What Triggers Mortgage Default? New Evidence from Linked Administrative and Survey Data

David Low

Consumer Financial Protection Bureau

March 11, 2022

Mortgage default has wide-ranging implications.

- 2007 Mortgage Crisis Obviously
- Great Depression Bernanke (1983)
- Crime Ellen et al. (2013)
- Health Currie & Turkin (2015)
- Education Been et al. (2021)
- Household welfare Diamond et al. (2020)
- Racial wealth gap Kermani & Wong (2021)

So **why** do mortgage borrowers default?

- Old question
- New **high-quality** data

Question 1: Why Don't Defaulters Pay?

$> \frac{1}{3}$ defaults with no income shock

Why?

- Strategic default? Gerardi et al. (2018), most models
- Or measurement error? Ganong & Noel (2021)

Need data on other shocks! Divorce, illness, etc.

No shocks? Or unobserved shocks?

Vandell (1995): "One way to address this issue is to develop a microbehavioral mortgage payment database. Such a database would track a panel of several thousand mortgages from origination and gather detailed information whenever termination occurs."

Also Anderson & Dokko (2016), Foote & Willen (2018), Cunningham et al. (2020), Ganong & Noel (2021), etc.

That's this paper! With the National Mortgage Database (NMDB) and the American Survey of Mortgage Borrowers (ASMB)

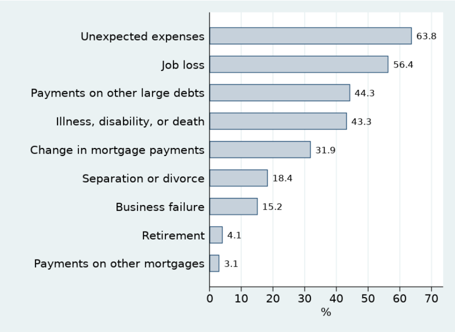
In ASMB $\frac{1}{3}$ Defaults Without Income Shocks

But are they strategic? ASMB questions on:

1. Job loss
2. Retirement
3. Business failure
4. Divorce
5. Health shocks
6. Mortgage payment shocks
7. Unexpected expenses
8. Payments for other mortgages
9. Payments for other large debts

≈ 0 DEFAULT IS STRATEGIC

% with each liquidity shock



Many different kinds of shocks matter, e.g. **expense shocks**

1. Can't look at just income!
2. $\approx$ 70% defaulters report $\geq$ 2 triggers

Question 2: Why don't defaulters sell?

Prevailing view: negative equity Foote & Willen (2018)

Evidence: abovewater default is widespread

Again, is it measurement error?

- Valuation errors in administrative data
- Bias in surveys Benitez-Silva et al. (2015)

Mark-to-market equity in the NMDB

County-level: 51% of foreclosures effectively underwater
Tract-level? 52%

Should we worry about variation below tract level?

- Sure, but
- 73k census tracts in U.S.
- Not clear there is much more variation Giacoletti (2021)
- And it's Berkson error $\Rightarrow$ second-order Schennach (2020)

What about idiosyncratic disasters?
ASMB "disaster affecting a property you own": 52% $\Rightarrow$ 57%

Mark-to-market equity in the NMDB

County-level: 51% of foreclosures effectively underwater
Tract-level? 52%

Should we worry about variation below tract level?

- Sure, but
- 73k census tracts in U.S.
- Not clear there is much more variation Giacoletti (2021)
- And it's Berkson error ⇒ second-order Schennach (2020)

What about idiosyncratic disasters?
ASMB "disaster affecting a property you own": 52% ⇒ 57%

Mark-to-market equity in the NMDB

County-level: 51% of foreclosures effectively underwater
Tract-level? 52%

Should we worry about variation below tract level?

- Sure, but
- 73k census tracts in U.S.
- Not clear there is much more variation Giacoletti (2021)
- And it's Berkson error $\Rightarrow$ second-order Schennach (2020)

What about idiosyncratic disasters?
ASMB "disaster affecting a property you own": 52% $\Rightarrow$ 57%

Equity in the ASMB

52% of foreclosed homeowners report negative equity was a factor

Probably an *upper* bound.

1. 2014-2018, homeowner valuations were downward-biased (Chan et al., 2016; Anenberg, 2016; Davis and Quintin, 2017; Corradin et al., 2017)
2. Default / liquidity shock $\Rightarrow$ negative equity, rather than vice-versa (Lambie-Hanson, 2015; Melzer, 2017)

Summary

Finding 1: Liquidity shocks trigger $\approx$ all defaults

- Many liquidity shocks matter, not just income

Finding 2: $\approx \frac{1}{2}$ of foreclosures triggered by negative equity 2015-2017

- Even less in most years

Puzzle: Why don't abovewater defaulters sell? Low (2021)

- Search frictions? Han & Strange (2015)
- Psychic moving costs? Koșar et al. (2021)
- Negative equity triggered by delinquency / liquidity shock? (Lambie-Hanson, 2015; Melzer, 2017)
- Something else?