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Floating-rate debt is great when interest rates go down

Matthew C Klein Oct 20 17:30 1 comment

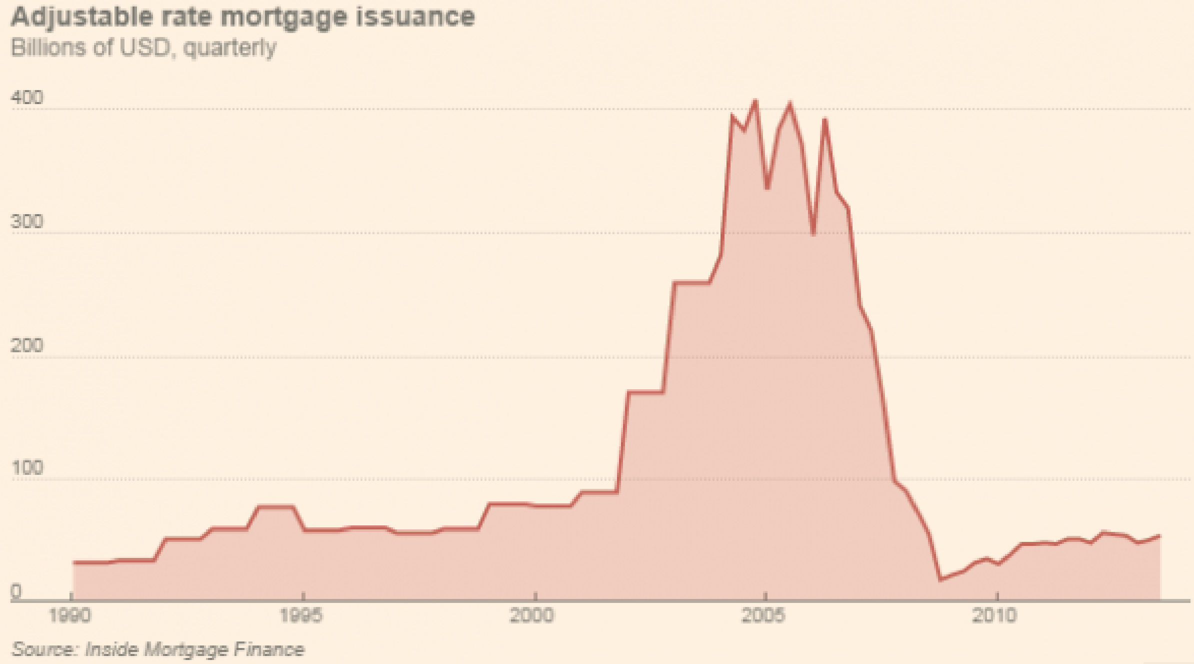
> Many homeowners might have saved tens of thousands of dollars had they held adjustable-rate mortgages rather than fixed-rate mortgages during the past decade, though this would not have been the case, of course, had interest rates trended sharply upward…American consumers might benefit if lenders provided greater mortgage product alternatives to the traditional fixed-rate mortgage. To the degree that households are driven by fears of payment shocks but are willing to manage their own interest rate risks, the traditional fixed-rate mortgage may be an expensive method of financing a home.

– Alan Greenspan, February 23, 2004

The former Fed chairman has been criticised by an extraordinarily broad swathe of the economics and finance commentariat for this passage, including but not limited to Jim Cramer, Daniel Gross, Dean Baker, Suze Orman, and Jeff Madrick.

After all, Greenspan was effectively encouraging lenders to offer floating-rate debt, while telling prospective borrowers that adjustable-rate mortgages could save them money — *right before the Fed was about to start raising short-term interest rates by more than 4 percentage points*.

As it happens, the volume of adjustable-rate mortgage originations doubled between 2001 and 2002 and more than doubled again between 2002 and 2004:



Even more striking is the growth in the *share* of new mortgages that were ARMs. From 1990 through 2003, ARMs constituted about a quarter of all mortgage originations. In 2003, 26 per cent of new mortgages were ARMs — almost bang-on the pre-bubble average. In 2004, however, ARMs accounted for *half* of all mortgages originated by value. The share declined slightly to 48 per cent in 2005 and 45 per cent in 2006, before crashing into the single digits by 2009.

What happened to these people?

According to data from Freddie Mac, a borrower who took out a conforming adjustable-rate mortgage indexed to the yield on 1-year Treasury notes (plus a spread) shortly after Greenspan's speech would have initially paid an interest rate of about 3.5 per cent. This steadily increased to about 5.8 per cent by July, 2006 and then stayed there until the recession began at the end of 2007. The rate eventually returned to 3.5 per cent by September, 2010 and seems to have hit bottom around 2.5 per cent by the end of 2012. Still, we wonder how many of the people whose mortgages started in the spring of 2004 managed to last long enough to enjoy today's lower rates.

Of course, most of the people who took out adjustable-rate mortgages during the bubbly years didn't get the kind where rates regularly rise and fall with short-term Treasury yields from the start. Instead, they locked in a rate for a few years and then switched to a floating regime. Oftentimes borrowers would pay a relatively low "teaser" rate for the first two or three years, during which time their principal balance would rapidly grow, only to face a massive increase in their monthly payments once the mortgage reset. For example, a typical subprime ARM originated in the beginning of 2005 had a teaser rate for the first two years of around 7.5 per cent that reset to around 11.4 per cent in the beginning of 2007, increasing monthly payments by more than half.

The originators of these toxic products designed them so that borrowers would constantly refinance their resetting ARMs into new ones. This churn was supposed to generate fees at the expense of borrowers who lacked sufficient creditworthiness to qualify for more conventional loan terms.

Falling house prices got in the way however, since borrowers with negative equity in their homes could not refinance.

Other kinds of ARMs were less toxic, although they were generally only available to people with better credit. A 5/1 mortgage, for example, means that you pay a fixed interest rate for the first five years and then have your rate adjust each year for the next 25 years, unless you sell or refinance. A 7/1 ARM is exactly the same except that the initial rate lasts for 7 years and the floating period for 23 years.

We are reminded of all this because new research from Benjamin Keys, Tomasz Piskorski, Amit Seru, and Vincent Yao shows that borrowers who were lucky enough to take out these types of debts in the mid-2000s ended up benefiting from the fact that short-term interest rates since the crisis have been so low.

Rather than reset into higher rates, borrowers who managed to avoid default got a windfall once their mortgages converted into floating obligations. That was particularly helpful since many of those borrowers would not have been able to refinance a fixed-rate mortgage into one with a lower rate because they owed more than their house was worth.

The economists demonstrated this in two ways.

First, they looked at hundreds of thousands of borrowers with 5/1 and 7/1 mortgages originated between January 2003 and July 2007 that were guaranteed by Fannie Mae.

The borrowers were sorted to be as similar as possible in every way — income, credit score, combined loan-to-value ratio, local house price movements, the date they originated their mortgage, etc — except for the length of time before their mortgages converted from fixed to floating. This sorting means that the impact of interest rate reductions can be isolated by looking at the differences between otherwise identical groups of people with 5/1 mortgages and 7/1 mortgages in years 6 and 7.

Unsurprisingly, cutting mortgage payments by lowering interest rates led to less credit card debt, reduced likelihood of mortgage default, and more borrowing to buy cars. (Other researchers had already found that a sufficiently large decline in monthly payments due to interest-rate resets lowered default risk.) Those borrowers who had lower credit scores to start with were more likely to use their windfalls to repay their credit card balances, while those who had decent credit but very high loan-to-value ratios were the most likely to increase their spending on cars or light trucks.

The researchers also conducted zip code-level comparisons using a dataset containing millions of mortgages across the entire US. The idea was to match zip codes according to average FICO score, mortgage interest rate, delinquency rate, indebtedness, household structure, education levels, and unemployment in 2006 and then compare the economic performance of those zip codes according to the proportion of total mortgages that had adjustable rates.

In the average "low-exposure" zip code, 17.3 per cent of all mortgages are ARMs, while 35.2 per cent of mortgages have floating rates in the average "high-exposure" zip code. Unsurprisingly, average mortgage interest rates in zip codes with a higher share of ARMs ended up being significantly lower than in places that had a higher share of fixed-rate obligations.

Regions of the US that had a larger share of adjustable-rate mortgages that reset into lower rates had faster economic recoveries than parts of the country that were otherwise similar but were less exposed to the decline in interest rates. For example, "zip codes with significant exposure to the decline in interest rate indices saw a meaningful relative increase in house price growth," probably due to the lower rate of mortgage delinquency and foreclosure.

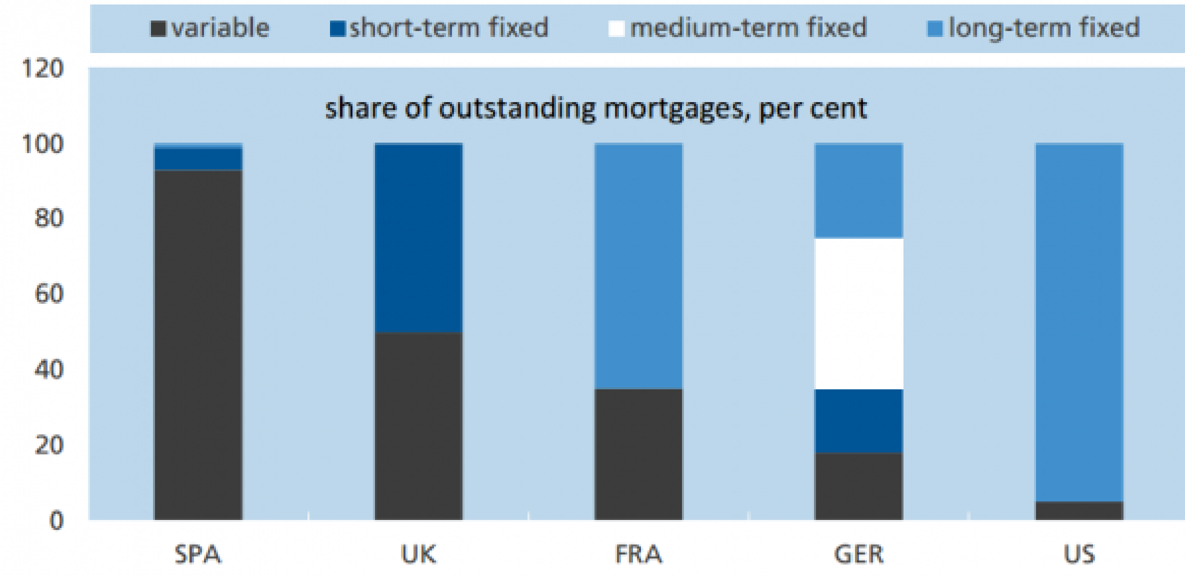
The sensitivity to rate declines also affected spending. Zip codes with a higher share of ARMs saw faster growth in auto sales once short-term interest rates started falling, while a "significant relative increase in employment growth in the non-tradable sector [restaurant and grocery stores] during the period of rate declines" was evident in those places with a larger proportion of floating obligations.

This research is particularly interesting because it illustrates how the impact of monetary policy can be affected by the types of financial contracts prevalent in our society. Aside from the mid-2000s, American borrowers have overwhelmingly preferred 30-year fixed-rate mortgages to floating-rate debts because they lock in the monthly payments for decades, while leaving open the option of refinancing into a cheaper mortgage if long-term rates fall.

These generous terms are uncommon outside the US because those countries do not have quasi-government agencies providing mortgage insurance and a common securitisation platform for a large proportion of new debts.

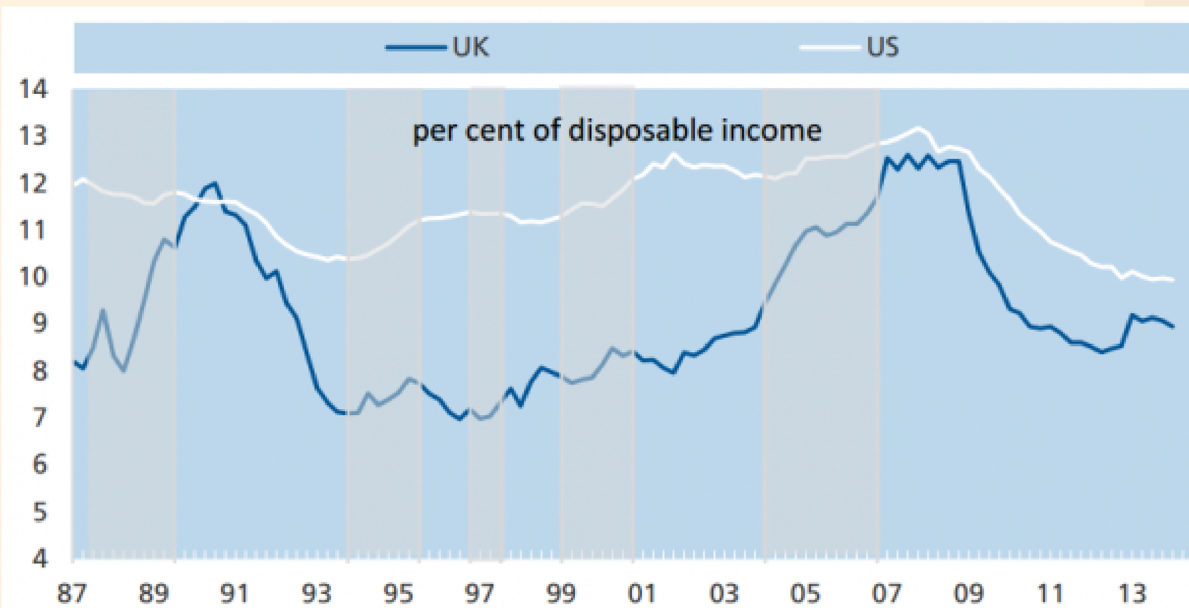
Lenders would surely continue offering 30-year fixed rate mortgages with options to refinance but they would have to charge significantly higher spreads to compensate for duration and prepayment risk. That would probably lower the attractiveness of these debts compared to ARMs for many borrowers. People in the UK and Spain, for example, either take out ARMs or short-term fixed-rate mortgages that have to be regularly refinanced — just like Americans did before the housing policy changes of the 1930s. (Germany and France are somewhere in the middle.)

From Lombard Street Research:



Source: LSR estimates

These differences in debt maturity mean that the share of disposable income in the UK that goes towards debt service is almost always lower than in the US (in part because short-term interest rates tend to be lower than long-term rates). But the UK debt service ratio is much more volatile. Again from Lombard Street Research:



Source: Fed, BoE, LSR estimates, shaded areas mark policy tightening

This also explains why the Bank of England has not needed to move interest rates up and down as much as the Fed to generate an equivalent economic impact, especially within the past two decades.

We just hope that prospective mortgage borrowers consider not only the helpful features of ARMs when rates are falling but also the fact that these beneficial tendencies will run in reverse when rates rise. That process will probably begin sometime next year, according to both Fed forecasts and market-based estimates.

Related reading:

What Calls to ARMs? — Badarinza, Campbell, and Ramdorai
Why Did So Many People Make So Many Ex Post Bad Decisions? — Foote, Gerardi, and Willen
How to avoid another housing crisis (maybe) — FT Alphaville

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