

The effects of the financial crisis on the labour market – a comparison of Sweden, the euro area and the United States

The labour market is important to monetary policy for several reasons. One current issue concerns the effects the financial crisis may have had on the labour market. This article aims to shed light on this issue by comparing developments on the labour markets of Sweden, the euro area and the United States.

Long-term unemployment in the United States has probably risen in connection with the financial crisis. Despite this, the conditions are more favourable for a fall in unemployment in the United States than in the euro area in the years ahead. A large part of the increased unemployment in Sweden is deemed to be due to cyclical factors, which indicates that the recovery of the labour market will continue.

The significance of the labour market for monetary policy

The labour market has long played a large role in discussions of economic policy in Sweden and other countries. One important monetary policy question concerns the impact that the financial crisis may have had on the labour market.¹³ This article discusses the effects of the crisis on the labour markets of the United States, the euro area and Sweden.

The financial crisis, production and the labour market – background facts

The financial crisis led to a severe drop in GDP in Sweden, the euro area and the United States (see Figure 1:9). Even if the increase in unemployment was great in both Sweden and the euro area, the US labour market was hit particularly severely by the crisis (see Figure A1). The pattern is similar as regards the number of employed (see Figure A2). Over the past year, unemployment has also fallen more sharply in Sweden than in the United States and the euro area. To some degree, this is because GDP growth is currently higher in Sweden than in the euro area and the United States.¹⁴ Initial questions concern why the US labour market has been hit so severely by the crisis and how protracted the decline can be expected to be.

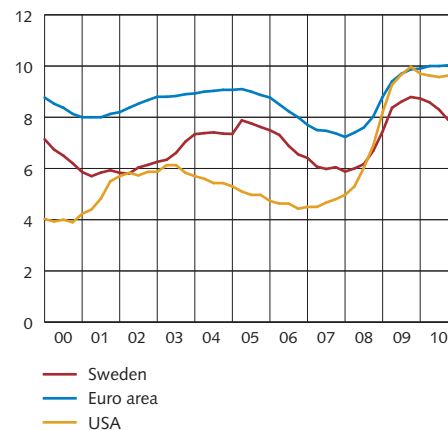
Developments in the United States – record unemployment increase

Over a two year period between 2007 and 2009, unemployment in the United States increased from about 4.5 per cent to about 10 per cent. This is the strongest increase seen during the entire post-war period (see Figure 3:11).

To gain an illustration of how the proportion of unemployed should have developed given the historical covariation with GDP, what is known as an Okun relationship can be estimated up to the third quarter of

Figure A1. Unemployment in Sweden, the euro area and the USA

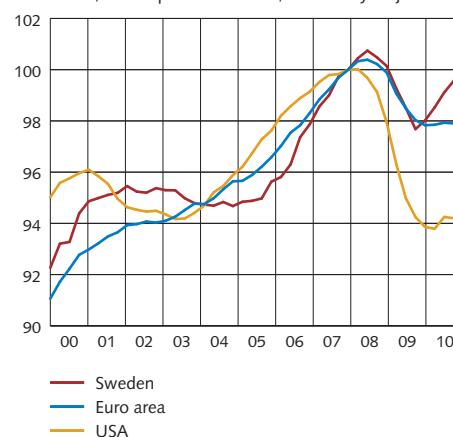
Percentage of the labour force, seasonally-adjusted data



Sources: Bureau of Labor Statistics, Eurostat and Statistics Sweden

Figure A2. Employment in Sweden, the euro area and the USA

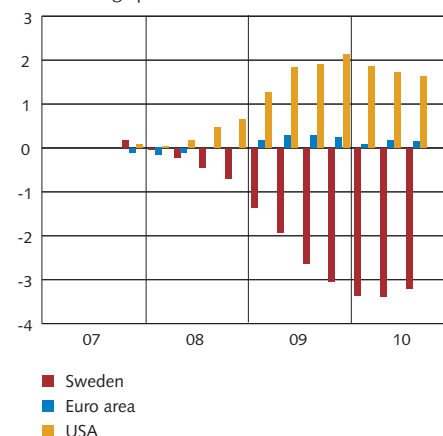
Index, 2007 quarter 4 = 100, seasonally-adjusted data



Sources: Bureau of Labor Statistics, Eurostat and Statistics Sweden

Figure A3. Difference between actual and expected unemployment in Sweden, the euro area and the USA

Percentage points

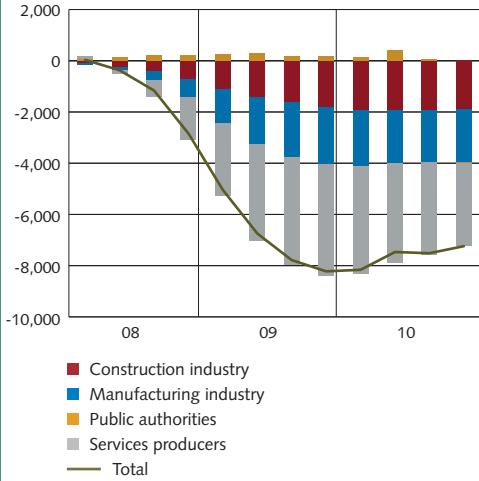


Sources: The Bureau of Labor Statistics, Eurostat, Statistics Sweden and the Riksbank.

13 For example, in the United States, a discussion is underway of the degree to which long-term unemployment has been affected by the financial crisis. See, for example, speeches by Ben Bernanke ("Monetary Policy Objectives and Tools in a Low-Inflation Environment", 15 October 2010, www.federalreserve.gov), Narayana Kocherlakota ("Inside the FOMC", 17 August 2010, www.minneapolisfed.gov) and Janet Yellen ("The Federal Reserve's Asset Purchase Program", 8 January 2011, www.federalreserve.gov).

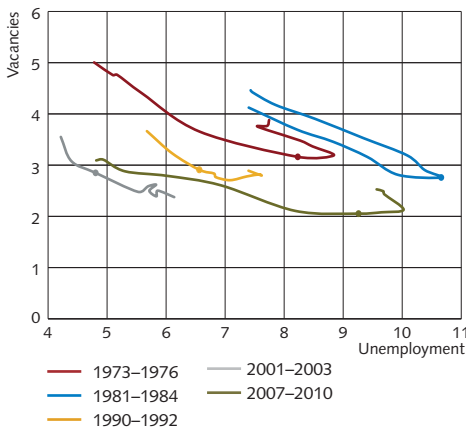
14 For a comparative discussion of GDP development, see the article "Why higher growth in Sweden than in the Eurozone and the United States?" in the Monetary Policy Report, October 2010.

Figure A4. Total change in employment since fourth quarter 2007 in the USA
Thousands



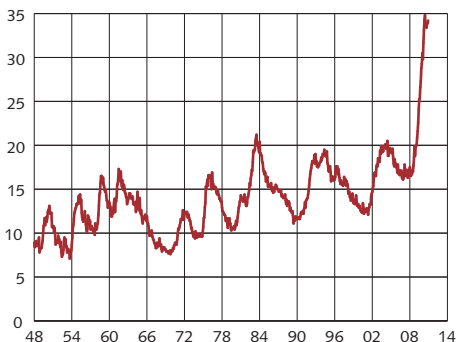
Source: Bureau of Labor Statistics

Figure A5. Correlation between vacancies and unemployment during different cycles in the USA
Percentage of the labour force



Source: R. Barnicon (2009), "Building a composite Help-Wanted Index", *Economic Letters* 109, 2010, Bureau of Labor Statistics and the Riksbank

Figure A6. Average period of unemployment in the USA
Number of weeks



Source: Bureau of Labor Statistics

2007.¹⁵ Based on the actual development of GDP, unemployment can then be extrapolated over the course of the recession. The result indicates that unemployment in the United States has been significantly higher than may have been expected according to historical correlations (see Figure A3).

So why has the development of the US labour market been so weak? To start with, the global financial crisis was triggered by problems in the US housing market, meaning that the United States can thereby be said to have been the 'epicentre' of the financial crisis. So the problems were domestically-generated, which may have contributed towards the decline in the economy being seen as more persistent by companies. This may have reduced the element of so-called labour hoarding.¹⁶ Further, relatively labour-intensive sectors were hit hard by the downturn. Since the crisis broke out, the US employment level has decreased by about 7.5 million jobs.¹⁷ The construction and manufacturing industries contribute to about half of this decrease, but employment in the service sector has also decreased by about 2.5 million individuals (see Figure A4).

Long-term unemployment in the United States

Developments on the US housing market may have led to structural problems on the US labour market. Many unemployed workers need to turn to new industries and regions. At the same time, many of the unemployed are reluctant to move due to the risk of making a loss on the sale of their homes. Such structural problems should be reflected in the development of what is known as a Beveridge curve.

Beveridge curves illustrate the link between unemployment and the vacancy rate, which is the number of vacant jobs as a proportion of the labour force. Normally, a negative relationship is expected: in a period of high economic activity, the proportion of vacant jobs increases while unemployment decreases, while the reverse applies in a period of low economic activity. The further from origo the curve lies, the poorer the match between vacant jobs and jobseekers becomes.

During the early part of the crisis, the number of vacancies decreased while unemployment increased – a movement along the Beveridge curve. However, over the last year, vacancies have increased without unemployment showing much of a decline. This trend means that the Beveridge curve may have shifted outwards, which, in turn, may suggest a deterioration of the matching of jobseekers and vacant jobs.

However, historical experiences indicate that such deterioration in matching is part of the normal pattern in an economic recovery (see Figure A5).¹⁸ In addition, the period during which unemployment benefit may be received has been extended, which may have decreased willingness among the unemployed to seek work. This may have had a negative effect on matching. If these extended benefit periods are seen as a temporary element

¹⁵ The dependent variable is the quarterly change in unemployment, while the determining variables are the simultaneous quarterly percentage change in GDP and previous changes in unemployment and GDP.

¹⁶ Labour hoarding means retaining a labour force during a period of declining demand.

¹⁷ This data refers to what are known as non-farm payrolls, that is employment outside the agricultural sector.

¹⁸ The data in the figure shows developments from the quarter when the recession began to seven quarters after the recession ended, in accordance with the NBER's dating. For the years 2007-2010, developments to five quarters after the end of the recession are shown. The points represent the final quarters of the recession.

of a cyclical policy, this effect will be transitory. All in all, it is too early to reach any clear conclusions regarding matching efficiency over the longer term, although an abnormal deterioration of matching cannot be ruled out during the current cycle.

Matching efficiency is linked to the important issue of how long-term unemployment has been affected. If we believe that it has been strongly affected by the crisis, what is known as hysteresis or persistence effects are present.¹⁹ In this case, the rise in unemployment will be more long-lasting and the scope for a demand-stimulating economic policy will be limited.

The current average duration of unemployment is almost twice as long as the second longest average in the post-war period (see Figure A6). This may be a sign of an increase in long-term unemployment.²⁰ Different empirical estimates of long-term unemployment together lend a certain amount of support for the hypothesis that long-term unemployment has increased in the United States as a result of the crisis (see Figure A7).²¹

The euro area – large differences between countries

Unemployment in the euro area has increased by just over 2.5 percentage points from the start of 2008 and presently amounts to about 10 per cent. Considering the growth of GDP, the development of unemployment in the euro area was more or less as expected according to the Okun relationship (see Figure A3).

However, behind developments in the euro area as a whole, large differences can be found between different member states, with developments in Germany and the Netherlands being significantly more positive than those in Spain, for example. The Okun relationship indicates that unemployment in Germany and the Netherlands has been lower than expected given the development of GDP, while it was markedly higher in Spain (see Figure A8). These differences are also reflected by long-term unemployment, which has increased markedly in Spain (see Figure A9).

An examination of this data on a sector-by-sector basis shows that the decrease in employment in the euro area as a whole has largely taken place in the construction and manufacturing industries, while large areas of the service sector do not seem to have been affected at all by the crisis (see Figure A10).²² Even in this case, major differences exist between countries. The housing market in Spain has collapsed and employment levels within the construction industry have seriously declined, which stands in strong contrast to developments in Germany and the Netherlands.

19 Simplified, "hysteresis" means that an increase in unemployment will tend to be permanent. "Persistence effects" mean that it will take a long time for unemployment to decrease again.

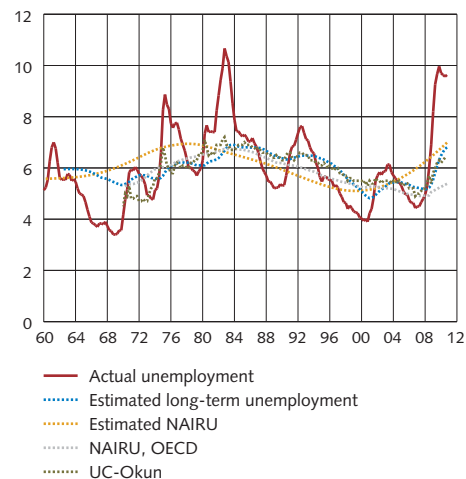
20 Long periods of unemployment tend to have severe negative consequences for individual workers. Some reasons for this are that more competence is lost the longer an individual remains unemployed, that incentives to seek work decrease over time, and that employers take a somewhat negative view of long periods of unemployment when recruiting.

21 "Estimated long-term unemployment" has been prepared with the assistance of a dynamic Okun link in accordance with the model presented in Benes et al. (2010), "Estimating Potential Output with a Multivariate Filter", IMF Working Paper 285. "Estimated NAIRU" constitutes updated estimates of NAIRU prepared using a method presented by Ball and Mankiw (2002); "The NAIRU in Theory and Practice", *Journal of Economic Perspectives* 16 (4), pp. 115–136, 2002.

22 For some years now, there has been a clear increase in employment, particularly in the areas of education and healthcare in both Germany and the Netherlands. This trend continued during the financial crisis, which counteracted a larger fall in total employment.

Figure A7. Estimates of long-term unemployment in the USA

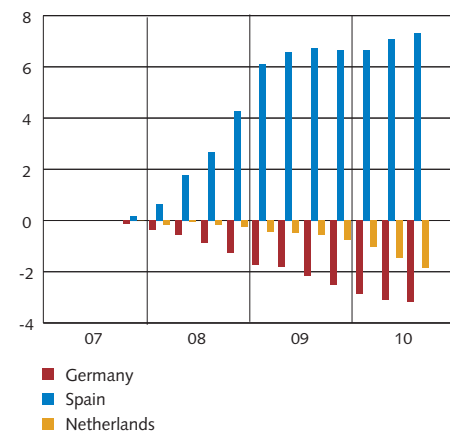
Percentage of the labour force, seasonally-adjusted data



Sources: Bureau of Labor Statistics, IMF, OECD and the Riksbank

Figure A8. Difference between actual and expected unemployment in various euro area countries

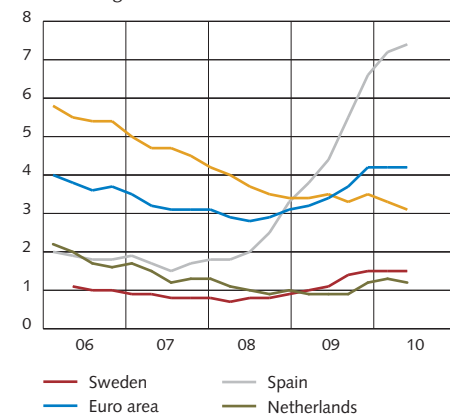
Per cent



Sources: OECD, Bureau of Labor Statistics, Eurostat and the Riksbank.

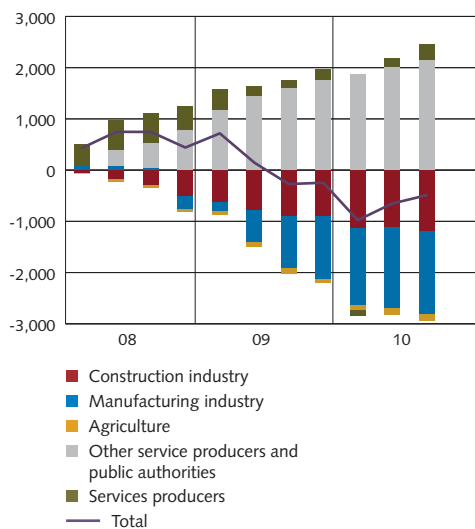
Figure A9. Long-term unemployment in the euro area and Sweden

Percentage of the labour force



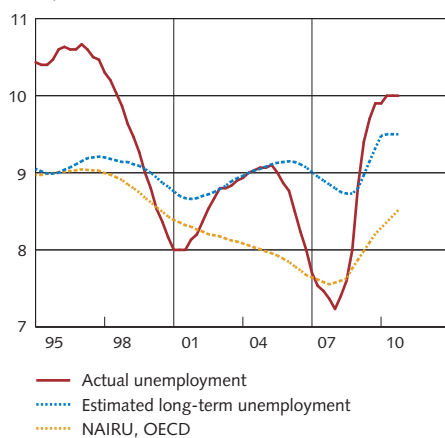
Source: Eurostat

Figure A10. Total change in employment since fourth quarter 2007 in the euro area
Thousands



Source: Eurostat

Figure A11. Estimates of long-term unemployment in the euro area
Percentage of the labour force, seasonally adjusted data



Sources: Eurostat, IMF, OECD and the Riksbank

Differences between the United States and the euro area – long-term developments

Long before the financial crisis, a discussion was underway of why unemployment trends have been significantly higher in the EU and the euro area than in the United States.²³ One explanation that has often been suggested is that the US labour market is less regulated and is thus more flexible. Furthermore, like income taxes, compensation levels during unemployment are generally higher in the euro area than in the United States. To this can be added differences in labour market legislation. To a large extent, these differences are expected to remain, making it reasonable to assume that long-term unemployment is higher in the euro area than in the United States. Two estimates of long-term unemployment in the euro area are shown in Figure A11.²⁴

All in all, unemployment figures in the United States and the euro area are presently at similar levels, but previous historical experiences and functional differences in the labour markets indicate that the conditions should be present for a greater decrease in the United States.

The Swedish labour market has coped comparatively well

Unemployment in Sweden increased by just over 2.5 percentage points from the middle of 2008 to the end of 2009, when it reached almost 9 per cent. Given the historical connection with GDP, the increase in unemployment has been unexpectedly small (see Figure A3). How can this be explained?

Put simply, Sweden was impacted by a demand shock that largely took the form of declining demand from abroad. Exports and investments fell sharply. Dividing the change in employment by sector indicates that it was the manufacturing industry that was primarily affected (see Figure A12). This sector is less labour intensive than many other sectors, which means that decreased production does not have as great an effect upon employment. In addition, crisis agreements stipulating decreased working hours may have dampened the fall in employment. Within the service sector and the construction industry, employment has increased somewhat (see Figure A12). Furthermore, the crisis in general may have been seen as being relatively temporary by Swedish companies, which may have caused these companies to decide to retain existing personnel to a greater extent despite the decline in demand – that is, an element of labour hoarding may have been present.

Long-term unemployment in Sweden

There are many indications that long-term unemployment in Sweden increased as a result of the crisis of the 1990s and that it has since fallen.²⁵

One marked difference from the United States (for example) is that, in connection with the crisis, the Swedish economy has not been affected by the structural labour market problems associated with a declining housing market.

²³ For example see A. Alesina, E.L. Glaeser and B. Sacerdote: "Work and Leisure in the U.S. and Europe: why so Different?" NBER working paper no. 11278, 2005.

²⁴ "Estimated long-term unemployment" has been prepared with the assistance of a dynamic Okun relationship in accordance with the model presented in Benes et al. "Estimating Potential Output with a Multivariate Filter", IMF Working Paper 285, 2010.

²⁵ See for example A. Forslund, "Den svenska jämviktsarbetslösheten – en översikt" ("Swedish equilibrium employment – a review"). Report to the Swedish Fiscal Policy Council 2008:17.

However, a look back at matching efficiency during previous downturns in Sweden confirms the pattern from the United States: In the initial stage, a movement takes place along an existing Beveridge curve, while, during the recovery, a deterioration of matching efficiency appears to take place (see Figure A13).²⁶ One indication that matching may have deteriorated is that labour shortages are already high in several industries, at the same time as unemployment is still relatively high (see Figure 1:15).

In the manufacturing industry, employment fell dramatically in connection with the crisis and has not substantially increased again so far (see Figure A12). Nevertheless, there is already a significant shortage of labour, which may be an indication of matching problems. This may, in turn, reflect rationalisation measures that companies were forced to take because of the crisis. However, it is difficult at this stage to draw any far-reaching conclusions on developments within the manufacturing sector as changes in employment levels usually occur with a certain degree of delay in relation to production.

In recent years, the government has implemented a series of measures aimed at getting more people into work. Among other objectives, these measures are aimed at increasing incentives to seek work, which is contributing towards the increase of the labour force. The effect this will have on long-term unemployment depends on how great the probability is that new groups of jobseekers will find work. All in all, we judge that long-term unemployment has been decreased by the measures implemented by the government in recent years.²⁷

Compared with many other countries, long-term unemployment in Sweden has thus far increased at a moderate rate, which is an indication of limited persistence effects from the crisis (see Figure A9).

All in all, the Riksbank's assessment is that long-term unemployment has probably not increased significantly in Sweden as a result of the crisis. Figure A14 shows an estimate of long-term unemployment, together with the OECD's estimate.

Conclusions

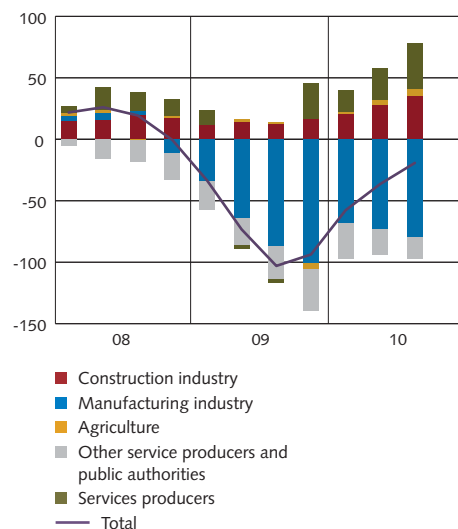
Before the financial crisis, long-term unemployment was significantly higher in the euro area than in the United States, which probably was largely due to the less flexible labour market and more generous remuneration system. These basic factors remain. Although the difference may have lessened somewhat in connection with the financial crisis, long-term unemployment is probably still higher in the euro area than in the United States.

In Sweden, the increase in unemployment in connection with the crisis was mainly an effect of declining international demand. All in all, the Riksbank's assessment is thus that a large part of the increased unemployment is due to cyclical factors. It should thus be possible for the strongly improved economic prospects for the years ahead to contribute towards a continued recovery of the Swedish labour market.

²⁶ The data shows developments from the quarter when unemployment began to increase to three quarters after unemployment peaked.

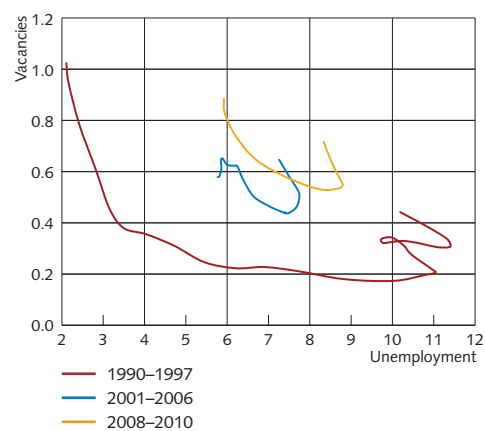
²⁷ See also A. Forslund, "Den svenska jämviktsarbetslösheten – en översikt" ("Swedish equilibrium unemployment – a review"), Report to the Swedish Fiscal Policy Council 2008:17 and H. Sacklén, "Arbetsutbudseffekter av reformer på inkomstskatteområdet 2007-2009" ("The effects of reforms in the field of income tax on the supply of labour 2007-2009"), report from the economics department of the Ministry of Finance, 2009.

Figure A12. Total change in employment since fourth quarter 2007 in Sweden
Thousands



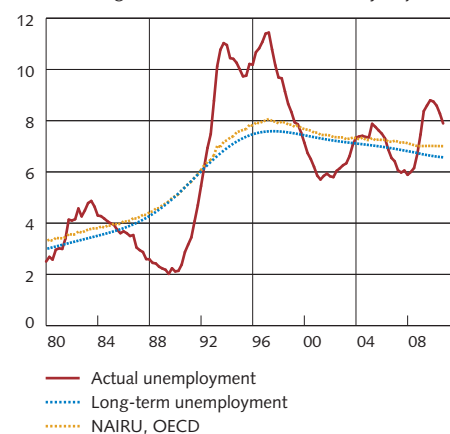
Source: Eurostat

Figure A13. Correlation between vacancies and unemployment during different cycles in Sweden
Percentage of the labour force



Sources: Swedish Employment Service and Statistics Sweden

Figure A14. Estimates of long-term unemployment in Sweden
Percentage of the labour force, seasonally-adjusted data



Sources: OECD, Statistics Sweden and the Riksbank