

Per Jansson: How do we stop the trend in household debt? Work on several fronts

Speech by Mr Per Jansson, Deputy Governor of the Sveriges Riksbank, at the SvD Bank Summit, Stockholm, 3 December 2013.

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Accompanying figures can be found at the end of the speech.

The original idea of the organisers was that I would talk about the current situation from a monetary policy perspective. However, wanting to focus instead on questions of principle, I was able to persuade them to let me do so. Now, it may not make much difference in practice, as the current monetary policy debate in Sweden so largely concerns questions of principle.

I intend to start by looking back at how the Swedish economy has developed since the financial crisis broke out around five years ago, as well as at the debate about monetary policy during this period. I will then look ahead and give my views on the new policy area, macroprudential policy, and what I believe we need to do to escape the situation that has arisen with a high and increasing level of debt in the household sector and a persistent upward trend in housing prices.

The conclusions we draw from looking back are important, as they may affect our view of what is the appropriate future course of action. If, for instance, the perception is that monetary policy has been conducted in the wrong way and led to a poor economic outcome, this will in my view make it more difficult to deal effectively with the risks linked to household debt when looking ahead. The reason for this is that I believe that monetary policy must play at least some role in this context.

A fairly good development since the crisis

So, how has the Swedish economy actually developed since the financial crisis broke out just over five years ago? The current debate gives rather mixed impressions, ranging from things having gone quite well to things having gone rather badly.

If we look at the data, however, there is no doubt that Sweden has had a relatively good real economic development. We compare favourably to the countries we usually use as benchmarks (see Figure 1). Sweden is one of the relatively few countries where GDP per capita is higher now than it was prior to the crisis. The employment rate – the percentage of the working-age population in employment – has also held up well. Only few countries have had a better development with regard to both GDP and employment (that is, lying above and to the right of Sweden in Figure 1).

Some stress that the development of unemployment has been less favourable. But here we must take into account that the labour force in Sweden has increased relatively substantially during the period (see Figure 2). Even if this has a negative effect on the unemployment figures in the short run, it is essentially positive and bodes for a future fall in unemployment.

Countries with a floating exchange rate appear on the whole to have managed better. However, I would of course prefer to believe that the relatively favourable economic development has been due not only to the choice of exchange rate regime, but also at least partly to the economic policy we have conducted.

Expansionary monetary policy, but with an eye on debt

During the financial crisis, the Riksbank cut the repo rate rapidly and substantially. After the crisis we have continued to hold the repo rate low to support the recovery. But as we have

made the assessment that if the repo rate is too low it will entail a risk of exaggerated household debt and inflated housing prices, monetary policy has not been quite as expansionary as it might otherwise have been. We have thus held the repo rate slightly higher than we would have done otherwise, and have, so to speak, stepped on the accelerator just enough during the recovery phase to ensure that developments are not just reasonable in the short term, but also sustainable in the longer run.¹

As I see it, there have been good reasons for this. Another distinguishing feature of the countries up on the right of Figure 1 is that they have not yet experienced any major fall in their housing market with an ensuing fall in aggregate demand. This is something that has happened in most of the countries down on the left of the figure. One could say that the countries that have managed well so far have felt the effects of the crisis through weaker development abroad, but have managed to avoid major problems in their own credit and housing markets. However, not surprisingly, the risks linked to developments in household debt and the housing market are currently high up on the policy agenda in several of the countries that have managed well so far, in the same way that they are here in Sweden.

Repo rate only marginally higher

One thing that is worth emphasising is that when I say that the repo rate has been a little higher than it would otherwise have been, I do mean a *little* higher. It has not been a case of the Riksbank using high interest rates to stop an upturn in lending and housing prices by depressing the whole economy. In that case, we would have had a much poorer development than is indicated in Figures 1 and 2. When it comes down to it, the repo rate has not been higher than 1 per cent for around one year now. Sometimes it is claimed that even this is a high level. But usually one is then comparing it to countries that have been hit harder by the crisis, such as the United States and the United Kingdom, where housing prices have already fallen substantially and one therefore does not need to worry so much about a continued upturn from an already high level. Moreover, the relationship between the policy rate and credit growth, which is of course important in this context, is not straightforward. Figure 3 shows, for instance, that credit growth in Sweden is higher than in the euro area, despite the Riksbank's policy rate being higher than the ECB's.

The Riksbank's strategy has been to combine a marginally higher repo rate with communication that emphasises that we find the development of high credit growth worrying. The slightly higher interest rate does have some effect in itself, but perhaps its main function is as a concrete "reminder" of the risks, making it an important part of the communication.

One may of course discuss how effective this type of policy is. However, I am fairly certain that, combined with the measures taken by Finansinspektionen (the Swedish Financial Supervisory Authority), it has had at least some effect in the desired direction – that both indebtedness and housing prices in recent years would otherwise have increased more and faster than they actually have done. I am even more convinced that the policy and the communication surrounding it have helped increase awareness of the problems. My view is that the risks linked to developments in the credit and housing markets have been given an increasing amount of attention in the media and in the general economic debate recently, which appears to be confirmed in Figure 4.

Despite the relatively good developments in Sweden in recent years, and the fact that the repo rate is still low, the policy conducted by the Riksbank has given rise to considerable debate. Some arguments in this debate have been understandable and natural. The size of the risks linked to household debt and developments in the housing market is, for instance, one question that certainly can and should be discussed. This is something that is inherently

¹ This was something that also affected policy to some extent before the crisis, see for instance Nyberg (2005), Ingves (2007) and Heikensten (2008).

difficult to quantify and the analysis and discussion of this topic needs to continue. Here I can fully understand that the assessments may differ – which has also been the case in the Riksbank's Executive Board.

A crisis rate for four years is no realistic comparison

However, there have been elements in the debate that I, at least, have found more difficult to understand. One such argument has been that one can basically disregard these risks altogether and that the repo rate therefore did not need to be raised at all after the crisis. Instead, it is claimed, it should have remained until now – and probably even longer – at the 0.25 per cent to which it was cut in July 2009. This assumption has then been used to calculate how much lower unemployment might have been if the Riksbank had not raised the repo rate.²

Of course, we can never know for certain what would have happened if we had acted differently. But what this argument appears to disregard is that when the Riksbank began to raise the repo rate in the middle of 2010, the situation was such that the Swedish economy had recovered surprisingly quickly from the crisis (see Figure 5). Growth was very fast, around 6 per cent for the first quarter when calculated as an annual rate, with a final outcome of more than 6 per cent for the year as a whole. Almost all indicators of economic activity were pointing upwards and the inflation rate was almost 2 per cent, in terms of the CPIF. The traditional reasons alone, without taking into account risks linked to household debt, gave a strong indication that it was time to begin increasing the repo rate. In addition, although lending to households had declined from double digits prior to the crisis, it was still increasing by 9 per cent, which was much faster than disposable incomes.

It would have sent rather strange signals if the Riksbank had in this situation declared that the repo rate would not be raised, but would remain at 0.25 per cent for several years to come. Apparently, despite the fact that Sweden recovered from the crisis fairly quickly, the repo rate should have been held at a crisis level. But even today, with the increases made since the crisis, there are some signs that households' repo-rate expectations are below what can be considered a reasonable long-run level for mortgage rates (see Figure 6). The situation had certainly been much worse if the Riksbank had held on to a repo rate of 0.25 per cent for more than four years. I believe that it would have been very difficult to manage the expectations this would have created among households and on the credit and housing markets. In my world, such a policy is simply not realistic and must be disregarded as a meaningful comparison. It is therefore rather unfortunate, and somewhat surprising, that calculations of the number of "lost jobs" based on this assumption have had a relatively large impact on the debate.³ As far as I know, in the countries in similar situation to ours with regard to household debt and the housing market, such as Norway and Canada, there has been no corresponding debate about whether or not the policy rate should have remained at the level to which it was cut during the crisis.

Policy clearly within our mandate

Another argument that I think is fairly difficult to understand is that the Riksbank, because of the policy we have conducted, should have acted beyond our mandate and done something we should not have done. Sometimes it has been claimed that we have introduced a new target for monetary policy or that we have begun to conduct housing policy. Had we only kept to our task, monetary policy would have been more expansionary, we would have come

² See Svensson (2013).

³ I discuss this question in greater detail in Jansson (2013).

closer to attaining the inflation target and everything would have been much better, the story goes.

But as I have already said, the purpose of the policy conducted in recent years has been to create the conditions for a sustainable development in the Swedish economy by reducing the risk of excessive debt and inflated housing prices. After a number of years of rapidly-rising house prices and a build-up of debt among households, it became clear in many countries that developments were based on overly optimistic calculations. When housing prices fell, household assets declined in value rapidly, but the size of the loans remained the same. Households in this situation have reduced their consumption and begun to save to achieve a better balance between assets and debts. This in turn has led to a fall in demand that has tended to be fairly long-lived.⁴ In many areas, households and companies have moreover experienced difficulty in meeting their loan obligations and the banks have suffered loan losses. The much weaker economic activity and a banking system in need of support have in turn led to a tangible deterioration of public finances.

The final result of the high indebtedness and overheated housing market has thus been macroeconomic instability in the form of a deep and prolonged recession. Moreover, monetary policy in many countries has become less effective as the policy rate has reached its lower bound and central banks have had to turn to new and untried methods of conducting monetary policy, and also because households have reacted less than normal to monetary policy stimulus, as they have given priority to consolidating their balance sheets.⁵ Trying to prevent this type of development with substantial macroeconomic instability must indeed be part of the Riksbank's task.

As I have already noted, one can make different assessments of how great is the risk that this negative scenario will occur and thus of the policy that should be conducted. But arguing that it is not in the Riksbank's mandate, *as a matter of principle*, to take into account this type of risk and reduce it to the best of our ability – that I find quite difficult to comprehend. It would have been very odd if we had ignored these risks with the justification that it is always more important to try to attain the inflation target in the short term – regardless of the consequences later on. For someone who believes that the risks linked to household debt are a threat to the stability of the Swedish economy, it is a little like feeling forced to step on the accelerator despite hearing that the engine is about to seize.

It is not just a question of “bubbles”

One thing I consider important to point out is that this policy does not necessarily involve what are often called “bubbles”, although the situation may of course be particularly serious if households have unrealistic expectations of interest rates.⁶ Quite regardless of whether or not an upturn in housing prices has natural economic or, as one often says, fundamental explanations, it is problematic if indebtedness is increasing at a faster rate than income over a very long period of time, and there are few signs that the trend will be broken. Households will then become gradually more vulnerable and liquidity margins will become smaller. Finally, one will reach a point where even fairly small shocks to income, asset prices or interest rates can trigger adjustments that have fairly substantial effects on the

⁴ See, for instance, Mian and Sufi (2011), Dynan (2012) and Jauch and Watzka (2013). Many say today that households' debt overhang has caused as big a problem for the macroeconomy as the crisis in the banking system (see, for instance, Krugman, 2013).

⁵ Bech, Gambacorta and Kharroubi (2012) find that expansionary monetary policy has greater difficulty contributing to a recovery from a financial crisis than after a normal economic downturn.

⁶ That taking risks into account is not the same as “pricking bubbles” is pointed out by, for instance, Woodford (2012).

macroeconomy. Denmark and the Netherlands are examples of otherwise well-managed economies that have suffered this in recent years.⁷

One risk factor that may be quite specific to Sweden is that the banks' mortgage lending is largely market-funded and also to a large extent financed from abroad. If confidence were to be shaken for some reason, investors might choose to reduce their exposure to the Swedish banking sector. The banks' access to market funding would thus decline. This could cause further negative developments or even be a factor that in itself triggers a downturn.

The policy is not problem-free

Of course, the type of policy we have conducted is not free of complications and problems. Although our policy has aimed to attain a good economic development and target attainment in the longer run, the consequence is that it has contributed, at least on the margin, to inflation approaching the target more slowly than would have been the case with a more expansionary policy. This can create a tension between short-term and long-term perspectives, which is not so easy to manage.

As monetary policy-maker, one must weigh the more concrete and immediate disadvantages of a slightly larger deviation from the inflation target and a somewhat weaker economy in the short run against the more abstract and uncertain, but potentially much greater cost of a really poor development further ahead. This is no easy assessment, but it is important to realise that it is indeed an assessment, where the answers are not self-evident, either in general or from one time to another.

A particularly difficult situation may arise if inflation is low and falling and growth is weak, at the same time as household debt and housing prices are rising. One might think that such a situation is not very common, but this is actually to some extent what is happening in Sweden now. At the same time as inflation was surprisingly low and GDP growth very modest according to the most recent statistics, more people are now expecting housing prices to rise and the housing market is often being described as "red hot".⁸

Good to have clarity regarding macroprudential supervision – but no quick fix

Given this, it is fairly obvious that it is difficult for monetary policy alone to do battle to reduce the risks linked to household borrowing and developments in the housing market. Support is both desirable and necessary. It was therefore welcome that the Government put its foot down on 26 August regarding the allocation of responsibility for macroprudential policy – the new policy area that is intended to be the primary defence against this type of problem.⁹ Some details remain to be specified and it will take some time before the finished framework is in place, but it is clear that Finansinspektionen will have the main responsibility for macroprudential policy.

The fact that uncertainty over the macroprudential policy framework has been largely dispersed will improve the conditions for managing risks linked to high and rising household debt. The risks should decline as measures are taken and as macroprudential policy settles into its role and working methods. This may also be expected to ease some of the pressure

⁷ In the Netherlands, household debt as a percentage of disposable income amounted to at most approximately 250 per cent, before a crash occurred. The corresponding figure in Denmark was around 300 per cent.

⁸ For example, in November 2013, Statistics Sweden's housing price indicator reached its highest level since July 2007 (SEB, 2013) and SKOP's November survey indicates "new record-high expectations" (SKOP, 2013).

⁹ Ministry of Finance (2013).

on monetary policy. However, it is difficult at present to say exactly how monetary policy will be affected. Time will tell.

However, I believe there is a risk of now leaning back and assuming that all of the problems will be automatically resolved, or perhaps are already resolved. This is not a quick fix. Making decisions in the field of macroprudential policy is no easy task and Finansinspektionen has a difficult workload ahead. Many people have questioned the efficiency and expediency of the policy rate in this context. But, of course, there are a number of questions regarding macroprudential policy as well.

An obvious complication is that macroprudential policy is a new field. There is rather limited practical experience of the effects of macroprudential policy measures and nor is academic research able to provide any clear guidance as yet. This means that, at least during a transitional period, there will be considerable uncertainty over the effects of the measures taken.

The objective of macroprudential policy – to prevent risks to the financial system as a whole – is moreover clearer on paper than in practice. It is of course not easy to know when the system is sufficiently resilient or if some form of imbalance is building up, which the crisis clearly illustrated. There are no numerical targets here, and determining when a certain deviation has begun to be abnormal is rather difficult.¹⁰

Finansinspektionen will probably also need to struggle on occasion with the scepticism of general opinion towards the need for macroprudential measures. There are different reasons for this. Let us assume that Finansinspektionen conducts a wise policy in the coming decades and succeeds in preventing one or more financial crises that would otherwise have occurred. It would be very difficult to actually prove that this was due to successful macroprudential policy – the only thing that can be observed is that no crisis has occurred. I can easily imagine that the general impression in retrospect would be that Finansinspektionen had been imagining things and tightened macroprudential policy unnecessarily. Ironically, it may be the case that the more successful macroprudential policy is, the less useful it is perceived to be. Over time, this could lead to fairly strong pressure on Finansinspektionen not to take any action.

In addition, there will of course also be the common criticism that one, as in monetary policy, is “taking away the punch bowl just as the party gets going”. Moreover, it is possible that macroprudential policy measures will be perceived as more dramatic and as a larger intervention than raising the repo rate, and the pressure not to take action can thus be particularly great in this field.

Macroprudential policy also needs support

Just as monetary policy cannot be left alone to try to manage the risks linked to household debt and developments on the housing market, macroprudential policy cannot be left without support. I believe it is important that there is some degree of concordance between macroprudential policy and monetary policy – so that they, so to speak, do not pull in different directions, but help one another.

There are several reasons for this. One is that it may very well prove difficult to design a system for macroprudential policy that functions efficiently and which inventive market participants are not able to circumvent. The policy rate is a blunt instrument, as it has a broad

¹⁰ To mitigate these problems the European Systemic Risk Board (ESRB) recommends the EU countries to use a set of intermediary targets, see ESRB (2013). These provide some assistance but do not solve the fundamental problems.

impact on the economy. But at the same time, this may be a strength compared with the macroprudential tools, simply because it is difficult to avoid a policy rate increase.¹¹

Another reason is that if monetary policy is very expansionary over a long period of time, this could contribute to creating incorrect expectations in society regarding how high policy rates will be in the coming period, and how the housing market will develop.¹² In this type of environment it may be difficult for macroprudential policy to do the job alone.

The assertion that policy areas need to interact and support one another – and that things can go badly if they don't – is not particularly strange. A clear example from a Swedish point of view of diverging policies causing problems is the developments that led up to the crisis in the 1990s. The stabilisation policy conducted was on the whole too expansionary to be consistent with the monetary policy regime of the time, the fixed exchange rate, and eventually the fixed exchange rate had to be abandoned.

I would like to point out that these are not some “homemade” ideas and theories. There is an international discussion, which does not seem to have received much media attention in Sweden, that the policy rate may have a role to play even when macroprudential policy is in place.¹³ It is also worth emphasising that in several of the countries that have come through the crisis well – those who, like Sweden, are up in the right-hand corner of Figures 1 and 2, and currently facing the same problems as us with regard to debt and the housing market – they are quite specific about the policy rate being an important variable in this context.¹⁴

But the supply side of the housing market is also crucial

However, the question is whether even macroprudential policy and monetary policy in collaboration are sufficient to achieve a long-term solution to the problems. It is likely that an even broader intervention is needed.

Macroprudential policy and monetary policy focus on the demand side of the housing market – by trying to dampen household demand for credit or through the banks restricting their lending. However, the supply side of the housing market is also of central importance in this context. The large increase in household debt over the past fifteen years coincides to a large degree with the rise in housing prices (see Figure 7). One important reason for this is that the supply of housing has been small in relation to demand. After the crisis in the 1990s, housing construction in Sweden has been remarkably low, lower than in most comparable countries. The reasons are not entirely clear, but there are a number of explanations that are usually given, such as high construction costs, demanding regulations and regulated rents. I do not

¹¹ Jeremy Stein at the Federal Reserve's Board of Governors has expressed it as the advantage of monetary policy being that it “gets in all of the cracks” (Stein, 2013, p. 17). The Riksbank has also raised this argument in various contexts, see for instance, Ingves (2010) and Nyberg (2011).

¹² In a study of 18 OECD countries over the period 1921–2011, Bordo and Landon-Lane (2013) show that expansionary monetary policy has a significant effect on asset prices, particularly during periods when asset prices have increased rapidly, followed by a later severe downward adjustment. Maddaloni and Peydró (2013) find in a study of data for the euro area that banks ease their credit conditions during periods with low policy rates, even when the borrowers' credit risk is held constant.

¹³ See, for example, Blanchard, Dell'Ariccia and Mauro (2013), Borio (2013), Carney (2013), Smets (2013) and Stein (2013).

¹⁴ Examples include Norges Bank (2013), p. 8: “Weight was also given to the fact that house prices and debt have risen faster than income for a long period. A lower key policy rate may increase the risk of a renewed acceleration in house prices and debt accumulation and of build-up of financial imbalances.”; Bank of Canada (2013): “[T]he Bank must also take into consideration the risk of exacerbating already-elevated household imbalances.”; and the Reserve Bank of New Zealand (2012): “In addition, the PTA's stronger focus on financial stability makes it clearer that it may be appropriate to use monetary policy to lean against the build-up of financial imbalances, if the Reserve Bank believes this could prevent a sharper economic cycle in the future.”

intend to go into these here, but merely point out that if the supply had adapted better to demand, the price increases in the housing market would have been more limited and thus household debt would have given less cause for concern.¹⁵

Merely slowing down the demand side, without trying to make the supply side function better, is probably not sustainable – at any rate it does not appear to be a particularly wise long-run strategy. Housing policy probably also needs to be included in the equation for a lasting solution to be achieved. What macroprudential policy can do, with the possible support of monetary policy, is to bridge over the problems – try to ensure that the situation does not worsen while waiting for the supply side of the housing market to begin functioning better. To make a slightly drastic comparison, one might say that what macroprudential policy can do is to give first aid on site while awaiting the ambulance. A first aid effort may be necessary to save the patient's life, but without continued nursing it is still uncertain whether the patient will survive.

Low housing construction is of course one of the “fundamentals” explaining why prices have increased so much. But this is no real comfort. A large part of the problem is, as I mentioned earlier, that we appear over the past couple of decades to have been in a process where housing prices and debt only slow down slightly during economic downswings and then continue upwards again when times improve. This makes households – and thus the economy as a whole – gradually more vulnerable, and this is simply not sustainable in the long run.

Several policy areas must collaborate

To change course, or reprogram the system, I believe a lot of helping hands are needed. One major challenge is to take measures in a way that avoids as far as possible a rapid and dramatic adjustment of debt and housing prices. One could say that what we need to achieve is a “slow puncture”, where we gradually return to a more sustainable situation, with a considerable reduction of the risk of a household debt overhang causing problems. This is of course a substantial challenge and can hardly be managed unless several policy areas collaborate in the process.

I have so far talked about the housing market mainly from a monetary policy perspective – where the main problem is that rising house prices are reflected in rising debt, which makes the economy more vulnerable to shocks. But there are of course other, more structural reasons why it is desirable that the housing market functions well. One is that a poorly-functioning housing market can lead to poorer geographical mobility, which can put a spanner in the works of the labour market. This has a negative effect on the conditions for growth.¹⁶ Another reason is that supply restrictions in the housing market result in an unjustifiable redistribution of wealth from future house buyers to existing house owners. The problems on the Swedish housing market have been debated for decades, but I perceive that the discussion has recently been particularly intensive.¹⁷ Perhaps the time is now ripe for some substantive political action?

¹⁵ A study by Jahnsen and Lundberg (2013) estimates that prices on the Swedish housing market today are roughly one third higher than if construction had developed in the same way as in Finland over the past fifteen years. There are relatively few studies using Swedish data of the significance of various regulations for housing prices. In a study of US data, Paciorek (2013) finds that differences in the scope of regulation between different cities explains a large proportion of the differences in fluctuations in housing prices.

¹⁶ Another interesting hypothesis on how the conditions for growth may be affected is that rising housing prices can mean that banks' lending to companies is “crowded out” by increased lending to the housing market. This can lead to a fall in investment. For a study on US data, see Chakraborty, Goldstein and MacKinlay (2013).

¹⁷ For some examples, see Dagens Industri (2013), Swedbank (2013) and Lindbeck (2013).

Let me summarise, in conclusion, what have been my most important messages here today. Firstly, I think that the Swedish economy has managed to come through the financial crisis relatively well, in an international perspective. Secondly, I consider that the policy the Riksbank has conducted, which has aimed at reducing the risks linked to household debt and the housing market, is well within the mandate the Riksbank has been given. Thirdly, I think that the fact that macroprudential policy has begun to take shape is a step in the right direction, but not a quick fix that will solve all problems. Finally, and partly on the same theme, I consider that many policy areas must cooperate to rectify the problem of a high and rising debt in the household sector. It is not enough, for instance, to focus on dampening households' demand for housing. If the reprogramming of the system is to succeed, we will also need reforms that increase housing construction.

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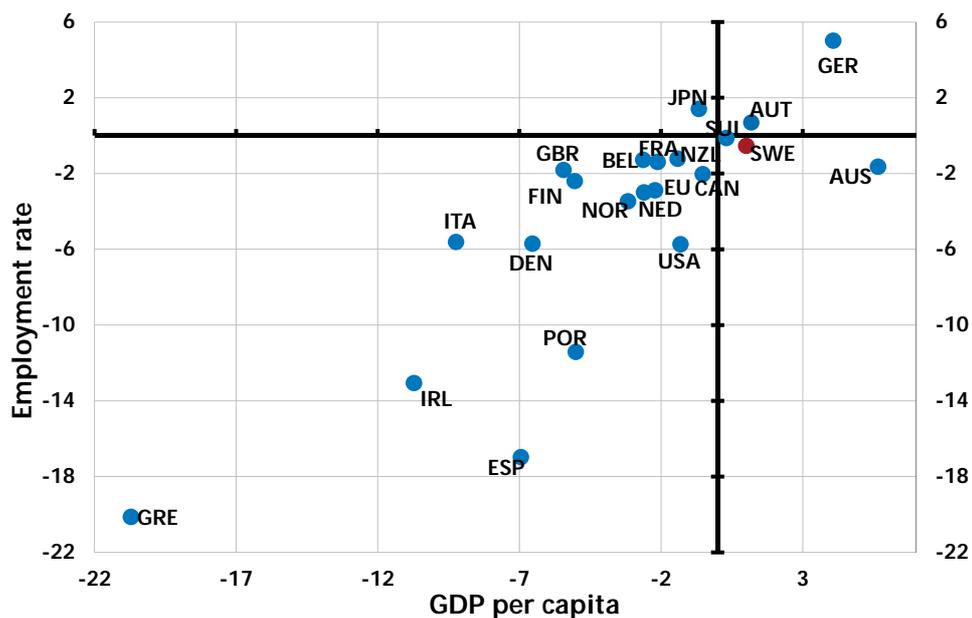
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Figure 1. GDP per capita and employment rate compared with pre-crisis figures

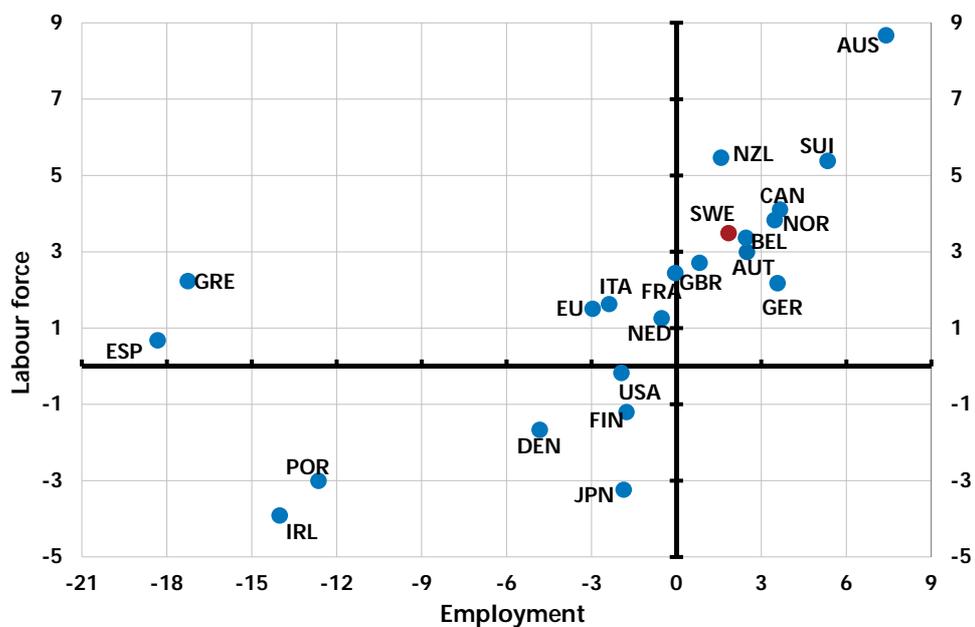
Change in per cent 2007–2012 and 2008Q1–2013Q2 (alt. most recent outcomes) respectively



Note. GDP per capita, annual data, constant 2005 USD. Employment rate, ages 15–64, seasonally-adjusted data. Sources: The OECD and the World Bank WDI

Figure 2. Employment and labour force compared with pre-crisis figures

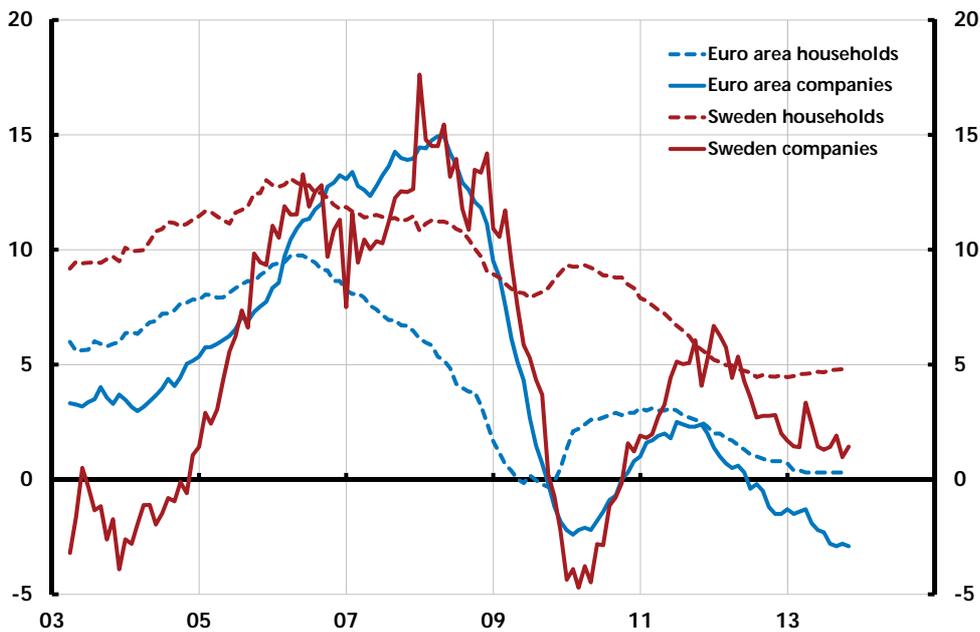
Change in per cent 2008Q1–2013Q2 (alt. most recent outcomes)



Note. Employment, total, seasonally-adjusted data Labour force, ages 15–64, seasonally-adjusted data. Source: The OECD

Figure 3. Credit developments in Sweden and the euro area

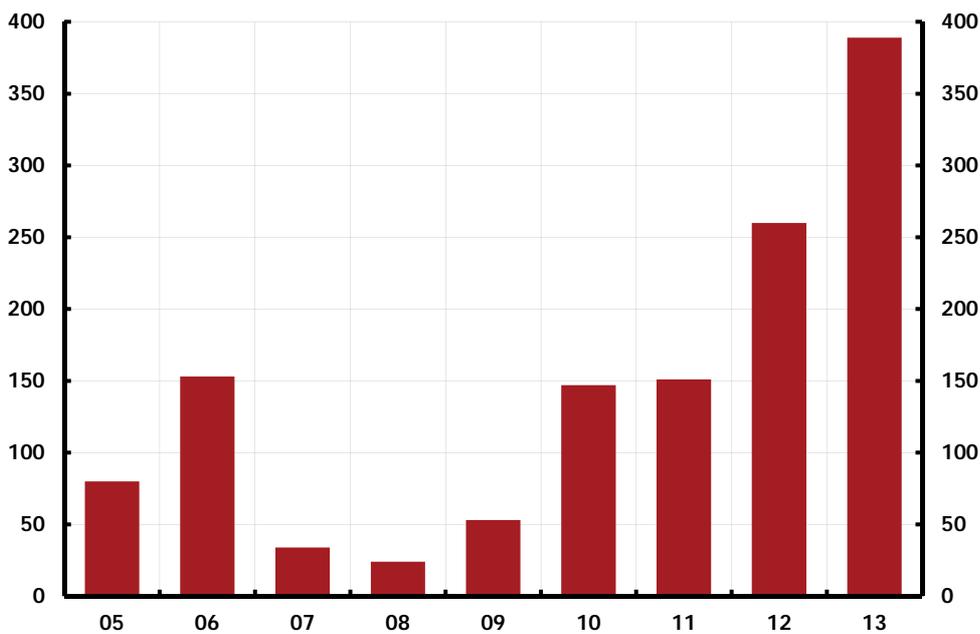
Households and companies, annual percentage change



Note. For Sweden, MFI lending to households.
Sources: The ECB SDW and Statistics Sweden

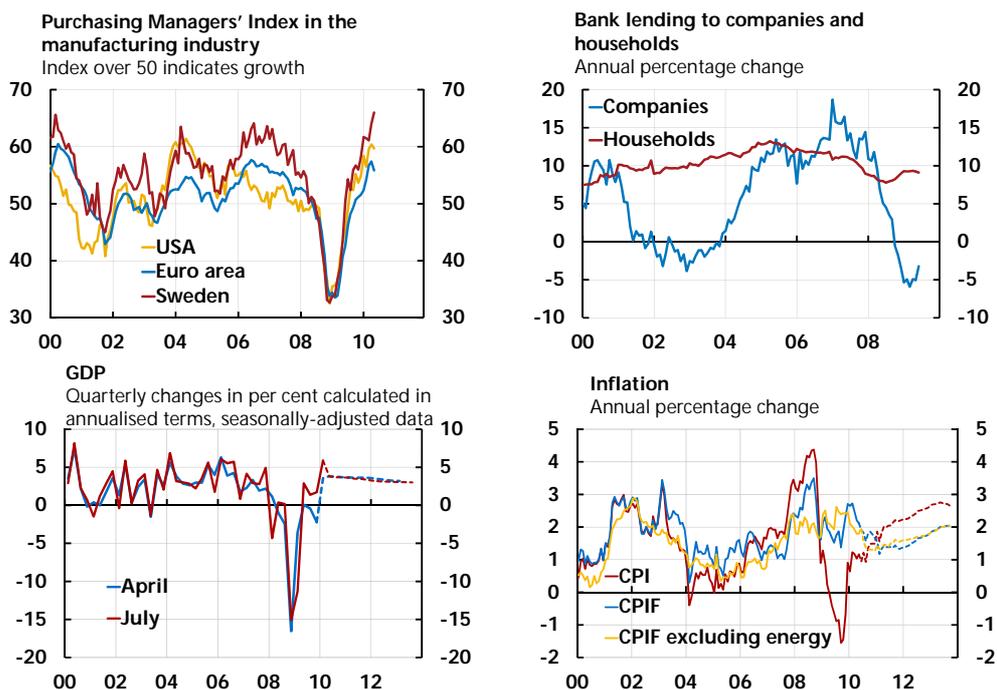
Figure 4. Number of occurrences of “household debt” in around 80 newspapers and journals

Number of hits 2005-2013



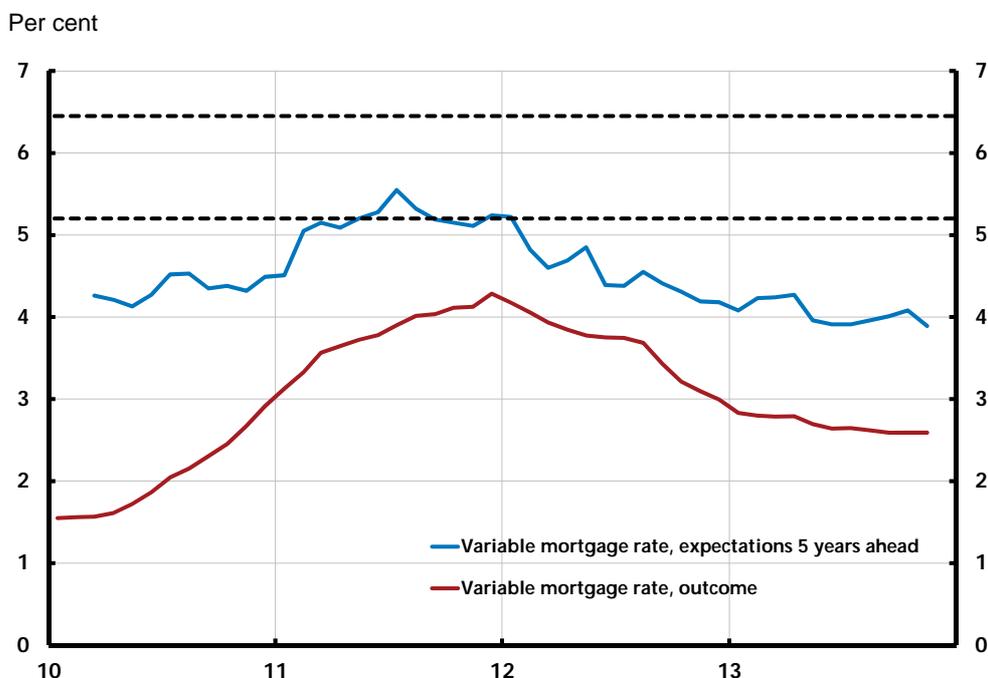
Sources: TNS Sifo and the Riksbank

Figure 5. The economic situation in July 2010



Sources: The Institute for Supply Management, Markit Economics, Statistics Sweden, Swedbank and the Riksbank

Figure 6. Households' repo-rate expectations and estimated long-run interest rates



Note. The broken lines show an interval for the long-term level of the variable mortgage rate. The interval is calculated as the total of an interval for the long-term repo rate of 3.5–4.5 per cent and an interval for the difference between a three-month mortgage rate and the repo rate of 1.7–2 percentage points. Sources: The National Institute of Economic Research and Statistics Sweden