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**SCHOOL OF BUSINESS, ECONOMICS AND LAW**

# The Debate on Whether the Repo Rate Should Be Affected by the Household Debt

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## Abstract

According to the Sveriges Riksbank Act, the Riksbank should aim for an inflation target of 2 per cent, but at the same time foster a stable payment system. The low inflation in Sweden in the last few years has led to a situation with a tradeoff between a growing economy and the importance of financial stability. A lower repo rate would not only increase the inflation but also the household debt. Even though the effect of the household debt is predicted to be small, it cannot be neglected, especially not when house price bubbles have burst in other countries with economies close to Sweden's. However, if the long run Philips curve is not vertical, low inflation will be costly in terms of unemployment. Other tools than the repo rate are used and new tools will be implemented to handle high household debt. For example, new regulations will be set for banks, where they have to promote a sustainable amortization even though this is not in their interests. Risk weight floors and mortgage cap are other tools that are effectively affecting the new loan takers. The macroprudential policy is about to be set up and is one step towards better understanding and analyzing of financial stability. The council will include expertise from different institutions, cooperating for the common stability goal.

<b>ABSTRACT</b>	<b>2</b>
<b>INTRODUCTION</b>	<b>4</b>
<b>MONETARY POLICY</b>	<b>5</b>
<b>The Transmission Mechanism</b>	<b>9</b>
<b>The Swedish Central bank, the Riksbank</b>	<b>11</b>
<b>FINANCIAL STABILITY</b>	<b>12</b>
<b>Financial stability in Sweden</b>	<b>12</b>
Swedish central bank, the Riksbank	13
The Financial System	13
<b>The Swedish housing market</b>	<b>14</b>
<b>Actions to maintain financial stability</b>	<b>15</b>
Basel III	15
Stability in the household sector	16
<b>TWO OPPOSING VIEWS</b>	<b>18</b>
<b>Lars E.O. Svensson</b>	<b>18</b>
Inflation	19
Phillips Curve	21
<b>The Riksbank</b>	<b>25</b>
<b>DISCUSSION</b>	<b>29</b>
<b>Does lower repo rate increase risk-taking?</b>	<b>29</b>
<b>How is the repo rate affecting the banks' lending rate?</b>	<b>31</b>
<b>Downward sloping Phillips curve?</b>	<b>32</b>
<b>Which tools should be used</b>	<b>33</b>
<b>Monetary policy tools if the repo rate is close to zero</b>	<b>36</b>
<b>CONCLUSION</b>	<b>37</b>
<b>BIBLIOGRAPHY</b>	<b>FEL! BOKMÄRKET ÄR INTE DEFINIERAT.</b>

## Introduction

There is an ongoing debate both inside and outside the central bank regarding how much impact the household debt should have when determining the repo rate. The Swedish central bank, the Riksbank, is assigned to keep inflation at a low and stable level while it supports the economy by keeping employment and GDP growth at a high and sustainable level. Conversely, the last couple of years it has neglected the inflation target to some extent in favor of financial stability. The inflation has been low while the mortgage credit growth has been used as an argument to not lower the repo rate. The Riksbank argues that a low repo rate will increase the household debt and thereby banks' vulnerability. On the one hand, financial stability is of great importance, but on the other hand, having low inflation is costly in terms of unemployment and lower GDP. Former Deputy Governor Lars E.O. Svensson<sup>1</sup>, Ben S. Bernanke, and present Deputy Governor Karolina Ekholm and Martin Flodén all share the view that an expansion in the economy is needed. They argue that the repo rate is not an effective tool to influence household debt and that it might not even have the expected effect. Svensson states that it will cause the real household debt to rise instead of fall. The proponents of not lowering the repo rate due to high household debt are Stefan Ingves and the Riksbank in general. Lars Svensson is the front figure of the opponents.

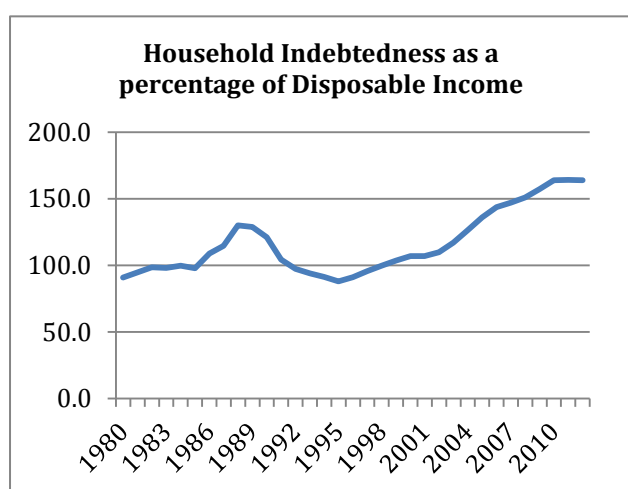


Figure 1 (Statistics Sweden, 2013)

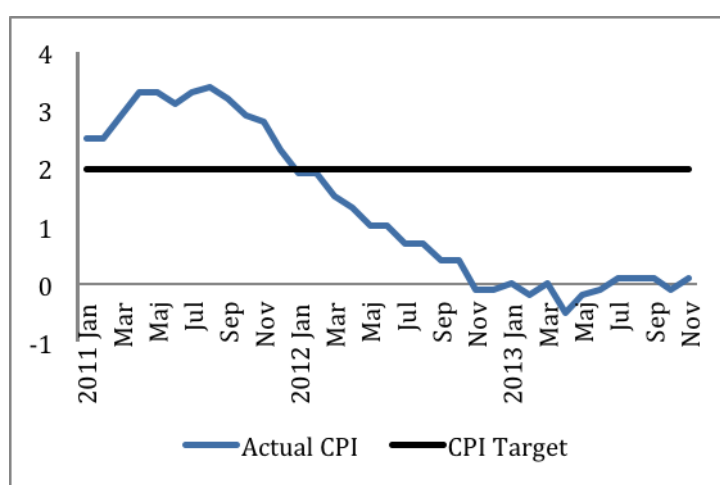


Figure 2 Actual inflation compared to the inflation target, (Statistics Sweden, 2013)

<sup>1</sup> Svensson resigned in May last year and it is said to be owing to the disagreement

## Monetary Policy

Monetary policy by central banks usually consists of four components.

First the central bank has to set its goals and decide in what time period it wants to achieve these. The second component regards with what measures or tools the central bank is given to achieve the goal(s). The third component is how it plans to fulfill its goals, hence what its strategy is. The fourth component concerns how the central bank communicates its plans and its actions.

Let us start by explaining the first component, the central banks goal(s) with the monetary policy. The primary goal for most central banks is price stability, and by price stability means a low and stable inflation rate. Some have very specific goals while most have more ambiguous ones. The ordering of the objectives is of great importance, since it determines which objectives that have to be prioritized above others, sometimes resulting in a tradeoff between the objectives. A common way of ordering objectives is what Willem Buiter call a “lexicographic ordering of objectives” where price stability is given the highest priority and the other objectives are subordinate (Buiter, 2008). Central banks with the lexicographic ordering are able to keep the tradeoff at a lower level since their primary goal is well defined and does not compete with any other objectives. Sweden and the Federal Reserve, (FED) use a different ordering where they have more than one mandate that is equally important. Sweden has determined in the Riksbank Act that their primary goal is to maintain price stability, but also promoting a safe and efficient payment system indicating dual mandate in their monetary policy. The FED uses a quite similar wording in the Federal Reserve Act where they have triple mandate where none of the objectives is given a higher priority than the other. This means that the FED and the Swedish Riksbank has to compromise to find some sort of optimal solution where all mandates are maximized. This compromise is also known as flexible inflation targeting, where the price stability may be compromised in favor of one of the other objectives. Inflation targeting has become increasingly popular and is implemented by many central banks where they express price stability by minimizing the deviation from the target with secondary attention to the other objectives, at least in theory. In practice the flexible inflation targeting has turned into a “minimizing loss function or a period of loss function defined over the variance of inflation and the variance of output” (or

other objectives) (Buiter, 2008). It is important to note that it is the variance of the objectives that are minimized and not the deviations from the targets. The loss function is based on a couple of assumptions that have to be met in order to hold true. Two of the assumptions are very strong and highly unrealistic in practice. One of these two is that there is no inflation target bias, which means that the average inflation is on target. The moment this assumption holds true, the main problem central banks face is solved and is superfluous. Buiter explains that “the second-moment inflation objective is indeed second order, and real inflation targeting challenge is to hit the first moment” (Buiter, 2008). This means that the objective of the variance of the inflation is of secondary importance and hitting the inflation target on average is the primary objective, but this is where the danger lies. If the government loses focus from hitting the average inflation target in favor of keeping the variance of inflation low, we will get what he calls “soft” inflation targeting. This in turn will cause the inflation to drift, which has been seen in USA, Australia and without a doubt in the Scandinavian countries.

The second component is the tool or tools that the central bank is given to achieve the goals. The number of tools is also important, if they have too few tools with too many objectives, it might not be possible to achieve the wanted result. The same goes if enough tools are available, but not the correct ones. Jan Tinbergen, a Nobel laureate, distinguished different variables in macroeconomics which he labeled targets and instruments. The targets are those macroeconomic variables that policy makers want to control or steer, instruments are the variables the policy makers actually are able to change directly. The Tinbergen principle states that in order to achieve a certain number of objectives, the policy makers must have control over the same number of instruments. He also states that the best a policy with too few instruments can achieve “is to keep the economy on the path that represents the optimal compromise between the objectives” (Friedman, 2008). The tools that central banks are given may vary from country to country, but the traditional ones are:

**Open Market Operations** – The primary tool is the purchase or selling of financial securities, usually government debt issued by the Treasury department. For example, if they decide to purchase these securities by the public or in the open market, they will give the sellers money in return and by doing this they will increase the supply of

money in the economy and thereby also decrease the interest rate. Hence, a lower interest rate increases the future cash flow value on portfolio investments, making the country more popular to invest in and increasing the demand for money, which spurs consumption.

**Repo Rate** – The interest rate on the Repurchase Agreements that the central bank constructs. After the Repo rate is determined the central bank starts buying government bonds and bills from commercial banks in return for liquidity with a short maturity, usually only a week or even shorter. They adjust the amount of the purchases so the repo rate is as close to the target rate that they have determined as possible.

**Reserve Requirements** – Banks themselves have the right to decide how much they want to keep as reserves on their deposits, although the central bank has the final say. The central bank may impose a minimum requirement as to how much reserves all banks has to hold. There is no ceiling on how much reserve banks can keep, there is even a theory where the reserve requirement is 100 per cent. This would be a situation where the banks are not able to lend out any of their reserves. This is however nothing more than an interesting idea. Furthermore, most central banks across the globe has a fractional reserve system, meaning that if a person deposits \$100 in a bank, the bank only has to keep a fraction of this money in their vaults and the rest is used to lend out to another individual or individuals.

In light of recent financial crisis the central banks faced a new problem: the repo rate was already at a very low level and when the crisis hit most central banks responded by reducing their repo rates. They wanted to contribute to an increase in resource utilization in the economy, hence get the economy going by reducing the cost of borrowing. The problem was that the reduction in the repo rate was not enough, and they soon hit the floor for the nominal rates, which were at zero per cent. Many economies had to start experimenting with new tools to stimulate the economy. A few examples are **Targeted Easing** – the purchase of specific financial assets without a change in the money supply and **Quantitative Easing** – the unsterilized version of targeted easing, the purchase of specific financial assets which lead to an increase in the money supply. It is not possible to use the ordinary tools when the central bank

gets closer to the zero bound. Both **Targeted Easing** and **Quantitative Easing** involve purchase of assets that lead to more liquid assets to the public. The increase in the money supply means that the public has more liquid assets to spend while the supply of goods and services are the same. This is supposed to spur consumption and increase the prices and inflation.

Another tool is **Forward Guidance** – A good example of forward guidance is the one Bank of England (BOE) announced on August 7, 2013: its intention “not to raise Bank Rate from its current level of 0.5 per cent at least until the Labor Force Survey headline measure of the unemployment rate has fallen to a threshold of 7 per cent” (Bank Of England, 2013). Hence, the central bank lets the public know how it plans to act in the future regarding the repo rate. They do this to prevent expectation shocks to the economy, all changes from the Central bank should be expected. Another important tool is **Loan Support** – Since the central bank, which in this context also is called the “bank of last instance”, has the ability to adjust the money supply, it is able to take on higher risks than commercial banks. This has led to some central banks swapping the risks that commercial banks take on in order to give individuals and companies credit that otherwise would not get it. This reduces the individual bank’s risks while more individuals or institutions get credit.

The third component is what strategy the central bank applies when it uses the tools it has at hand. A common strategy, to fulfill the low and stable inflation, is **Inflation Targeting**. This means that the central bank either pose a specific number of annual inflation or a range where the targeted inflation rate is within. Another strategy may be **Flexible Inflation Targeting**: this still means an annual inflation target, but they are able to adjust the frequency and the magnitude of the changes in the repo rate. This implies that, after some deviation from the target, they can decide how fast they want to bring the inflation back, depending on which weight they place on the different objectives. This allows them to get the wanted effect sooner and with increasing or decreasing force. The Riksbank has had an inflation targeting strategy since 1995.

The fourth and final component is the different channels that the central bank uses to convey the public information about its decisions, intentions and commitments. This



is an expanding component within the central bank. The channels have expanded from simply stating the new repo rate towards annual and semi-annual reports regarding several areas such as monetary policy, risks within the system etcetera. Many central banks give out post-meeting statements and reports regarding the long-run goals and policy strategies, and also hold press conferences with the Chairman. Summaries of economic projections, the policy makers projections of important economic variables and their risks are a few of the important insights the central bank shares with the public in order to increase its transparency.

### The Transmission Mechanism

The repo rate is the most commonly used tool for monetary policy. The figure below is an explanation of how a change in the repo rate affects the economy. It is not one but several mechanisms that interact, where some of the mechanisms act more quickly in affecting the inflation while others take longer time to give any effect. The transmission mechanism usually works as follows:

After evaluating forecasts by analyzing macroeconomic and financial data the central bank will take a decision on whether they will increase, decrease, or keep the repo rate unchanged. This example will be explained by an increase of the repo rate.

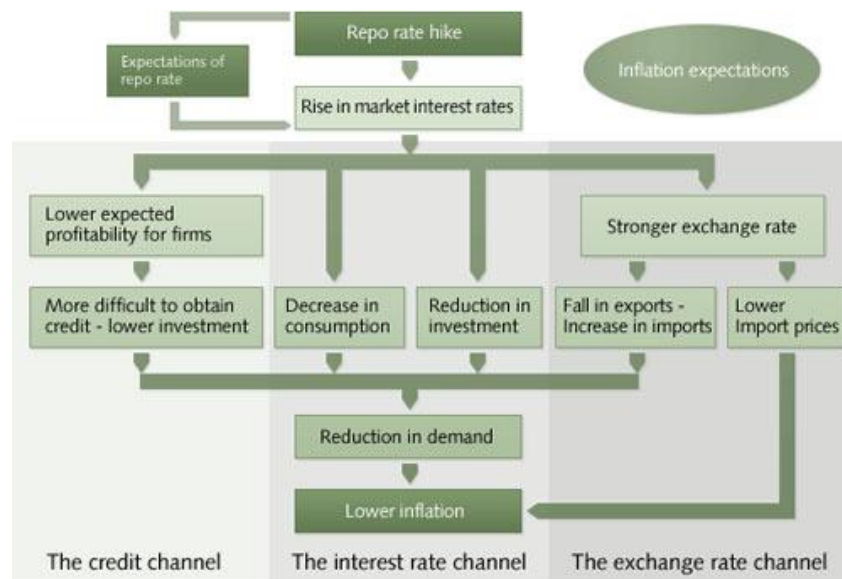


Figure 3 (Transmission Mechanism chart, Sveriges Riksbank , 2013)

An increase in the repo rate results in a higher rate in the interbank market, for Sweden it is the Stibor-rate. This means that the large merchant banks have to pay more in terms of interest to borrow money from each other with short maturity. This

effect is usually very quick, the shorter the maturity, the faster is the change. This is an effect from the increasing cost of borrowing money from central bank and the increasing reward from lending money to the central bank. The interbank rates with a longer maturity also reflect the higher repo rate, it will reflect expectations of the future changes in the repo rate in form of a risk premium. The long-term government debt, such as government bonds, is much similar to the interbank market. It will also reflect the change in the repo rate and future expectations in form of a risk premium. Future expectations of changes in the repo rate may change even though the central bank does not change the repo rate. If such expectation would arise, the government debt bills and the interbank market will change and affect the banks' deposit rates. They will reward you for lending money to the bank by giving you a higher lending rate, while they will charge you more for borrowing money by a higher borrowing rate. These higher rates will affect the market in three different segments, the credit channel, the interest rate channel, and the exchange rate channel. Starting with the changes in **The Credit Channel** - A higher interest rate level will decrease the present value of financial assets and their dividend payouts. The prices of the financial assets and real assets such as houses will therefore decline. This will make the banks more restrictive in their lending to the purchase of these assets. It will be more profitable for the banks to purchase financial assets such as stocks and bonds instead of lending it out, they will therefore charge higher borrowing rates to those who want to lend from them and thereby restrict their lending. The present value of the household's future salaries and the company's future profits will also decline with a higher interest rate level. The demand will decline since fewer companies will want to invest and expand due to the higher costs of lending.

**The Interest Rate Channel** - An increase in the repo rate will cause changes in the nominal rates, however, most economical decisions are not based on the nominal rates but in fact the real rates. Companies do not adjust their prices as soon as their costs increase or the demand goes down. Prices are considered to be sticky, thereby also inflation expectations. If we have changes in nominal terms, while prices and inflation expectations are sluggish, there will be changes in the real terms as well. A higher interest rate level will make it more profitable to lend money than to borrow. Businesses and households will therefore postpone consumption, they will save more money, borrow less and consume less today. Businesses and household will therefore

demand less goods and services which in effect will decrease the output of goods and services in the economy. When demand falls, the previous equilibrium state will change, driving prices of labor down until we reach a new equilibrium. When businesses have lower costs in terms of labor they will begin to decrease the prices and in effect the inflation will be pushed down.

**The Exchange Rate Channel** - An increase in the repo rate, in an open economy, will usually result in an appreciation in the domestic currency. The relatively higher interest rate level toward the rest of the markets will make domestic investments more appealing. The lower present value of financial assets will increase the demand for the domestic currency in order to invest and thereby strengthen the currency. However, in equilibrium there cannot be any differences in expected profit on domestic and foreign investments. After an increase in the domestic currency there will therefore also be a slow depreciation of the currency until the equilibrium level is met. There will also be an effect on the demand for domestic goods and services, e.g. if the domestic currency gets stronger, foreign goods and services will be relatively cheaper. Since the prices are sticky the demand for domestic goods will therefore go down in exchange for a higher demand for foreign goods and services.

### **The Swedish Central bank, the Riksbank**

The Riksbank is in control of Sweden's monetary policy, and the responsibility is given to them under the Sveriges Riksbank Act (Sveriges Riksbank, 2013:c). The Swedish krona has floated free towards other currencies since 1992 and has been a subject to speculative trade and caused high volatility in the value of the Swedish krona when it was pegged against the ECU. Shortly thereafter the Riksbank's dual mandate was decided to be price stability, and the promotion of a safe and efficient payment system. The price stability goals were later defined as the positive annual change in CPI and a target inflation of +2 per cent. The goal of a safe and efficient payment system refers to the financial stability of the Swedish economy as a whole. Combined with the price stability goal, the Riksbank is also supposed to support the objectives of general economic policy. This means that they also have to keep both growth at a sustainable rate and the employment level high. In order to fulfill all three goals the Riksbank conducts what is explained above as flexible inflation targeting.

The tools they have had at their hands, apart from the open market operations, is to adjust the repo rate to impose minimum reserve requirement and forward guidance. However, in drastic times other tools may be used: quantitative or credit easing, some sort of loan support or similar. In terms of forward guidance, the members of the Riksbank meet several times a year to discuss and forecast how the economy will develop. Based on the six members' projections they decide on what measures to take, in order to fulfill their goals. After each meeting they give out a report not only with the actions they will take but also their forecasts of how the repo rate will develop in the near future and what risks that are present. The Riksbank's Governor, Stefan Ingves also hold an interview after each meeting to further develop their thoughts about the decisions they have made.

## **Financial Stability**

Financial stability is in short when the market is stable and when banks can offer safe payment methods. Financial stability is an occurring continuum and there are many factors affecting it. It can rather be viewed as a policy for avoiding a crisis or minimize the possibility of it occurring. Different institutions might however define financial stability slightly different, this is not shocking due to the broad definition.

### **Financial stability in Sweden**

The definition of financial stability is different but all Swedish institutions are united as to what to accomplish even though it is not clear how to achieve it. In order to understand financial stability in the Swedish economy we have to present a few important institutions that are affecting the financial stability in various extents. The responsibility is shared between following four institutions: Ministry of Finance (*Finansdepartementet*), *Finansinspektionen (FI)*, The Central Bank (*Riksbanken*), and The Swedish National Debt Office (*Riksgälden*).

The Ministry of Finance is a department of the government, responsible for the regulation of financial markets. They work both proactively trying to prevent hazards and also actively when a crisis occurs.

*Finansinspektionen* is an authority controlled by the government and monitors companies at the financial market. They develop regulations and are responsible for the control of the companies. They have the primary responsibility for the macro prudential tools, including the countercyclical capital buffer.

The Riksbank's main purpose is to ensure that payments in the economy can take place safely and efficient. They have also monetary policy aims and strategies. This will be discussed further later on.

*The Riksgäld* is the central government financial manager. They are responsible for managing central government debt and handling government guarantees, such as the deposit insurance, and loans.

#### Swedish central bank, the Riksbank

One of the Riksbank's tasks is to foster a secure and effective system of payments. To achieve this they need a stable financial system where payments and capital are able to flow. So in order for the Riksbank to fulfill their tasks they must ensure financial stability. The Riksbank defines financial stability when "the financial system is able to sustain their three basic functions – support payments, transform savings to financing and risk management and also be able to fend off disturbances that pose a threat to these basic functions." (Sveriges Riksbank, 2013:c)

#### The Financial System

The financial system is very sensitive to disturbances, the reason for this is the way banks and markets operate. The Swedish bank system is large in relation to the Swedish economy, where the Swedish financial system is dominated by four commercial banks in an oligopoly. The fact that the banks are closely interconnected makes them easily affected by one another if a crisis would occur. One reason for banks being sensitive is due to the fact that they borrow short term and lend long term. Since rates are flexible in the short term and sticky in the long term, the banks are vulnerable when the short term rates increase and decrease their margins on the lending.

Market beliefs are an important and powerful part of all economies. If the market tends to doubt any part of a system it may have a serious negative effect. For example, if a critical mass of the population starts to doubt a bank's capability of holding true its duties, for example pay out the deposits to the depositors, we got something called a bank run. This occurs when all the depositors lined up to withdraw all their money from the bank before they would run out of money. The bank will not be able to pay all of its customers at the same time as they only keep a fraction of the deposits in their vaults. To prevent this doubt by the population a deposit insurance was established. The banks have to put off money to this insurance, so if a bank would collapse, all of its depositors are covered up to a certain amount. However, in order to further increase the faith in the banks, a more rigid capital requirement system has been implemented to further increase the banks' stability. In order for banks to save money when times are good, risk weight floors has been established and also raised in recent years. This forces the banks to save and can thereby cover the costs that might arise.

### **The Swedish housing market**

It has been argued lately that there might be a housing-price bubble in Sweden, and that this bubble has been built up as a result from the changed attitude towards risk and profits. Due to the past price increases, people expect the same pattern to continue. This can be related to other countries that have problems with changing risk and profit attitudes. Sweden's current state of the economy shares some similarities with Denmark's, which have concerned Swedish banks ever since the crisis. During the crisis, the Danish banks faced what can be called "a modern bank run", which is when foreign credit institutions and money market funds will not lend out money short term to banks due to doubt of their creditworthiness. A few factors of the financial crisis in Denmark were due to the underestimation across the board of risk and widespread optimism. The high level of optimism affected credit institutions and ordinary households and a housing price bubble evolved. (Ministry of Business and Growth, Denmark, 2013) The Danes have, ex post, claimed that the crisis itself was inevitable, but it did not have to cost as much as it did. Since there are similarities between Denmark's economy and Sweden's we can learn a lot from their crisis on how to minimize the cost of a crisis if it happens. Similarities are also seen between

Sweden and the Netherlands. The expectation from an investment in property was that the value would continue to increase. The Dutch upcoming trend was that the households invested their savings into an investment fund instead of paying off loans. This was of great concern for the Dutch central bank. It was not uncommon that the mortgages were higher than the actual value of the house. The general attitude was that it was a good investment and would be profitable. Even though the attribute in Swedish households is not as extreme as for the Netherlands, one can still see the trend of changing expectation on the profit of the investments (Schult & Seith, 2013). Many famous economists have expressed their concerns about the Swedish housing market. The most recent one was the recent Nobel Laureate Robert Shiller, famous for detecting bubbles, exclaimed his concern for Sweden. He uses an example in Stockholm where the housing prices have more than quintupled during the last 20 years, which seems concerning. (Shiller, 2013) One feature that separates the Swedish market from the Dutch and the Danish is that the supply on housing is too short in many places in Sweden, especially the larger cities such as Stockholm. It is not build enough to keep up with demand, which leads to higher prices according to basic microeconomics. Another feature is the vast conversion of regular rental apartments to condominiums that require more people to purchase instead of renting. Even though the rate of building is too small for the demand in Sweden, the high price increases are not completely motivated by fundamentals.

### **Actions to maintain financial stability**

The instruments used to maintain financial stability can be categorized into two parts: structural instruments and cyclic instruments. The former aims to handle problems related to the financial structure and the latter can vary over time and is supposed to be implemented in a strong economy to prevent imbalances.

### **Basel III**

As a result from the financial crisis the new international regulation called Basel III was established. This regulations main purpose is to strengthen the banks' ability to withstand losses and thereby decrease the probability of bankruptcy and financial crisis. The instruments in Basel III can be categorized into four categorizes: capital related instruments, liquidity related instruments, credit related instruments, and

operative related instruments. The framework in Basel III demands more and better capital within the banks. Two of the new instruments that are implemented in Basel III are the LCR and NSFR that are explained more in detail below on the following page.

### Stability in the household sector

Today's focus regarding financial stability has been on the Swedish household debt. A trend of increasing debt and longer amortization periods has concerned Swedish politicians. There are several tools that can be used in order to affect the household debt. Sweden has received strong recommendations from EU to abolish the present tax-deduction (Reberg, 2013). When people pay the interest on their loans they are allowed to deduct the tax amount they otherwise would have to pay. This means that they get "more" disposable income and may be able to bear a higher interest rate cost. Reducing or abolishing the tax deduction would hit some families harder, since they include the tax deduction in their budget for the loans. It may also put further pressure on the households' consumption, as their disposable income would decline. But for the broad general it may induce lower loan amounts for new loan takers.

A tool that is already in effect since October 1, 2010, is the mortgage cap. The mortgage cap is a restriction on how much the households are allowed to borrow, depending on the value of the house, a so called loan-to-value ratio. Households are only allowed to borrow a certain fraction of the total house value, the rest has to be put in upfront<sup>2</sup>. Thereby, new loan takers will not be as sensitive to price changes. One effect from the introduction of the mortgage cap is a noticeable change in the amount of households that borrow more than the cap of 85 per cent. In fact it has decreased from 20 per cent to 11 per cent according to FI (Finansinspektionen, 2013-03-07). The mortgage cap's effect on housing price does seem limited, the growth rate however, seems to have slowed down, but, perhaps not as much as may be needed.

A different tool that is supposed to have a similar effect as the mortgage cap is a mortgage requirement. This has been somewhat criticized in Sweden since it can be viewed as a capital change from savings with more liquidity to investment in real

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<sup>2</sup> At the time households are allowed to borrow 85 per cent of the total value



estate. It is not mandatory for borrowers to amortize on their loans in Sweden, in contrast to other European countries.

A different approach is to target the banks rather than the households in particular, also known as micro prudential tools. We have seen higher risk weights on the banks loans to households, and also a stricter policy as to what is considered as a capital reserve. In July 2013, the Finansinspektion decided to further increase the risk weights floors, which results in keeping more capital reserves for the banks. The Finansinspektion announced recently that there might be another increase to 25 per cent as soon as next year (Finansinspektionen, 2013). The change in 10 percentage points is supposed to lock down an additional 32 billion SEK in the banks and function as an airbag which absorbs the first blows in a shock. Basel III introduces a new framework as to what may be considered as capital reserves, goodwill and other less liquid assets may not be allowed to be considered as capital reserves anymore. A few other liquidity tools that are about to get stricter are the LCR (Liquidity Coverage Ratio) and NSFR (Net Stable Funding Ratio). The LCR is a measure that establishes how much liquid reserves a company needs to have in order to cope with a 30-day period, where they are restricted financing. It puts the liquid assets in comparison with the net-cash outflow. A measure of LCR equal to 1 means that a company has enough liquid assets to cope with the 30 days without new finances. During the summer the largest 8 Swedish Banks had a better ratio than the European average and has kept a high level. Swedish banks are therefore supposedly strong against short term liquidity crunches. The strength over the longer term as is measured by the NSFR was not as good. The NSFR is a ratio that seeks to measure the relationship between the companies' long term assets and their long term debt. The ratio is measured as the weighted long term financing over the weighted assets. The weighted long term financing should be equal to or greater than the weighted assets in order to have a good ratio. The Swedish Banks had during the summer a NSFR of 0.83 which is less than most other European banks and according to the Finansinspektion will Sweden participate in the work of further developing the international liquidity framework. This will probably result in a tighter control and a higher importance of the LCR and NSFR. The measure is also included in Basel III and is supposed to be implemented in January 2018 (Finansinspektion, 2013-11-14).

## Two opposing views

Starting with Svensson, who has written a large number of articles with arguments and criticism more or less directly pointed to the Executive Board Members. He is well discussed in media where his opinion is always straight forward. Even though another more careful and reserved view is given when analyzing his paper. The Riksbank present a stable position for Sweden in their Financial Stability report, but still the need to affect the household debt through the repo rate. The responsibility of implementation for financial stability is solely on Finansinspektionen (Swedish Financial Supervisory Authority), in order to avoid conflicting objectives. However, the responsibility of analyze and recommendation responsibility is shared between the Riksbank, FI, the Ministry of Finance and the Swedish National Debt office.

### Lars E.O. Svensson

It is said that during Lars Svensson's time as deputy governor at the Swedish central bank, he and the Governor Stefan Ingves argued extensively about the new intermediate target variable of household debt. Svensson's argument is that the primary target variables in monetary policy are to keep the inflation rate (CPI) at its target level while maintaining a stable GDP growth and the employment level high. He argues that these are the primary targets and that there are other, more effective ways to reduce household debt than by using monetary policy. Lars argued that including the household debt as a target variable was at the expense of all the other variables, inflation, GDP growth and employment. He even argued that it was counterproductive in the sense that it does not give the desired effect of a lower household debt, but the opposite, a higher one (Svensson, 2013a).

An independent evaluation of Swedish monetary policy between 1995 and 2005 was made by Giavazzu and Mishkin, (Giavazzi & Mishkin, 2006). This was the first evaluation of the inflation targeting policy since it was initiated in 1993. Giavazzi and Mishkin wrote in their report that "the Riksbank has made one serious mistake in its communication strategy, namely its discussion of the role of asset prices in the conduct of monetary policy." They refer to a press release in February 23, 2006 where the Executive Board for the first time, publicly includes the household indebtedness in decision-making. They explain that one of the reasons for the decision of raising the

repo rate by 25 basis points is the household indebtedness and the continuing rising house prices. At the same time the inflation forecast was revised downward. Giavazzi and Mishikin’s conclusion and recommendations was that “the Riksbank should clarify that asset prices (housing prices, stock prices and exchange rates) are not independent targets for monetary policy”.

## Inflation

The main task for the Riksbank is to focus on achieving stable inflation over time. By using monetary policy the inflation should on average be 2 per cent per year (Sveriges Riksbank, 2011). As we can see from the graph below this is not the case. The Expected CPI represents the consumer price index if the inflation would have been 2 per cent each year.

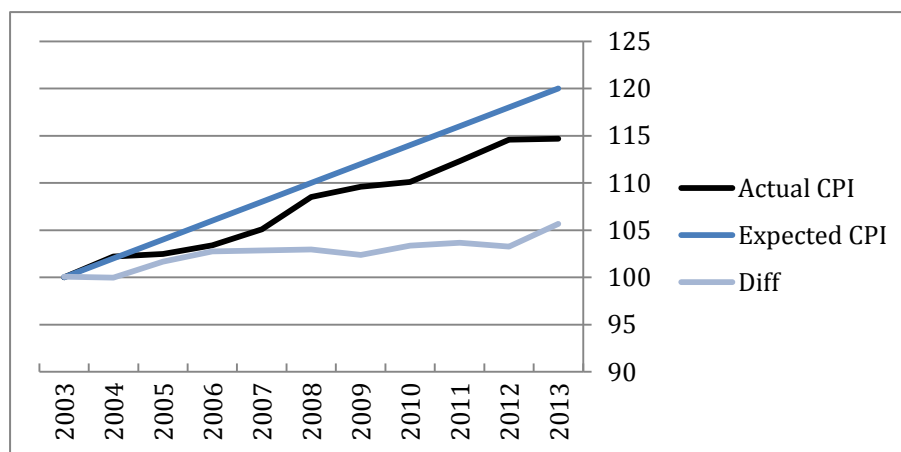


Figure 4 The inflation target compared to the actual inflation (Statistics Sweden, 2013)

A lower inflation than the target is associated with a loss in output and higher unemployment.

The Riksbank has clearly not lived up to the expectations regarding the inflation target over the past years. In October 2013 Monetary Policy Report (Sveriges Riksbank, 2013:d), the Riksbank admits that if the repo rate had been lower it “would have been able to bring inflation back to the target somewhat sooner and have helped to normalize resource utilization more quickly. But at the same time, this type of monetary policy could lead to the risks linked to household debt increasing further”.

According to Svensson’s opinion, the Riksbank has kept the repo rate too high. He has explicitly said that the new intermediate target variable of household debt should not be included in monetary policy (Svensson, 2013b). The cost for this is a higher unemployment level, a lower real GDP growth, and most important, a *higher* household debt. A tighter monetary policy, that is, a higher repo rate than necessary is referred to as “Leaning against the Wind”. Svensson states that since the fall 2012 a majority of the Executive Board justifies a policy that results in inflation below the target and unemployment above a sustainable rate, with concerns about a high household debt ratio. On top of this Svensson also states that a tighter monetary policy leads to higher real household debt (Svensson, 2013a). A tighter monetary policy induces a very slow fall relative to the baseline of total nominal debt, but a faster fall in the nominal price level and nominal GDP. The debt-GDP ratio will therefore increase, instead of decrease. The tight monetary policy has led to lower price levels, while in fact increasing the debt and debt-GDP ratio. A lower price level compared to if the inflation would have been at its target, favors the lenders, i.e. the banks, and the households will have higher real household debt. This is shown in the graph below

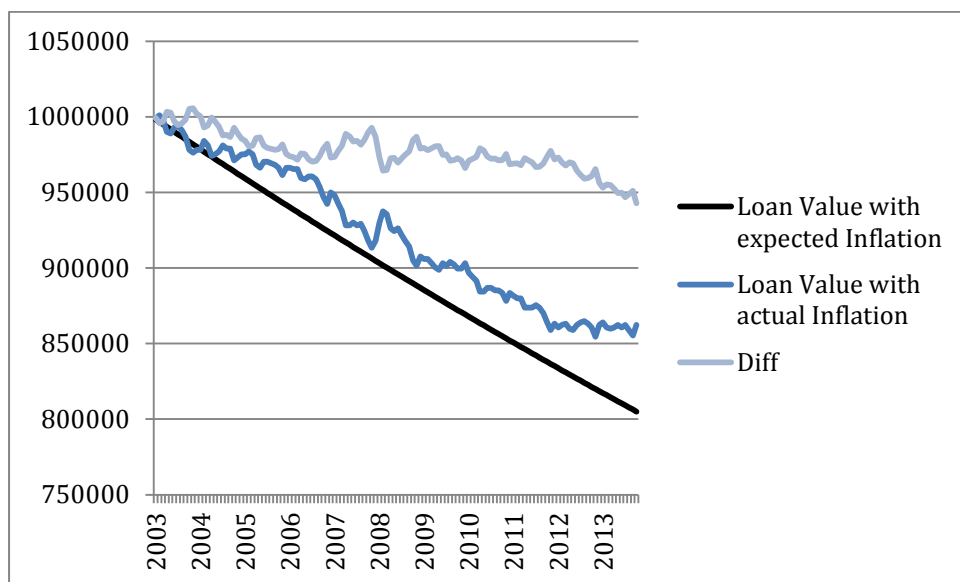


Figure 5 The value of a 1 million SEK loan (Statistics Sweden, 2013)

Let us say that we have a loan on 1 million SEK, *if* the Riksbank were to keep the inflation at the target of 2 per cent per annum, the loan value over this 10-year period would have been approximately 817,000 SEK ( $1,000,000 \times 0.98^{10}$ ) in real terms

without amortization. However, since they have failed to keep this inflation target during this period the loan value in real terms without amortization is approximately 864 000 SEK. This means that the person with this loan has to pay more than 57 000 SEK more on the loan than they expected to do with an expected annual inflation of 2 per cent. If the inflation would have been 2 per cent per annum we would have seen a straight line on the series named “Diff”, but as we can see it has a downward sloping trend during the period, which proves Svensson’s point. Lenders will benefit from this diversion from the inflation target, while the borrowers will suffer from higher loans in real terms. By keeping the inflation below its target there will be a capital flow from lenders to borrowers. Hence, if the expectations had been less than 2 per cent and equal to the actual inflation this capital flow would not occur.

### Phillips Curve

The diversion from the inflation target creates another problem according to Svensson, if the expected inflation and the actual inflation are equal we will have a vertical long-term unemployment, at the natural rate of unemployment. This is explained by the following formula:

$$\pi - \pi^* = -\gamma(u - u^*)$$

Where:  $\pi$  is the actual inflation,  $\pi^*$  is the expected inflation,  $\gamma$  is the slope of the Phillips curve,  $u$  is the unemployment rate,  $u^*$  is the RESS (rational-expectations steady state) often called the natural rate of unemployment.

If the actual inflation is equal to the expected inflation we will get zero on the left hand side and the unemployment rate will equal the natural unemployment rate in the long run. Let us use Sweden as an example, with an inflation target of 2 per cent.

When average inflation does not deviate too much from the inflation target, a significant fraction of the private sector will neglect the deviations and behave as if the inflation is equal to the target inflation. This shows that the Swedish economy has a private sector that does not act rationally in terms of expectations of inflation. They have adaptive expectations where they learn from the past, this is essential for the expansionary policy to function and have an interchange where they are able to affect the unemployment by adjusting the inflation which would not be the case with a rational private sector. This gives us the following equation:  $\pi - 2\% = -\gamma(u - u^*)$ . If, however, the actual inflation is not equal to the target inflation in the long run, we

will get a Phillips curve that is not vertical at the natural rate of unemployment, and downward sloping with the constant  $\gamma$ . If the Phillips curve is downward sloping instead of vertical, unemployment will be affected by the level of inflation. If inflation is kept at a lower level than the target it will cost the economy in form of a higher unemployment. Svensson states in his report *Some Lessons from Six Years of Inflation Targeting*: “With a credible inflation target and anchored inflation expectations, the long-run Phillips curve is no longer vertical” (Svensson, 2013b). He basis this argument on the following regression, where he has two lagged variables for the inflation and the unemployment as the independent variables and the present inflation as the dependent:  $\pi_t - 2 = \beta_0 + \beta_1(\pi_{t-1} - 2) + \beta_2(\pi_{t-2} - 2) + \beta_3u_t + \epsilon_t$ .

Coefficient	Estimate	Std. Error	t-Statistic	Probability
$\beta_0$	1.835275	0.528245	3.474290	0.0010
$\beta_1$	1.127351	0.121112	9.308356	0.0000
$\beta_2$	-0.500917	0.110455	-4.535029	0.0000
$\beta_3$	-0.283695	0.080984	-3.503117	0.0010

All the coefficients from the regression are highly significant. The R-squared is about 0.84, which gives the short-term Phillips curve a fairly high accuracy for explaining the variations in the unemployment rate. There may be some other variables that should be included for a higher accuracy but we are able to say with certainty that the short-term Phillips curve has an interchange and it is possible to affect the level of unemployment with changes in the inflation rate. Though, this is not something new, Friedman spoke of this in his article in 1968, *The Role of Monetary Policy*. But, according to Friedman it only worked in the very short-term, and due to adaptive expectations it would be useless in the long term (Friedman, 1968). In order to get the long-run Phillips curve, Svensson takes the unconditional mean of the short-run Phillips curve and get the following equation:  $\pi - \pi^* = -\gamma(u - u^*) = \pi - 2 = \gamma_0 - \gamma u \Rightarrow$

$$\gamma_0 = \frac{\beta_0}{(1-\beta_1-\beta_2)}, \gamma = \frac{-\beta_3}{(1-\beta_1-\beta_2)} \Rightarrow \pi - 2 = 4,92 - 0,76u$$

In order to test for the coefficients robustness, Svensson performs a Wald test on the two lagged inflation variables. If they sum up to unity, we will get a vertical slope of the Phillips curve. Still, the Wald test strongly rejects this hypothesis and further

strengthens Svenssons argument of a downward sloping Phillips curve. Below is the plotted display of the Phillips curve.

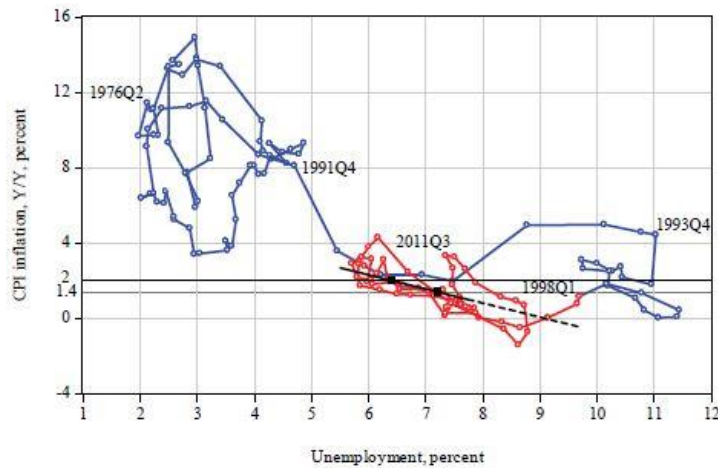


Figure 6 Time period 1997Q4-2011Q4, illustrated in red. (Svensson, 2013c)

Observe that during the period 1976-1991 we have a spiral shape, significant for a vertical long run Phillips curve. However, marked in red, we have the most recent period 1997-2011 that shows that the Phillips curve is downward sloping. The inflation has fallen short of its target of 2 per cent, but the average inflation expectation has been anchored to the target giving us a slope on the Phillips curve. Thus a lower average inflation results in a higher average unemployment. Svensson argues that when the Riksbank tries to keep the household debt low by “leaning against the wind” it costs the economy at the expense of a higher unemployment. During the time period above he claims that the average unemployment has been 6.47 per cent almost 0.6 per cent below the target of 7 per cent. By calculating the distance between the target and the average he arrives at the conclusion that keeping the inflation below the target has cost Sweden about 0.8 per cent excess unemployment on average. This test is quite robust with a 95 per cent confidence interval gives him 0.50 – 1.08 per cent during the 15year period.

The Riksbank has, at several times, said that the high household debt is a financial-stability risk and is therefore affecting the repo rate even though this is contrary to their goal of inflation targeting. Not only is the repo rate an ineffective tool and might

not even lower the household debt (Svensson 2013), but also the Finansinspektion has the main responsibility for the tools to maintain financial stability.

Following section will contain a summary of Svensson's standpoint in this debate, where he has suggestions for improvements of the Riksbank.

1. The Riksbank should be clear about and not deviate from their mandate of keeping the flexible inflation target at 2 per cent with price stability and a sustainable unemployment level as a result.
2. They should not include the household debt as an intermediate target variable besides inflation and unemployment. He considers this especially important as he has through his research come to the conclusion that it is counterproductive to do so. His conclusion is that a tighter monetary policy ("Leaning against the wind") actually increases rather than reduces household-debt-to-GDP and household-debt-to-disposable income ratios. "Over time, a tighter monetary policy will lead to a substantially lower price level and a substantially higher real debt and debt ratios than if inflation is on average equal to the target" (Svensson, 2013b). Svensson believes that someone else should take care of the household debt, someone with better tools to do so. His suggestion is that the Finansinspektion should do it, with their new micro- and macro prudential tools.
3. Implement a "forecast targeting", a two-step algorithm that will help the Riksbank better hit their targets. It would work like this: Step 1, examine the effects on inflation and unemployment that the previous policy rate path decision has and has had. Step 2, adjust the policy rate path so that the forecasts for inflation and unemployment are satisfying, i.e. stabilizing the inflation around its target and the unemployment around the natural rate. He suggests using a table like the one below, where they include the policy rate path, the inflation forecast, the unemployment forecast and the mean squared gaps which is the mean squared gaps between the inflation rate and the target as well as the unemployment and its long run natural rate.



4. He suggests using this four-panel graph that is shown above ex ante, i.e. in real time using the information they have at hand for the moment. Also ex post as a way to compare the results when they have received more information after the new policy decision.
5. Since his research shows that the long-run Phillips curve is downward sloping he strongly urges the Riksbank, not to keep the inflation below the target for a long period of time since it will cause average unemployment to be unnecessarily high.

### **The Riksbank**

This debate is based on the Riksbank's responsibility of promoting a safe and efficient payment system according to the Sveriges Riksbank Act. Since financial instability directly will affect the payment system one could say that the Riksbank should take this into consideration when determining the repo rate. While some argues that other institutions should take on the concern about financial stability and that the Riksbank only should "clean up" after a crisis.

Svensson defines financial stability and monetary policy as two separate things, the Riksbank Governor Stefan Ingves consider them more jointly. Instead of strictly looking at the inflation, GDP growth and employment for the monetary policy, Ingves include the financial stability, all in line with the Sveriges Riksbank Act. In order for the Riksbank to make a decision regarding the repo rate several models and output variables are used. One of the models they use is called the Ramses, but the formula itself is complex. The model relies on several assumptions and builds on many both realistic and unrealistic variables and estimations of variables. Regardless of the model, inflation is the most important one. The inflation will affect employment and GDP growth, which are the two other important variables. If the Riksbank decides to lower the repo rate the risk-taking would increase as high debt levels can jeopardize macroeconomic stability. The trade-off one has to consider is if this additional risk-taking is compensated or not. Svensson admits that the risk would increase but that it might be optimal and that the reason for thinking otherwise would be overall more risk-averse due to crisis lately (Svensson, 2012). Assar Lindbeck, one of Sweden's foremost economists, has another view and support Ingves argument that financial

stability may in fact be even more important than monetary policy. He says in a debate article “Lindbeckkommision och framtiden”, that when the commission he was a part of first looked at the Swedish monetary policy, they neglected the importance of the stability on the financial markets. Today, they see this problem as important as a low and stable inflation, and according to himself, even more important (Lindbeck, 2013). Christina Romer is another economist who argues the importance of learning from earlier crisis, and that financial stability is of great importance for a central bank. She says that “Without that [financial stability] – nothing else matters” (Romer, 2013). The overall opinion of the Executive board members is that the implications of a lower repo rate will have too high impact on the financial stability. They consider the financial stability to be of more importance than accelerating inflation to its target. One could assume that the Executive Board members who voted for a unchanged repo rate thinks that the possible losses from a higher unemployment and lower real GDP is less than the cost times the probability of another crisis<sup>3</sup>.

The recent crises in both Europe and USA, where we have seen price bubbles in the housing sector that burst, have learnt us a lot. When problems of this scale occur they have a tendency to spill over to other regions as we have seen in both Europe and USA where Ireland was the first of the European countries to who had price bubbles that burst. Sweden recovered relatively fast but that does not imply that the Riksbank should neglect the importance of financial stability. The losses from a crisis are so strenuous that they have to do everything to prevent this from happening. The Riksbank has been cautious to make sure to minimize the impact on the Swedish market. They have therefore watched the buildup of the Swedish household debt with great concern. This problem has been a concern for the Riksbank ever since 2004 according to Ingves (Ingves, 2007). There is a sharp incline in the household indebtedness, as can be seen from figure 7. From 2004 the household indebtedness climbed above the previous resistance level of 130 per cent of disposable income. Ever since it broke the resistance level, they have kept a close eye on the indebtedness as it rose to even higher levels year for year.

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<sup>3</sup> The last meeting (13-12-16) resulted in a lower repo rate, after being unchanged for a year

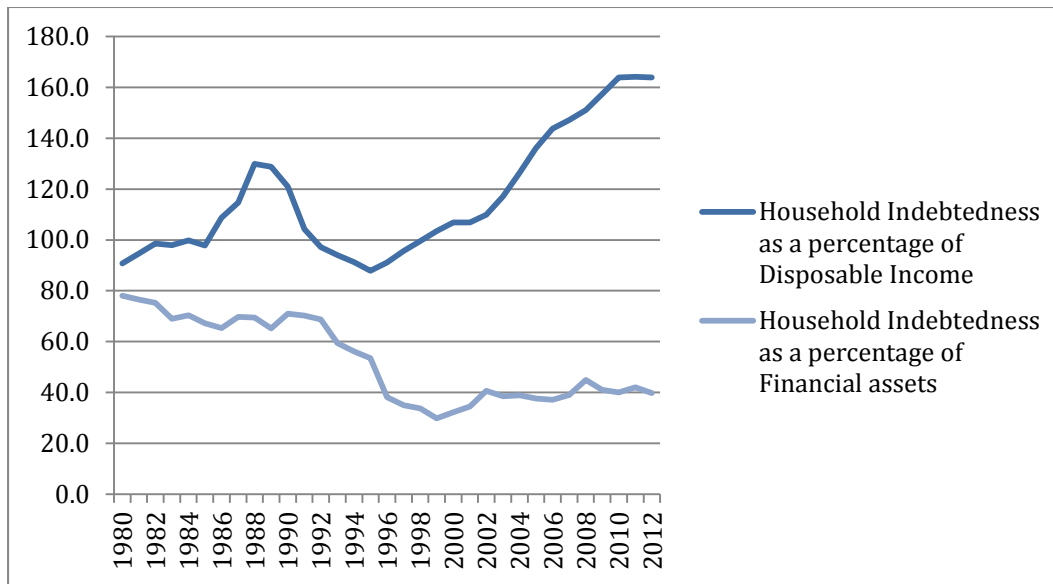


Figure 7 (Statistics Sweden, 2011) (Statistics Sweden, 2013)

The indebtedness as a percentage of disposable income has risen at an increasing pace, but the total debt to total financial assets has at the same time decreased. Even though the households have higher debts, they also have more financial assets so they are in fact relatively less in debt. However, these assets are mainly housing, which means that if housing prices would decline, so would the financial assets. This is the Riksbank's main concern regarding the household debt. They are worried about the household debt level because if the house prices were to fall, the loan value on the houses may exceed the value of the house. This will in turn affect banks. Ingves argue that if the house prices fall the debt value will remain, but the value of the financial assets will most likely fall. This means that today's ratio of approximately 40 per cent debt to asset will increase and is therefore not a good measure as Svensson argues.

If the Riksbank would only focus on price stability, output growth, and employment one cannot abandon the fact that this will affect financial stability through its impact on credit, leverage, commodity prices and so on. This is so important that economists think financial stability should be an explicit mandate of central banks (Eichengreen, Rajan, and Prasad - Rethinking central banking, 2011 and Eichengreen et al. 2011).

Cecilia Skingsley, one of the Executive Board members, votes for keeping the repo rate unchanged. And she puts out several explanations for this. The fact that the

inflation target would have been reached faster with a more expansive monetary policy is no doubt, but there might be factors that do not support an acceleration in order for the inflation to reach its target faster. First, there is not possible to tell exactly how the monetary policy will affect the economy. Second, since the state of the market already is growing stronger there might be wrong to set a lower repo rate, because of the higher risk exposure for the economy. The gains in the short run from an expansive monetary policy are not adequate to cover from the losses that arise if another crisis would occur. Skingsley present clearly her opinion in her speech recently: “if we are not absolutely certain about the outcome of monetary policy it is better to proceed gradually” (Skingsley, 2013).

The monetary policy will not effectively solve the problem of high household debt, and is not meant to do either. But one has to remember that the repo rate will affect the conditions for the people buying houses. The household debts today are high both compared historically and internationally. IMF has repeatedly given a warning regarding the high Swedish household debt. And they elucidated the importance of sustainable mortgage credit growth, if this problem cannot be handled by macro prudential tools the Riksbank will have to raise interest rates (IMF, 2013).

It is not straight forward how to evaluate the monetary policy performances. There can be several reasons as to why the inflation deviates from its target. One has to analyse which factors that can explain the fact that CPIF inflation is on average lower than the target. The direct criticism of the monetary policy is thereby not justified. Per Jansson, also one of the Executive Board members, says that he thinks (that) “an average CPIF inflation rate of 1.8 per cent is a pass rate, perhaps even a pass with distinction” (Jansson, 2013). He bases this on the historical comparison and international inflation.

It is known from the Philips curve that there is a relationship between inflation and unemployment in the short run. Even though the inflation have had high variation since the 1990- crisis the employment rate been relatively unchanged. The most part of the unemployment is structural rather than cyclic, which means that government’s labour-market reforms affect the employment rather than the inflation. A reason for the increasing unemployment recently is partly due to an increase in those of working

age in the population. To blame the monetary policy for the unemployment is thereby not very meaningful.

## Discussion

The graphs below are based on Ramses, and one can easily conclude that the blue line, which represents a lower repo rate, would faster generate the inflation closer to its target<sup>4</sup>. Following section will discuss how this lower repo rate would affect the banks' lending rate, the unemployment rate, and the overall risk taking for banks.

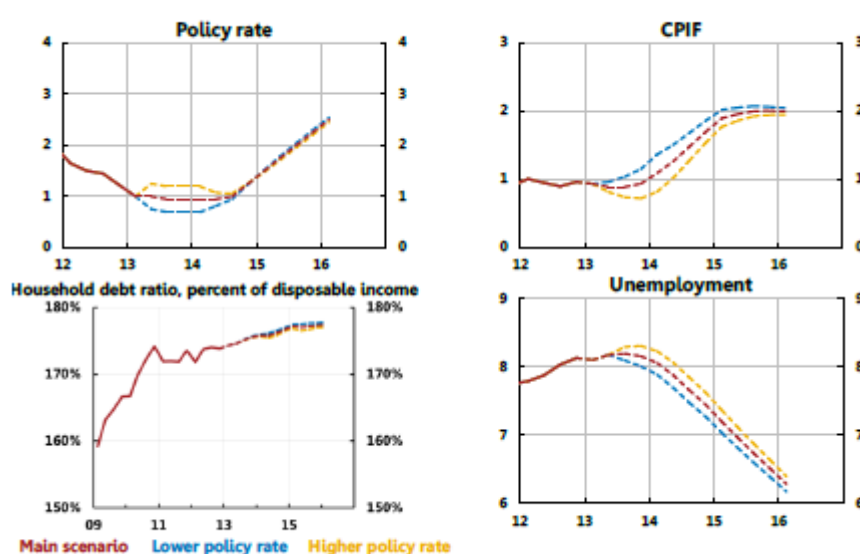


Figure 8 Monetary policy alternatives (Svensson, 2013)

### Does lower repo rate increase risk-taking?

Svensson has argued that keeping the repo rate high due to the need of suppressing the household debt is counterproductive. Previous calculations show that keeping the inflation away from the target over long periods increases the debt in real terms. At the same time it costs the economy a higher unemployment and a lower GDP in nominal terms. Even though it is supposed to decrease the debt in real terms, we see an effect that is the opposite. The Riksbank is unwilling to decrease the repo rate due to the belief that a lower repo rate increases the risk-taking by both banks and households. Claussen et al. suggest that there may be another channel in the

<sup>4</sup> Since we do not have the underlying model from the future forecast we have to look directly at the graphs.

transmission mechanism that is called the “risk-taking channel” (Apel & Claussen, 2012:2), which concerns the banks and large financial institutes risk-taking behavior. If the interest rate level is low, actors will start searching for yield in other places, this is one mechanism in this channel. They move away from low-yielding government bonds in favor of more risky and higher return corporate bonds. Another mechanism is when the economy has been subjected to low yields and low risk for a longer period, there may be a tendency for the actors to extrapolate and let the projections of the future become too influenced by the current state. This was something Janet Yellen, soon to be new FED chairman, also explained at an international conference 2011. Claussen et al. compile several international studies about this new channel and find convincing evidence of its existence. Most of the studies show that a low interest rate level tends to decrease the banks’ risks in the short-term, but increase in the long-term. This is due to lower interest rate levels decreases the banks risk in the short-term on its outstanding loans while they take on larger risks on the new loans they give out. There are however, no studies concerning the Swedish market so it would not be possible to say if this risk-taking channel exists here but it is plausible.

Regardless if this channel does exist in Sweden, there is one way that low rates may affect the financial stability through the banks’ balance sheets. Suppose that the banks strive to keep a predetermined relationship between the equity and its debt, a solvency ratio, which is not unusual. A lower interest rate increase the present value of future cash flows and thereby also increase the value of the assets of the banks from their previous wanted solvency ratio. This causes the banks to further increase its borrowing and lending so that they achieve their wanted solvency ratio again by expanding their balance sheet. If for some reason the assets of a bank suddenly decreases and creates an imbalance in the solvency ratio. The bank will have to adjust its balance sheet by reducing its assets. One way of doing this is by restricting new lending and by selling off some of its assets. These assets will most likely be bought and taken over by other financial institutions and the bank will restore its solvency ratio. If however, many banks are hit with the same macro shock and put in this situation where they have to decrease their balance sheets by selling off assets the situation is more severe. First of all, there will only be a restricted number of financial institutions that are able to purchase the assets they wish to sell. Second, even though they are able, they may not be willing due to the potential state of the assets. Thirdly,

when the banks stop lending out the economy will be hit with what is called as a “credit crunch”, and a massive decrease in credit. If they all decide to sell off their assets, also known as a “fire sale” there will be a massive drop in asset prices. This in turn will create further need for shrinking the balance sheets and sell off even more assets. An event like this is capable of creating a financial crisis, much like the financial crisis in 2008-2009. A common effect to an event like this is that households tend to favor amortization rather than consumption to ease their credit cost burden. This further deepens the situation that is called a balance sheet recession. The importance of this event is not that the banks take on risks that are higher due to the interest level even though it would make it easier. The increasing risk-taking by banks is easier to handle by using micro prudential instruments such as increased risk-weights on certain types of loans. But, the risks that build up on a macro level are much harder to detect, since the risks for each individual bank or financial institution is the same but, not for the financial system as a whole.

### **How is the repo rate affecting the banks’ lending rate?**

According to the transmission mechanism, a change in the repo rate will directly affect the banks’ lending rate. This holds true if the banks borrowing and lending rate, the Stibor, is directly correlated to the repo rate. The fact is, however, that most banks have to pay a premium to their lenders for taking on the risk of lending to them. The risk premium tends to be higher when times are rough and lower when the economy is good. This means that the banks’ lending rates to households for example are not solely determined by the repo rate. This is visible in the graph below where we see that even though the repo rate has been kept at the same level during 2013, there has been a decrease in the lending rate. Indicative that the economy is better and the risk premium is decreasing, indicating that the repo rate is not the only determinant.

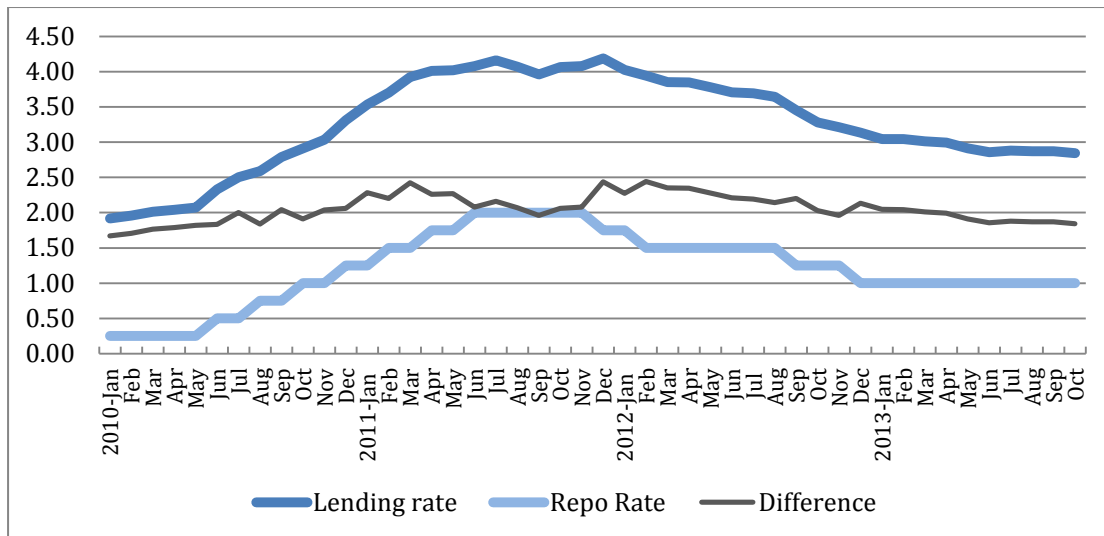


Figure 9 Relationship between repo rate and banks' lending rate (Statistics Sweden, 2013)

### Downward sloping Phillips curve?

Milton Friedman claimed in his work that in the short run, it is possible to affect the unemployment level by using expansionary or contractive monetary policy. But, it will not be possible in the long run. Due to adaptive expectations, the market learn what to expect when the government or central bank initiate a new monetary policy. For example, the first time a central bank initiates an expansionary monetary policy, inflation will increase and unemployment will fall. As inflation goes up the market and the actors in it will start demanding higher salaries to cope with the decrease in purchasing power. As salaries goes up it will be less attractive to hire new staff and unemployment will rise again. And we will get back to the same level of unemployment. However, as time goes by and the market will learn that when the inflation gets higher they will expect higher salaries as the purchasing power goes down, thus they adjust their behaviour accordingly to past experiences. The monetary policy will lose its power and not affect the unemployment level anymore. This is what Friedman's work concluded in, that it is possible to affect the unemployment level in the short run, but not in the long run. This is also known as a vertical Phillips curve in the long run.

Svensson argues that if the expectations and the actual inflation do not coincide, we will not have a vertical Phillips curve in the long run. Stating that monetary policy is able to affect the unemployment level of the economy, contrary to what Friedman



says. Since the Riksbank has not engaged in an expansionary monetary policy in order to increase inflation when the market expect it we get a mismatch. The market expect the inflation to increase and reach the target, but when this does not happen, we will not get the long run natural rate of unemployment that Friedman states. It seems as though we get an interchange where monetary policy does have an effect on the long run unemployment rate. According to Svensson will this mismatch cost the economy up to 0.8 per cent of the potential work force. This will costs both in terms of potential income and consumption, just to state the most obvious factors. Whether or not the interchange is large, the cost of a low level inflation is unnecessary. Keeping the inflation far from its target during a long period without changing the markets expectations or reducing the gap substantially is a very high cost for maintaining financial stability. Especially high and unnecessary is the cost when there are other tools that are better fit to address the problem that threatens the financial stability.

The reason for not changing the inflation target is because the target is not defined as to how easy the target is to fulfill. It is carefully decided with help of the Ramses model to be 2 per cent. A too high inflation is not good for the economy since it is usually very volatile when it is high. Neither is a too low inflation, since it will increase the risk of deflation. The only reason to change the target is long term structural changes in the economy. The Riksbank should not follow expectation, the virtue is to be able to govern expectations. The power to govern lies within the trust of the Riksbank.

### **Which tools should be used**

According to Jan Tinbergen's principle the number of tools is almost as important as which tools policy makers have. The Tinbergen principle states that in order to achieve a certain number of objectives, the policy makers must have control over the same number of instruments. He also states that the best a policy with too few instruments can achieve "is to keep the economy on the path that represents the optimal compromise between the objectives" (Friedman, 2008).

The simplified desired outcome is higher inflation, unemployment at a sustainable level, and a stable household indebtedness. We will here focus on the inflation. There are structural tools to dampen the household debt, while the Riksbank could be more focused on the inflation target. As mentioned before, the Riksbank has not the responsibility for financial stability. If the repo rate was lowered in order for the inflation to increase, the main risk inherent with household debt would somewhat increase. Here follows a couple of tools that we think would be effective.

The household debt has increased as a result of a few factors, and the desired achievement is not at first to lower the household debt but to reduce the trend of increasing indebtedness. An effective tool is **risk weight floor for mortgages**. If the Finansinspektion would decide to further increase the risk weight floor by 10 percentage points, up to 25 per cent, the Swedish banks would have significantly higher risk weights compared to the average for the European banks. At this level The Finansinspektion's intention is to keep the floors at this level for a long period of time (Finansinspektionen, 2013).

A similar tool, already implemented by the Finansinspektion, the **mortgage cap** is said to be retained, but not necessarily changed. It was first implemented in October 2010 and the year after a new trend could be seen where the debt ratio for new loan takers was significantly lower. (Finansinspektionen, 2013) Even though the new loan takers are just a fraction of the total it is still a changing trend. The backside of this might be increasing unsecured loans, where the bank can take out higher interest rates and the households will still have a high debt ratio. Another unwanted result is keeping the young people out of the market, since they haven't had time to save up for 15 per cent of the house value. Our overall opinion regarding the mortgage cap is that it is a good and effective tool to suppress the household debt. The overall optimism of increasing house value makes it more important to regulate the indebtedness. If a price decline would occur a households with a debt value of 100 per cent or even more would not be wanted.

The Swedish Bankers' Association have also given recommendations regarding **sound and sustainable amortization** (Swedish Bankers' Association, 2013). They proposed that the banks should urge loan takers to amortize down their loans, at least

down to 75 per cent of the total loan value. Svensson opposes this sort of forced saving in an asset that may not be optimal to invest in. He argues that as long as households save enough in other financial assets the level of household debt is not as relevant. That hold true if one could exclude the event of a price decline. Many households may think that they can get a higher return than the 4-6 per cent annual return a house offers by investing in the stock market for example. Not entirely unrealistic with an average return of the OMXS30 of about 10 per cent. However, if the market is struck by a crisis and we see a drop in asset prices where both stocks and real assets are affected, we get the effect where the value of the assets decline while the loan remains the same. Under such circumstances it may be wise to have amortized down the loan to a level where such a shock can be handled. The length of the amortization may vary. Some suggest 25-30 years so by the time a person retires they would have paid off the loan. This however would force the Swedish household to save in real estate instead of other more liquid savings. Norman wants to see a change where the banks will cooperate and help the households to a sound and sustainable amortization rather than expensive saving product offered by the banks. He also says that amortization is a good alternative to saving. (Finansdepartementet, 2013) How much households should amortize is individual and depends somewhat on preferences. One cannot simply put out one rule regarding amortization to apply on all individuals. This is one reason to why the responsibility is given to the banks. They know their customers the best and they should operate together towards sustainable amortization.

One could be confused as to why implementing new regulations that would reduce the incentives for household mortgages, when there is a mortgages interest **tax deduction**. It should be reconsidered to lower the tax deduction for mortgages, since this would lower the demand of the mortgages and affect the amortization on households with high loan proportion. The households could be compensated by a lower income tax. This decline in tax deduction is something the government has to adopt, but this is not favored by the voters. Since it is less than a year until election it will probably not be adopted by the government. The only way that this would be possible is if the parties collectively decide to make the change, or make the change after the election.

The debated question of the responsibility of financial stability is central since the tools described are associated with different institutions. The macroprudential policy council is needed in order to elucidate which tools that are needed and how to implement them. The different elements associated with the council are acquiring expertise on systemic risks, developing new tools to counteract these risks, monitoring financial stability and identifying systemic risks on an ongoing basis, and acting when necessary using the tools developed and available for this purpose (Sweden's Ministry of Finance, Financial Crisis Committee, 2013).

Once this structure is in place, the Riksbank will better manage the risks associated with the high level of household debt. Important to note however, is that the current situation is very costly and not sustainable. The Riksbank wants to use a single instrument that is too blunt to decrease a very specific part of the economy. But at the same time, they have the mandate to keep inflation at their target of 2 per cent and support the economy. According to the Tinbergen principle, this is at least two instruments short of the optimal number of instruments. Svensson simply argues that there is a distinction between monetary policy and financial stability, and that the Riksbank should focus more on its inflation target rather than the financial stability. This on the other hand may be too trivial as many propose that financial stability is much more important than the monetary policy, at least in dire times.

The tools mentioned would somewhat address the problem and abate the increasing household debt. But we cannot neglect where this problem is coming from. We have so far mainly been focusing on the demand side of the housing-market, but the housing-supply is of course central when discussing this topic. Why is the Swedish market so short on supply? Is it due to high costs for construction, demanding regulations and regulated rent? This is a subject out of our report, but it at the same time needed to be mentioned in order to understand why we stand here today.

### **Monetary policy tools if the repo rate is close to zero**

Another argument of not lowering the repo rate further is that it is not possible to expand the economy by using the repo rate if it is zero. If the repo rate is already at its lower bound there are other tools at hand. As discussed before targeted easing, quantitative easing, forward guidance, and loan support are a few examples of

expansionary tools that can be used in the event of a zero rate. Even though these tools are not well tested it is important to remember that they still can be used. What this means is that when approaching the liquidity trap, policy makers do not have to worry that they will run out of tools as they were before the recent inventions. And as it seems for today, it is not realistic to expect that the repo rate necessarily would be lowered to zero, nor that the economic situation would become so critical that it would be demanding a large decrease.

## **Conclusion**

The conclusion reached, when evaluating the efficiency of the Swedish Riksbank's monetary policy, is that the repo rate should not be affected by the household debt. It is not economically tenable to dampen businesses and other markets because of increasing household debt, since the repo rate is affecting the economy far more than just the households

The repo rate should especially not be used since there is an interchange in the long run Phillips curve, making the unemployment rate higher than necessary. Resulting in large costs for the society as a consequence.

The repo rate is considered a very blunt instrument, as we have previously seen, the repo rate is not affecting the banks' lending rate in the same extent as the Riksbank seem to conclude. The illustration in figure 9 shows that the banks' lending rate has continued to decrease, even though the repo rate has been unchanged. A problem for the Riksbank is that too few tools, in comparison to the number of objectives, is used. If the Riksbank were to include new instruments, affecting particularly the household debt, they could better manage their two goals of price stability and financial stability. Examples of such tools are risk weight floor for mortgages, mortgage cap, sound and sustainable amortization, and tax deduction are several tools that can control the high level of household debt. Hence, the repo rate can be lowered in order for the inflation to increase and other tools can aim for the household debt

If the economy is getting close to the liquidity trap, and additional expansion of the economy is needed monetary policy can still be used. Where we have seen new tools, like QE, which are very effective, although their total effect is still to be seen.

It is of great importance to maintain financial stability, note however that the repo rate is still not the right tool. The macroprudential policy council, with high expertise is central and would act, when necessary, by using the tools developed and available for this purpose.

However, it seems like the Riksbank is responding to all the criticism lately. This cannot only be confirmed from the last repo rate decision but also from the Riksbank Governor Stefan Ingves, who says that political changes are needed, in order to affect the constructing sector, among other things, to solve the problem of household debt.

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