

Mortgage Contract Design Conference: Borrower Perspective FRBNY, May 21 2015

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General remarks:

- Mortgage contracts are often complex and differ along many dimensions.
- The form of the mortgage contract can have large effects on the risks face by homeowners.
- Most households rely on future labor income to meet mortgage payments: need to think about the level of and risk in future labor income.

Choice between a FRM and an ARM:

- Long-term nominal FRM with a prepayment option (United States):
 - Extremely risky since the real capital value its highly sensitive to inflation
 - Prepayment option protects the homeowner against one side of this risk: call the mortgage at face if interest rates fall.
 - Homeowners need to pay for the option up-front: contract that is expensive when inflation is stable, but extremely cheap when inflation increase significantly (wealth risk).
- ARM: income risk arising from short-term variability in required real mortgage payments (matters because of borrowing constraints).

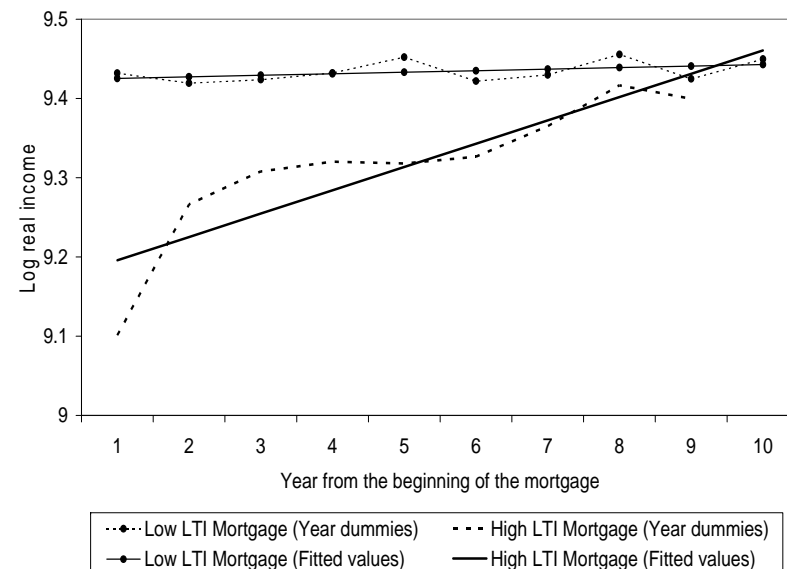
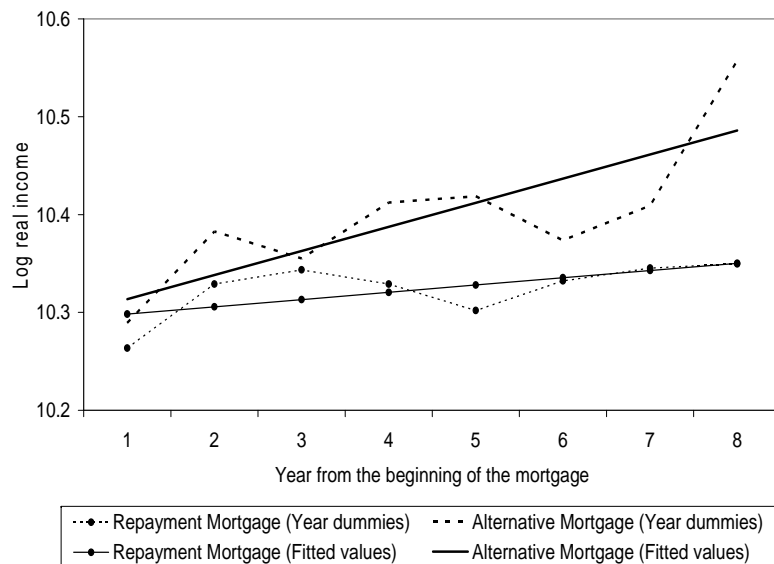
“Household Risk Management and Optimal Mortgage Choice,” John Y. Campbell and Joao F. Cocco, Quarterly Journal of Economics, 2003

How expensive is the FRM prepayment option?

- Data on U.S. FRM premia combined with model of optimal household refinancing:
 - Prepayment option is “cheap” for households who refinance optimally. But lenders loose out. Why aren’t FRM premia higher?
 - Explain the data better is there is some degree of inertia in mortgage refinancing.
“A Model of Mortgage Default,” John Y. Campbell and Joao F. Cocco, Journal of Finance, 2015
“Inattention and Inertia in Household Finance: Evidence from the Danish Mortgage Market,” Steffen Andersen, John Campbell, Kasper Meisner-Nielsen, Tarun Ramadorai, Working Paper, 2015.
- A large increase in inflation volatility may make FRMs unaffordable
 - Around the world, a history of high inflation volatility is associated with the use of ARMs.
 - Volatile inflation makes nominal FRMs with prepayment options excessively risk for lenders and therefore too expensive for borrowers.
“Mortgage Market Design,” John Y. Campbell, Review of Finance, 2012
 - Lenders difficulty in securitizing the mortgages may increase the cost of FRMs for borrowers.
“Securitization and the Fixed Rate Mortgage,” Andreas Fuster and James Vickery, Review of Financial Studies, 2015

ARM with a teaser rate (or initial interest-only period):

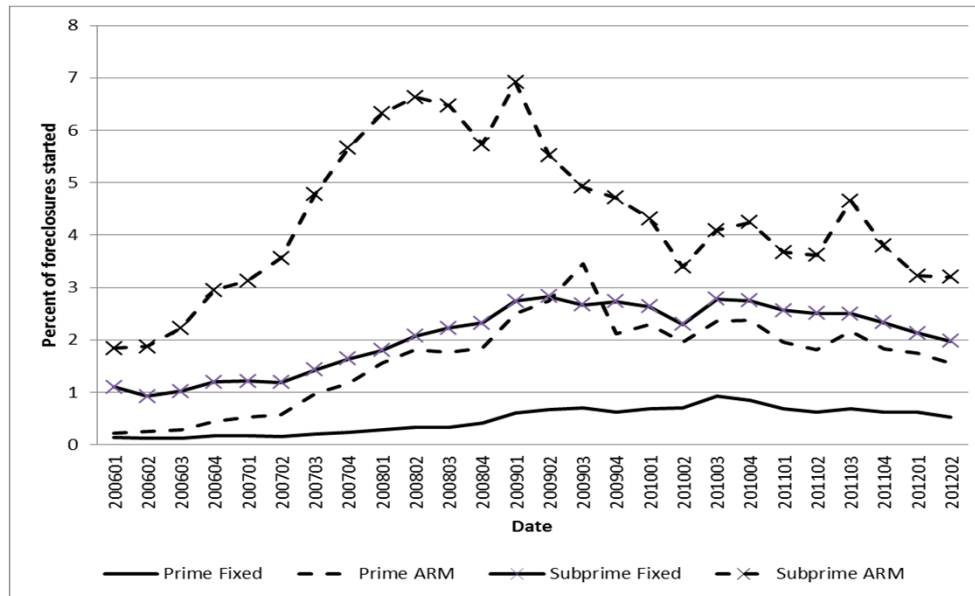
- Lower initial mortgage payments: may be optimal for households who expect higher future labor income. Data from the United Kingdom:



“Evidence on the Benefits of Alternative Mortgage Products,” Joao F. Cocco, Journal of Finance, 2013

- The rate at which households wish to repay the loan also depends on tax incentives:
 - Mortgage interest tax relief was progressively reduced in the U.K. in the 1990s.
 - Borrowers were more likely to choose an alternative mortgage (lower rate of principal amortization) when tax benefits were larger.

- Is the mortgage contract chosen suitable for the borrower characteristics from an ex-ante point of view?



Foreclosures started by loan type (percent). The data are from the *National Delinquency Survey* of the Mortgage Bankers Association.

- Higher ex-post mortgage default rates does not mean that the contract was not optimal ex-ante:
 - In the recent U.S. housing downturn there were higher default rates on adjustable rate mortgages in spite of the low interest rate environment.
 - Households whose labour income shocks are positively correlated with interest rates (and the economic cycle) benefit more from ARMs ex-ante, may be more likely to default ex-post. “A Model of Mortgage Default,” John Y. Campbell and Joao F. Cocco, *Journal of Finance*, 2015

- How do other mortgage contract features affect borrower behaviour?
 - Swedish mortgage contracts do not require full amortization but there is recourse.
 - In other countries, defaulting on the mortgage is a criminal offense. (Talking about borrower risks!)
 - Incentives/moral hazard.
- How do other institutional features affect the optimality of mortgage contracts?
 - If most households sell their house at retirement, should mortgage contracts require full amortization by retirement age?
- Borrower specific risks versus aggregate/systemic risks
 - How does the contract deal with these different types of risks?
 - Synchronization of borrower behaviour. Why does it arise? Does it reduce the risks for borrowers or does it increase them?
- Externalities that may require regulation and intervention
 - Pecuniary externalities.
 - Foreclosure externalities

THANK YOU