current crisis can be explained by a fall in employment in the manufacturing industry, other sectors were largely unaffected. During the crisis in the 1990s employment fell sharply in all sectors. Partly explaining this difference is the strong public finances reducing the risk of contractions in employment in the public sector. During the 1990s crisis public employment fell, employment in the health care and social services fell by almost 14 percent over the period 1990-97 for example.

There are also other possible explanations including structural reforms on the labor market as well as improved and more effective labor market policies and the newly implemented earned income tax reductions and tax reductions on household-related services (cleaning, maintenance, laundry) and for Repairs, Maintenance and Improvements (RMI). The tax reduction on household services was introduced in 2007 whereas the RMI tax reduction was introduced in the end of 2008. The tax reduction is 50 percent of the labor cost up to a maximum of SEK 50 thousand per year and per person. It is likely that the improved labor market policies and structural reforms have at least not increased the risk of becoming unemployed whereas the tax reductions on household services and positively affected the service sector during normal times. Even though the tax reductions are permanent it may be that households perceived the tax reduction to be only temporary and therefore used these services earlier than they otherwise would do. Supporting this argument is that the actual costs of the tax reduction exceed what was forecasted. The total gross cost in the form of reduced tax revenue (without taking into account the likely positive effects on employment and thus on the tax base) is about SEK 70 billion. The credit has been introduced in four steps. This has resulted in tax cuts on earned income every year of the current government's term of office. The total costs in the form of reduced tax revenue (static costs without taking into account the effects on hours worked) come to about SEK 70 billion, of which the first step in 2007 represented about SEK 40 billion and each of the three subsequent steps about SEK 10 billion.

Earned income tax credits are very common internationally, but the Swedish earned income tax credit differs, however, from corresponding credits in most other countries in so far as it is paid to everyone who works regardless of how high their earned income is making it relatively costly. Only two other countries, Denmark and the Netherlands, have the same design. The direct budget cost – without taking into account that the cost of other social benefits decreases and tax revenue increases to the extent that the objective of getting more people in work is achieved – comes to about 2.3 percent of GDP in Sweden, while in most other countries, it is in the interval 0.3-0.5 percent of GDP. The country closest to Sweden in direct budget costs is the Netherlands with about 1.6 percent of GDP.

Employment growth in recent years says very little about the long-term effects of the earned income tax credit. The credit would mainly be expected to affect equilibrium employment, that is, average employment over the business cycle. In the short run, employment developments are mainly determined by cyclical swings in aggregate demand. Possible effects of the earned income tax credit in the last two

years have most likely been overwhelmed by recent years' dramatic cyclical developments.

To sum up. The main reason why public finances in Sweden did not deteriorate to the same extent as in many other European countries is that the initial position was much better. Sweden has had net lending surpluses since 2005. In addition, the development during the crisis is also better than in the EU even though GDP fell more than on average in EU and in the euro-zone. The explanation is that unemployment did not rise as much as expected which is quite different from the experience from the banking crisis in the 1990s as was illustrated in Figure 7. One possible interpretation is that there is a lot of labor hoarding in the Swedish economy during the recent crisis. Businesses decided to retain workers in order to ensure that their core competencies were still available when the economy turned upwards. Why had Sweden a better initial position in public finances? There are two possible explanations, either that the lessons learned from the earlier banking crisis created a general consensus among policy makers that sustainable public finances is of utmost importance or it could be that the fiscal framework that was introduced after the banking crisis has affected actual behavior. The Swedish fiscal framework has not contributed to a deterioration of public finances, before or during the crisis. The focus on the surplus target in combination to the expenditure ceiling could instead be interpreted as a replacement of deficit bias with a surplus bias. The second factor was that unemployment did not rise as much as could have been expected. Aggregate demand remained high as a result. Employment in the service sector actually increased during the crisis, which to some extent counteracted increased unemployment in the manufacturing sector.

## 6. Summary

This paper has evaluated and discussed the performance of Swedish public finances during the current financial crisis. The development of both government debt and in particular net lending puts Sweden as a good candidate for a "best in class" award among the 27 EU member states. Public finances in Sweden are very strong and despite a very large drop in GDP during 2008-2009 period, public finances did not deteriorate as much as in the EU countries on average. This is particularly surprising since GDP fell less in EU on average than in Sweden. We identify two main reasons why the Swedish development was different. First, Sweden entered the financial crisis with very strong public finances and second that that unemployment did not rise as much as normally when GDP fall. An underlying factor explaining why Sweden entered the crisis with strong public finances is the fiscal framework. The focus on long-term sustainable public finances since the banking crisis in the 1990s has had a significant effect on the developments of government and net lending. The surplus target in combination with the expenditure ceiling seems to have lead to strong public finances. Comparing the behavior of net lending before and after the implementation of the fiscal framework, suggest a significant shift in net lending. The reason why unemployment did not rise was that aggregate demand remained high and that employment in the service sector increased and to a large extent offset the increase in unemployment in the manufacturing sector. There are some indications of labor

hording during the crisis. Additional reasons may also be the sharp fall in the cost of sick leave and the earned income tax reforms implemented during the last five-year period. The Swedish government has had some room for maneuver even during the crisis to use discretionary fiscal policies.

What are the lessons that can be drawn from the Swedish case? Even though the fiscal framework seems to have contributed to the sustainability of public finances there are a few drawbacks to the current framework. First, it is unfortunate that the target for total government net lending is called a surplus target. This term may imply that the target always should be a surplus in net lending. This may not necessarily be the case. It is not evident that a deficit target or balanced net lending is appropriate, what is perhaps more important is that there exists a target for total government net lending. It should also be noted that the current target of a 1 percent surplus implies that net financial worth will stabilize around the current value. If nominal GDP growth is 5 percent per year and the surplus target is 1 percent of GDP, then the surplus is sufficient to offset the decrease in net worth as a percentage of GDP that would otherwise occur when GDP grows, see Finanspolitiska rådet (2008). A lower GDP growth would imply that net financial worth as a percentage of GDP converges to a higher number than the initial level. Thus, a surplus target will in combination to average GDP growth determine the steady-state level of net financial worth. It may well be that the current level of net financial worth is not appropriate and therefore it may be more appropriate to have surplus target of -1 percent of GDP. For these reasons it is, perhaps, better to use the term target for total government net lending instead of the term surplus target.

The advantage of having an explicit target for total government net lending is that both experience and economic research suggest that there is a deficit bias in most developed countries. A statutory target could minimize the deficit bias. A surplus target may also have direct economic effects in the form of lower risk premiums through increased credibility if a target can be upheld without large costs.

A second lesson is that it must be possible to evaluate whether a target for total government net lending has been met or not. Therefore, it is preferable if it is formulated in terms of well-defined indicators that are easily measured. In this regard, the Swedish surplus target is perhaps not the most optimal as it is defined as an average of a business cycle and is evaluated using measures of structural net lending.

The empirical evidence on the importance of fiscal frameworks is consistent with the Swedish experience. Countries having fiscal frameworks have in general lower debt ratios and tend to avoid large deficits in net lending. Whether this is a result of fiscal frameworks or that countries where governments are more inclined to focus on sustainable fiscal policy is an open question. Olivier Blanchard, Giovanni Dell'Ariceia, and Paolo Mauro (2010) offers an overview on how the current financial crisis has affected the view of economic policy and discusses the open questions on how to design economic policy in the future. One important question is that there must be more emphasis on how to create more room for maneuver in fiscal policy, in other words, how to create incentives to prevent increasing debt levels during good times. Economic research shows that the fiscal framework can play an important role (George Kopits and Steven Symansky 1998) and that such frameworks systemati-

cally leads to stronger public finances, see for example Jürgen von Hagen (1992), the contributions in James Poterba and von Hagen (1999) and Mark Hallerberg, Rolf Strauch, and von Hagen (2009). For example, António Afonso and Sebastian Hauptmeier (2009) show that rules regulating fiscal policy systematically lead to sustainable public finances. Xavier Debrun et al. (2008) find that targets for government net lending also lead to a more favorably budget outcomes. The conclusion is that fiscal frameworks tend to be associated with lower deficits of net lending and lower debt ratios. Lars Calmfors and Simon Wren-Lewis (2011) discuss the role that fiscal policy watchdogs can play and the underlying arguments for setting up such institutions. Finally, IMF (2009) shows that budgetary frameworks that are largely statutory are generally more effective than those that are not. Even without drawing too strong conclusions from this literature, it is perhaps worth experimenting with fiscal rules in countries that currently suffers under a heavy debt burden. Fiscal rules that are clear and well-defined, may increase the credibility of fiscal policy and thereby reduce the risk premiums that these countries have to pay in order to service the debt.

The current financial crisis has clearly shown that it is not enough to put more emphasis on fiscal stability, it is also important to improve the surveillance of financial stability. Financial crises occur as they have done previously and are likely to also occur in the future. In this regard, it is important also to formulate escape clauses stipulating under what circumstances it is appropriate to disregard the fiscal framework. During normal times we should allow the fiscal framework to guide fiscal policy but when a deep crisis occurs, it may be necessary to allow net lending to significantly deviate from the target used. Such rules should be very explicit and there should be well-defined rules stipulating the non-normal circumstances. Such rules do not exist in the Swedish fiscal framework. It is difficult to know beforehand what would have happened in Sweden if the current crisis had lead to widespread banking failures. In such a scenario, the government cannot by referring to the actual fiscal framework refuse to rescue the banking sector or to use discretionary fiscal policy to stimulate the economy. Escape clauses may increase the credibility of the fiscal framework as departures from the framework are allowed under special circumstances. There is scope for improvement even in the best of all worlds.

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