Frictions in the Transmission of Monetary Policy

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Overview

• Why might the transmission of monetary policy to the real economy be weak?

• Focus on two (related) problems in particular

  1. Frictions in mortgage credit supply
  2. Excessive household debt and depressed house prices

• In language of New Keynesian IS curve:

  • Large gap between policy rate and interest rate facing households ("credit supply frictions")
  • Households insensitive to lower interest rates ("deleveraging")
Quantifying Frictions Using the Cross-Section

- Focus on mortgage refinancing and auto sales
  - Mortgages by far most important source of household debt
  - Micro data on auto sales updated quickly

- Sort the data by two characteristics to quantify frictions:
  1. Fraction of underwater homeowners in a zip code
  2. Credit quality (credit score) of individuals in a zip code

- Use the difference to quantify the degree to which these frictions play a role

- Sort all zips into top and bottom quartile (i.e., low credit quality is lowest 25% zip codes on credit score)

- Micro data availability: refinancing data through end of 2011, auto sales data through August 2012
Refinancing Volumes

Sort by Underwater Homeowners

Sort by Credit Quality

Zip codes with many homeowners underwater

Zip codes with few homeowners underwater

Low credit quality zip codes

High credit quality zip codes
Refinancing Volume: Double Sort

![Graph showing refinancing volume over time with different categories of underwater mortgages. The categories are: Many underwater, low credit quality, Few underwater, low credit quality, Many underwater, high credit quality, Few underwater, high credit quality.]
Bottom Line on Refinancing

• Results suggest that lenders remain very cautious to lend to low credit quality individuals and underwater homeowners

• High credit quality zip codes with few homeowners underwater have seen much higher refinancing volumes

• Back of the envelope calculation suggests that refinancing volumes would be two to three times as high without these two issues!

• My evidence only through 2011; perhaps HARP 2 is having an effect in 2012 (evidence from Lender Processing Services)
Hope from HARP 2? (from LPS)

HARP activity has jumped sharply since January

Prepayment Speed (CPR) by Current LTV
GSE 6.0% 30 Year Fixed, 2006 Vintage

Lender Processing Services
Hope from HARP 2, cont’d? (from LPS)

Refi opportunities have extended to lower credit score borrowers

Prepayment Speed (CPR) by Credit Score
Auto Sales

Sort by Underwater Homeowners

- Zip codes with many homeowners underwater
- Zip codes with few homeowners underwater

Sort by Credit Quality

- Low credit quality zip codes
- High credit quality zip codes
Auto Sales: Double Sort

Many underwater, low credit quality
Few underwater, low credit quality
Many underwater, high credit quality
Few underwater, high credit quality
Bottom Line on Auto Sales

• A large gap in auto sales closely related to high household debt burdens and house price collapse

• Even into 2012, the gap remains very large

• Some reasonably strong evidence that auto sales are recovering in low credit quality zip codes, especially those that do not have household debt problems

• But recall that these zip codes appear to have low levels of mortgage refinancing – credit likely flowing through auto loans

• Consistent with monetary policy working, but more research needed
More on Auto Loans: Non-revolving Consumer Debt from Federal Reserve

Source: Federal Reserve Board 2012
Policy Advice

• My opinion remains that monetary policy effectiveness is reduced by household leverage problems and frictions in the mortgage refinancing process

• This doesn’t mean it is completely ineffective, only weakened
  
  • May work through other markets (autos, new residential investment)
  • May work through inflationary expectations (negative real rates) for “unconstrained” households
  • May work through redistributive creditor-to-borrower channel

• Whether this means “push harder” or “don’t try” depends on the downside of monetary expansion
Data Details

- Zip code level underwater as of 2011Q1 from Zillow
- Zip code level auto sales from R.L. Polk
- Zip code level refinancing volumes from HMDA
- Zip code level credit quality from Equifax