Macro Research

Macro Comment

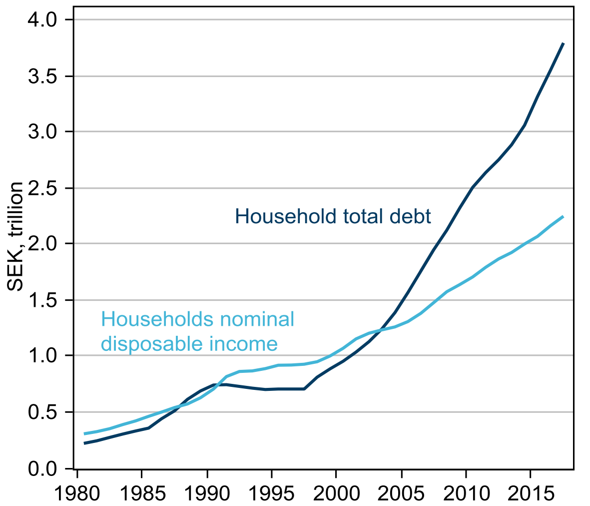
How will households react when interest rates are raised?

Today, Sweden's household debt ratio is at an all-time high, while interest rates are at an all-time low. The obvious questions arise: What will happen when interest rates are raised? How will households cope? Household margins seem to be satisfactory in terms of an ability to cope with higher interest rate costs. The main worry is over changes in household consumption and the effects on the economy that would follow. It is reassuring that household savings rates are at an all-time high; however, a risk remains of significant effects on consumption by the heavily indebted.

Rapid increase in household debt

It is not only house prices which have risen over the last decade, so has household debt. Today, households' total debt amounts to just over 180 percent of households' disposable income.

Household debt and disposable income



Sources: Statistics Sweden, Macrobond

Still, households' interest rate costs are at a historically low level and, on average, amount to a mere 2.5 percent of disposable income, adjusted for interest rate deductions. The low interest rates of today follow the weak inflationary pressure in the economy in the aftermath of the financial crisis. They are also a consequence of more longstanding structural factors, such as increased global savings and productivity trending lower. This interest rate trend looks likely to soon to be reversed, gradually, mainly because inflation expectations are expected to rise, due to the robust economic conditions. We believe other trends are also shifting and contributing to the rise in interest rates. The question arises: how will households be affected by this?

Good margins even with higher interest rates

In mortgage application calculations, the assumed interest rate is high, in order to make sure households can cope with higher interest rate costs. The banks also have the option of taking more customer-specific considerations into account, such as other savings. When the Swedish Financial Supervisory Authority (FSA) makes similar calculations, but for all mortgage holders, they find the margins to be satisfactory. Some households (about 1 percent) are even with today's low interest rate costs calculated to have expenditure which exceeds income. This is especially so for those over 65 years old, but the calculations are made with assumed expenses and without regard to other savings. However, debt-to-income and loan-to-value ratios are generally lower for the elderly than for younger members of the population. With an assumed interest rate increase of 5 percentage points, the proportion of households with higher expenses than income increases to 6 percent. However, if they are allowed to put amortisations on hold, the share decreases to just over 3 percent.

Nevertheless, even if households are able to pay their loans, that does not necessarily indicate that effects on the economy would be small. The homeownership ratio is somewhat below 70 percent, and these households are directly affected by higher interest rates. In addition, the share of mortgage holders with adjustable mortgage rates is close to 70 percent, and even higher for new mortgage holders. This implies a relatively rapid impact on households' disposable income.[1] Hence, the next question

[1] Interest rate costs are included as a negative in the definition of households' disposable income.

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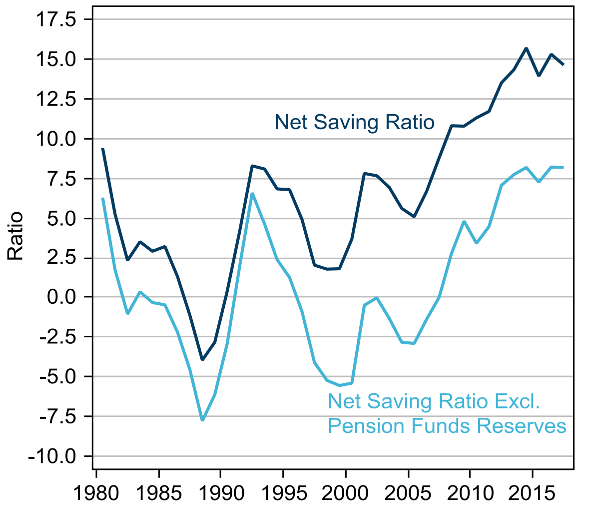
arises: what effect should we expect from higher interest rates on household consumption, and thus on the economy as a whole?

A glance in the rear view mirror

Changes in interest rates affect the consumer's choice between consumption today or in the future. A lower interest rate makes it relatively less favourable to save today; however, today's household savings ratio is at a record high. This is consistent with basic consumption theory if households believe that low interest rates are temporary. In that case, households may have maintained their consumption level and used the increased margins caused by lower interest expenses to increase their savings only.

Household savings ratio



Note. Household savings ratio is defined as (disposable income-consumption)/disposable income.

However, there are other factors affecting households' aggregated savings. The usual suspects are changes in the age composition of the population, changes in the value of household assets and a change in the risk of unemployment. In the late 1980s, households' savings rates were negative and increased during the 1990s crisis, when a tax reform and higher interest rates made financial saving more favourable and when decreased asset values and uncertainty about the future made households more eager to save.

Today, the savings ratio is high, despite the strong economy. The latter indicates that the risk of unemployment is not particularly high at the moment, and higher asset values are usually thought of as having a dampening effect on savings. However, a plausible contributing factor to the gradually higher savings ratio of the past decade is the increasing proportion of the population which is of working age. This trend, however, is about to reverse.

Some households are more income sensitive than others

So, what should we believe about the effect of interest rate changes on household consumption? First of all, it appears unlikely that all households have judged the low interest rate environment to be temporary. Even analysts find it difficult to determine which interest rate level we will return to. Still, we are partly reassured by the fact that households (on average) seem to expect rising interest rates over the next few years. Their interest rate expectations, according to the NIER's household survey, do not differ significantly from our forecast of interest rate increases.

Secondly, there are other factors that could make household consumption sensitive to interest rate changes. One is credit rationing. House purchases are often made early in life and a mortgage loan is usually taken with expected future income and interest rates taken into consideration. If access to credit is more closely determined on the basis of current income or wealth, households' ability to spread out their consumption over time is hampered. This could be the case today with the implementation of mortgage caps, debt-to-income ceilings and amortisation requirements. Households facing credit constraints may be expected to spend a larger proportion of their extra earned income on consumption, and to decrease consumption to a greater extent when incomes decrease. Hence, their consumption is more income-sensitive than others.

Higher interest rates also affect consumption through housing prices

Other channels link interest rates to household consumption beyond the direct effect of having less money in your wallet. Consumption is also affected by changes in house prices. Higher house prices make households feel more wealthy and consume more, while lower house prices do the opposite. When the value of houses drops, it could be the case that some households choose to amortise more to reduce their new higher debt ratio and to facilitate future credit access, which would further dampen consumption.

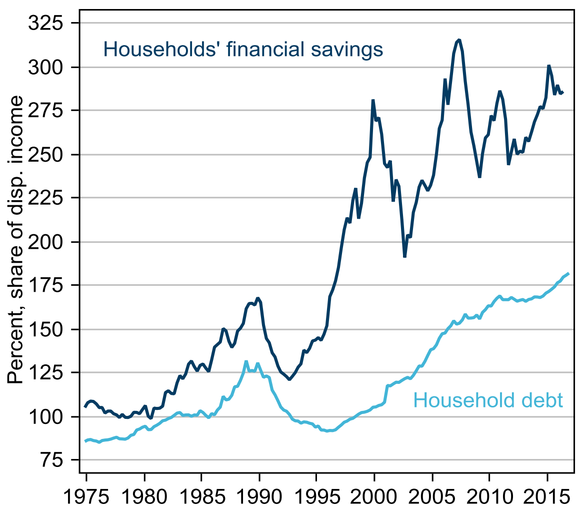
Highly indebted might not have the highest savings

Since wealth statistics were abolished, we know little about how savings are distributed between households. Do households with the highest debt ratios also save the most? Riksbank Working Paper 342 indicates that this might not be the case. It finds that households with the highest debt ratios and with adjustable mortgage rates reduce their consumption the most in the event of an interest rate change. More specifically, their consumption decreases by about half the change in income. This might indicate that these households have few liquid assets and are credit-rationed. Several other studies point to the fact that highly indebted households reduce their consumption considerably when house prices fall and the higher the debt burden in a country, the more consumption decreases - and unemployment increases - after a crisis.

Calculated cash-flow effect on household consumption

In Sweden as a whole, household debt amounts to approximately 4000 billion Swedish kronor, and while households overall have a significant net worth, higher interest rates have, in general, a negative impact on household wealth. This is because a large share of their financial assets is invested in equities and non-interest-bearing assets, or in tenant-owned apartments (which are included in the definition of financial savings).

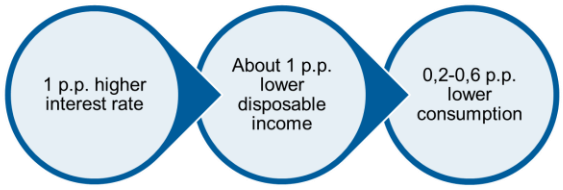
Financial savings and household debt



Sources: Central Bank of Sweden, Macrobond

An increase in interest rates of 1 percentage point leads to a direct negative effect on households' disposable income of just over 1 percentage point (see e.g. Riksbank's Staff Memo 20171220). Studies indicate that households reduce their consumption by 0.2-0.6 p.p., due to such a change (see e.g. Carroll et al. 2017). On top of this, there are effects from, for example, changes in unemployment levels. For mortgage holders, the effect on incomes is about 2 p.p. greater, and for highly indebted households (DTI over 600) even more so, about 6 p.p. Considering that highly indebted households' consumption seems to be more affected by a change in income, this suggests a significant degree of heterogeneity in terms of the effect on household consumption.

Cash-flow effect on consumption



Sources: Handelsbanken, Riksbank and Carrol et al

Interest rate effect on house prices

Many studies also examine the correlation between interest rates and house prices, e.g. IMF country report 15/330, which suggests that a 1 p.p. (permanently) higher interest rate would lead to about 1.5 p.p. lower house prices in an average Swedish city, but about 4 p.p. lower in Stockholm, where supply constraints are greater. A cross-country study from the IMF (IMF WP/08/247) suggests that house prices would decrease by 3.6 p.p. with an interest rate increase of 1 percentage point. According to a standard elasticity between housing prices and household consumption (of 0.1), 4 p.p. lower house prices is consistent with about 0.4 p.p. lower consumption.

House price effect on consumption

Sources: Handelsbanken and IMF

Estimates of the total effect of a 1 percentage point increase in interest rates on household consumption usually amount to approximately 0.5 p.p., one year ahead.

Uncertainty is a reason for vigilance

So what changes to consumption should we expect with higher interest rates? Basic consumption theory suggests they would not be very large, but not insignificant either, looking at households' previous behaviour; due to the higher indebtedness, the effects will also probably be bigger than in the past.

Overall, it should be noted that the uncertainty associated with the effects on household consumption (and the economy as a whole) of high indebtedness and the normalisation of monetary policy, which has only just begun, is high. We can study the behaviour of the past, but at the same time we know that we are in a new position, with higher indebtedness and exceptionally low interest rates, despite the current strong economic conditions. What happens if interest rates rise while economic activity is slowing? What if local municipalities have to raise taxes to manage both higher debt servicing costs and the future demographic challenge? And how do changes to credit conditions over time affect the calculated effects?

Finally, even if we emphasise the role of the Riksbank and believe that it may have to move slowly with interest rate hikes, we should not underestimate the role of politicians. For the mortgage holder, it is the combined effect of interest rates and credit conditions, such as amortisation requirements and interest rate deductions, that is decisive. According to our current forecast, the repo rate will reach only 0.25 percent by the end of 2019, which implies that interest rates should not significantly affect the consumption path over the coming two years. Still, if inflation accelerates faster than expected, the Riksbank could, of course, be forced to act more vigorously.

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