Shale Shocked:
The Long Run Effect of Wealth on Household Debt
(by J. Anthony Cookson, Erik P. Gilje, and Rawley Z. Heimer)

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NFA
Septebmer 2019

Overview

- **Approach:**
  - Natural (gas) experiment: fracking $\Rightarrow$ mineral owners have sudden increase wealth
  - Rich microdata: merge credit bureau and mineral ownership records
- **Key takeaways:**
  - Estimate MPR of 0.206; MPR is 3x higher for subprime households
  - Deleveraging important part of response to income shocks
- Excellent paper! Important question and convincing empirical strategy
- **Comments:** interpretation and what else we can learn from this neat setting

Interpretation: labor supply (1/2)

- In Sweden, lottery winners reduce their labor supply after winning (Cesarini, Lindqvist, Notowidigdo, and Östling, 2017)
- Reduced labor supply would raise DTI all else equal
- If income measure captures the labor supply response:
  - Estimated negative impact on leverage suggests labor supply channel doesn't dominate
  - But it could account for heterogeneity if prime (low MPR) reduce labor supply more
- If income measure doesn't capture the labor supply response:
  - Observed change in DTI would overstate deleveraging
  - If prime cut labor more, would understate difference in prime/subprime deleveraging

Interpretation: labor supply (2/2)

- **Suggestion 1:** try to get more info on income imputation
  - Can Experian tell you anything more about this?
  - Look for response in non-mineral income in data

- **Suggestion 2:** heterogeneity
  - Look for changes in non-mineral income for prime vs. subprime

- Not a big problem – not an issue for results on the amount of borrowing
  - Impact of wealth shocks on debt *and* DTI are both first-order questions

Interpretation: is the estimate (0.206) large?

- Explanatory variable is annualized mineral income
  - But change in permanent income is likely much larger than any one year's income
  - Conflates impact of 2005-2015 income and 2015+ income
  - Estimate overstates impact of one-time change in income
- **Suggestion 1:**
  - Compute NPV of mineral income, use as explanatory variable (similar to Indarte, 2019)
  - More sophisticated: use natural gas futures price data
- **Suggestion 2:** redo main specification scaling average payments by initial income

Mechanism: liquidity $\Rightarrow$ deleveraging?

- **Idea:** front-loaded payments should relax short-run liquidity constraints

- **Suggestion:** interact payment NPV with % received in first year(s)
  - Test if deleveraging is stronger when more front-loaded
  - More so for subprime?

Asymmetry of MPRs and MPCs

- **Asymmetry:** borrowing constraints can make paying off debt easier than borrowing
  - $\Rightarrow$ MPC may be larger for negative shocks
  - $\Rightarrow$ MPR may be larger for positive shocks
- **Macro implications:**
  - If using "wrong" MPC/MPR, might overstate effect of pos/neg income shock
  - Debt reduction might enhance effectiveness of fiscal stimulus
- **Suggestion:** test for asymmetry in MPRs using changes in royalty income

Conclusion

- Households respond to income shocks by deleveraging, especially subprime
- Debt overhang can direct income gains towards paying down debt
- Many interesting questions can be explored in this neat empirical setting!