

Teachers Teaching Teachers: The Role of Networks on Financial Decisions

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**These views expressed are mine and do not necessarily
reflect those of the Federal Reserve Bank of Atlanta.**

- Paper studies the effects of peer networks on mortgage refinancing behavior.
- Uses novel administrative dataset on public school teachers in Texas matched to public property records.
- Identifies “endogenous interaction” effects (Manski 2000) using plausibly exogenous variation in the formation of peer groups.
 - Campus assignment is random, teacher breaks are randomly scheduled.
- Economically and statistically significant peer effects.
 - One standard deviation increase in peer group refinances within previous 3 months increases likelihood of refinancing by 6% - 42%.

- Important contribution to mortgage literature:
 - Well documented that many borrowers do not refinance when it *appears* to be in their financial interests to do so.
 - Deng and Quigley (2001) – many borrowers don't refinance when option is deeply in the money (“woodheads”).
 - Well known that refinancing behavior of subprime mortgage borrowers largely insensitive to interest rate volatility.
 - But, difficult to conclusively show mistakes because optimal decision depends on so many individual-specific factors.
 - Results suggest suboptimal behavior is taking place and that peer effects can alleviate such behavior.
 - Highly relevant for MBS pricing and understanding monetary policy mechanism – especially distributional effects.

- Important contribution to literature on social interactions/peer effects.
 - Very difficult to distinguish between:
 - 1 Endogenous interactions: An individual's behavior is influenced by the behavior of the group.
 - 2 Correlated effects: Individuals in the same group behave similarly because they have similar individual characteristics and/or face similar institutional environments.
 - 3 Contextual interactions: An individual's behavior varies with the exogenous characteristics of the group.
 - Distinction is crucial because policy implications very different:
 - Endogenous interactions create feedbacks between individual decisions.
- Convincing evidence that peer networks influence mortgage decisions.

- 1 Negative Savings and Costly Refinances \Rightarrow Errors of Commission?
- 2 IV Analysis
- 3 External Validity
- 4 Suggestions

Negative Savings and Costly Refinances

- Paper finds that peer groups also increase likelihood of refinancing for teachers that would appear to lose money by doing so.
 - Similar magnitudes as teachers that would save money by refinancing (Table 4), although not statistically significant.
- Hesitant to interpret these results as suggestive that some teachers are truly worse off.
 - Possible that many of these teachers are withdrawing equity.
 - Might be able to test as should be able to identify cash-out refinances in data.
 - Possible that this is simply measurement error \Rightarrow identifying instances of negative savings when they are really positive.

Negative Savings and Costly Refinances

- Data on contract characteristics very limited.
- No information on interest rates or maturities or closing costs.
 - Assume 30-year term for all loans and use the average rate for 30-year FRMs in the corresponding month (the PMMS rate).
 - Assume closing costs of 1.5% original principal balance.
- ⇒ Noisy estimates of “net savings.”
 - Could explain finding that peer effects result in costly refinances.
 - Example: Teacher with poor credit score purchases home where mortgage rate significantly higher than PMMS monthly rate.
 - Improves credit score by making mortgage payments for few years and then refinances at rate closer to PMMS.
 - New PMMS rate higher than old PMMS rate, but teacher’s refi rate is lower than purchase rate due to credit score improvement.

- Instrument for peer group refinances with peer group's refi incentives (average estimated savings).
 - Worried about unobserved heterogeneity at the off-period level.
 - Skeptical that this is important concern.
 - One possibility might be bulk/group refinancing?
 - Infamous Boston Fed bulk refinancing scheme.
- Estimated peer effects increase by more than fourfold!
- Seems like an implausibly large magnitude.
 - Perhaps more precise estimate of savings might help.

- Important sample restrictions:
 - Teachers.
 - Registered voters.
 - Purchased home between 2002 and 2011.
 - Used a fixed-rate mortgage (FRM) to finance purchase.
 - Restrictions on campus size (50 teachers) and average voter registration (70%).
- \Rightarrow Sample that starts with \sim 3.7 million teachers ends with \sim 32k teachers.
- Summary statistics show that sample is:
 - 66% Female.
 - Very highly educated – 73% with at least bachelor's degree.

- See if peer effects become stronger as estimated savings \uparrow .
 - Formalize Figure 3 by including interaction effect between peer refinances and estimated savings.
 - If positive estimate \Rightarrow consistent with peer effects helping to correct especially large “mistakes.”
- Could merge loan-level data with property records data.
 - Detailed mortgage characteristics and performance.
 - Can estimate net savings much more precisely.
 - Can study peer effects and mortgage choice.
 - Can study peer effects and mortgage default \Rightarrow contagion.
- Use property records to determine refi experience.
 - Might expect that greater experience lowers peer effects.