The Mortgage Piggybank: Building Wealth through Amortization

Bernstein & Koudijs

Background

- Household deleveraging is proven to be detrimental to the economy.
  $\rightarrow$ Why? Deleveraging amplifies the negative shock. HHs cut their consumption and sell their assets (mostly real estate), which creates a negative feedback loop.
- How can we prevent deleveraging? By limiting HH leverage!
  $\rightarrow$ If HHs start with low leverage, deleveraging wouldn't hurt as much
- As justification for borrowing limits relies on a systemic risk argument, these policies are called macroprudential policies. They are widely used.
  $\rightarrow$ IMF releases iMaPP: monthly macropru data that covers 134 countries from January 1990 to December 2024
  $\rightarrow$ Around 110 countries have borrowing limits on HHs. Others typically have guidelines.
- Policymakers like these policies, but politicians don't

What has been done so far

- Do these policies work as expected?
  $\rightarrow$ Lower leverage (ie lower debt payments) can be of help in a bad state
  $\rightarrow$ To afford the down payment, HHs use their savings and be caught by the negative shock without buffers
  $\rightarrow$ Note that the main motivation is about systemic risk, which is not empirically identifiable
- Monetary policy and macropru: Complements or substitutes?
- Unintended effects: Housing choices (ownership, location), labor markets, consumption, portfolio holdings, firms (?)

This paper

- This paper investigates the effect of a change in mortgage regulation on wealth accumulation in the Netherlands
- Before 2013, mortgages can have a 50% interest-only component. In April 2012, making all mortgages have full amortization was proposed. In January 2013, the proposal was implemented.
  $\rightarrow$ Without the interest-only component, homebuyers have larger monthly payments.
  $\rightarrow$ In 2015, affected homebuyers pay additional 1.5% of their total mortgage amount (around 3k higher annual payments, but the paper says it's 2k).
- How do homebuyers come up with an additional 2k (savings, consumption, etc.)?
  $\rightarrow$ Do HHs see home equity as savings?

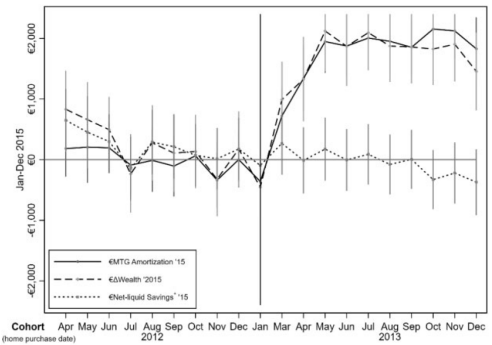
Data

All data sets are from CBS

1. Existing purchase dwellings registry (BKW: Transactiebestand Bestaande Koopwoningen)
   → No person ID (?), object ID, date, amount, address, type
2. Family structure (Huishoudensbus)
   → Person ID, HH ID, dates, HH type, size, children
3. Labor markets (SPOLIS)
   → Person ID, firm ID, wages, hours, bonuses, etc
4. Household balance sheets (Integraal Vermogen)
   → Person ID, assets (financial, bonds, shares, real estate, business), debt (mortgage, other debt)
5. Household income statements (Inpatab)
   → Person ID, gross income, primary income, government payments, business income
6. Socio-demographic characteristics (Persoontab) (Adresbus)
   → Person ID, country, age, sex, parents, parents' birthdays, object ID
7. Car registrations (Rdwnpacttab) → Person ID, engine type, no car value

Findings

Estimate $\Delta Y_{Jan-Dec'15} = \sum \beta \times I_c + \epsilon_i$, where $\Delta Y_{Jan-Dec'15}$ is mortgage, wealth, liquid savings



Amortization increases by 2k. No decline in other savings. Hence, wealth increases by 2k

$\rightarrow$ Mortgage amortization increases wealth by almost one-to-one

Motivation

- The setting is interesting, but not that general
  → Remember that the discussions for macrupru is about financial stability, not about wealth. There is existing work that looks at housing choices and wealth accumulation
  → Amortization rules are not employed frequently
  → Then, why QJE?:)
- Motivation is different. This paper is not about macrupru, but about MPCs, etc.
  → Compare mortgage amortization to pension contributions in the first paragraph
  → Apply the estimates to the US and say that without amortization, the US homeowners would save $1.5 trillion less
  → Claim that freezing amortization in the US for two years is equivalent to all TARP payments after the Great Recession

How to interpret these findings

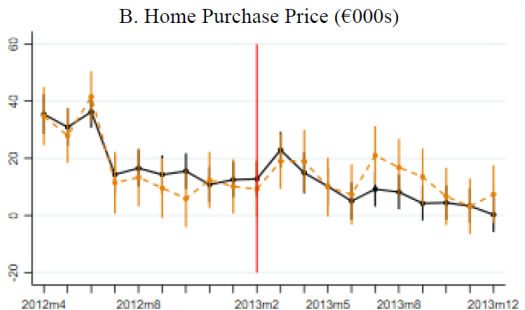
- Before this rule change, HHs don't amortize 50 percent of their mortgages.
- Then, the question is how can they pay the unamortized part later?
  $\rightarrow$ Do they have to pay this part of the mortgage?
  $\rightarrow$ If yes, they need to make savings somewhere, simply because the additional payment amount is not nothing (50% of the mortgage).
- Here is the problem: Mortgage amortization payments (especially before the change) are made via linked savings accounts that the authors cannot observe
  $\rightarrow$ They say that they have to impute amortization for homebuyers who use such savings accounts in the draft
- Then, maybe, homebuyers before the shock were making additional savings via a separate account that authors cannot observe, meaning that their estimates are hard to interpret.
- I couldn't come up with a reason that would generate the gradual effect we see.

How to interpret these findings

Larger amortization increases the wealth fully only if HHs don't buy cheaper homes.

→ The graph below suggests that HHs don't buy cheaper homes

→ Note the dates...



How to interpret these findings

- Households who are not constrained also have one-to-one increase in their wealth (proxied by savings or LTV ratios)
  $\rightarrow$ More than half of the homebuyers have at least 10k as liquid savings or accumulate 3k per year.
  $\rightarrow$ Their mean savings is 32k and median is 21k. Their change in savings is more than 2k.
- But this finding is confusing because these households have the option to use full amortization before the policy. This heterogeneity suggests that behavioral biases must be very strong (or there is a measurement issue)

Empirical challenges

- Households have many ways to react to these types of policies
  $\rightarrow$ Housing choices, labor supply, consumption, savings, portfolio
  $\rightarrow$ A grumpy reader can always find a way to complain
- These policies are introduced when the macroeconomic conditions are different
  $\rightarrow$ External validity
- Selection!
  $\rightarrow$ Some of the households who could purchase a home before the policy change may not be able to do so afterward
  $\rightarrow$ Homebuyers before and after the change have different characteristics, creating a bias

Selection

How does this paper handle the selection issue?

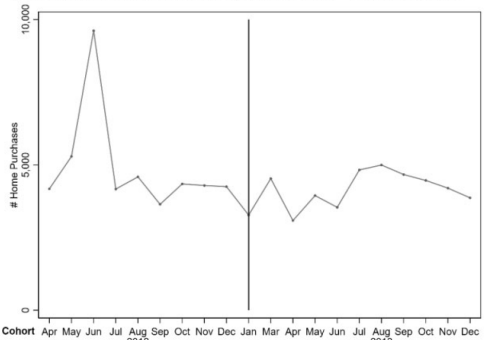
1. Check observable characteristics
2. Instrument the home purchase with life events, proxied by changes in the number of people in the household
   → This IV is reasonable only if the life events are unexpected. The pre-treatment period is 9 months.
   → Consider births: Couples may be planning for a baby. Even if it is unexpected, pregnancy takes 9 months. Thus, couples can still manipulate the purchase time. Also, the couples can still wait until they have enough savings.
   → Consider deaths: Do HHs look for a new home after a death? The household may be OK with a larger home in this case, meaning the home purchase is not urgent.

Selection

How does this paper handle the selection issue?

3. Selection implies more housing transactions before the policy
   → The announcement is made in April. The paper says that it takes two months to close the deal. Then, is there a bunching in June?
   → The paper says that there was a discussion for an increase in transaction tax in that month. Who knows?

Panel B: Timing of home closings, April 2012 – December 2013



Channels

To afford additional amortization, households should (1) earn more, (2) consume less, or (3) earn more on their savings

- Yield on savings is not important (only 8%, as expected)
- Labor supply seems to be important. The paper says 38% of the additional amortization.
  → Homebuyers work 86 hours more (minimum hourly wage was 8.85 in 2012. The sample average is 15.64). These numbers suggest a 1.3k increase, but the paper under-sells this magnitude.
  → The part-time culture in NL is likely to play a role here. However, in columns (6) and (7) of Table 4, they use full-time workers and still find a one-to-one increase in wealth. Then, these full-time workers only use their consumption to afford the additional amortization.
- Consumption must explain the remaining part, which is 54%.
  → They also use car purchases

Mechanisms

- The findings imply that HHs value liquid savings significantly and don't expect to use their home equity as collateral
  $\rightarrow$ Reasonable but doesn't explain one-to-one increase. If they can cut their consumption now, they could do the same in a bad state. HHs with ample savings still have a one-to-one increase.
- HHs are not sophisticated enough to understand amortization is a way to save (ie, amortization is a bill). Sophistication is measured by education. The rate is 0.9.
  $\rightarrow$ They claim that the magnitude is different, but it is not.
- Cost of consumption adjustment: Proxied by down payment (the lower the down payment, the more desire to consume sooner), and fixed rate duration (the shorter the duration, the shorter the rate, hence HH wants to consume sooner). The magnitude is 0.7, but becomes 1 when the full sample is used.
- Temptation, nudging, bounded rationality...