

Discussion of Collins, Lam and Herbert (2008)

Chris Foote

Boston Fed
Research Department

Dec. 5, 2008



Potential Question #1

*What are the effects of various state laws
on eventual outcomes for troubled mortgage borrowers?*

- Potential empirical project:

Potential Question #1

What are the effects of various state laws on eventual outcomes for troubled mortgage borrowers?

- Potential empirical project:
 - Compare identical borrowers ...

Potential Question #1

*What are the effects of various state laws
on eventual outcomes for troubled mortgage borrowers?*

- Potential empirical project:
 - Compare identical borrowers ...
 - ... facing identical economic environments ...

Potential Question #1

*What are the effects of various state laws
on eventual outcomes for troubled mortgage borrowers?*

- Potential empirical project:
 - Compare identical borrowers ...
 - ... facing identical economic environments ...
 - ... and identical treatment by their lenders...

Potential Question #1

*What are the effects of various state laws
on eventual outcomes for troubled mortgage borrowers?*

- Potential empirical project:
 - Compare identical borrowers ...
 - ... facing identical economic environments ...
 - ... and identical treatment by their lenders...
 - ... but living in states with different laws.

Potential Question #1

What are the effects of various state laws on eventual outcomes for troubled mortgage borrowers?

- Potential empirical project:
 - Compare identical borrowers ...
 - ... facing identical economic environments ...
 - ... and identical treatment by their lenders...
 - ... but living in states with different laws.
- Cutts and Merrill (2008): Some states foreclosure timelines are too long (“free rent” issue)

Potential Question #2

What is the best way to get troubled borrowers to contact their lenders when they get into trouble?

- Most people who lose their homes to foreclosure do not contact their lenders (Cutts and Merrill 2008)

Potential Question #2

What is the best way to get troubled borrowers to contact their lenders when they get into trouble?

- Most people who lose their homes to foreclosure do not contact their lenders (Cutts and Merrill 2008)
- Why not? Embarrassment, hopelessness, etc.

Potential Question #2

What is the best way to get troubled borrowers to contact their lenders when they get into trouble?

- Most people who lose their homes to foreclosure do not contact their lenders (Cutts and Merrill 2008)
- Why not? Embarrassment, hopelessness, etc.
- Many borrowers do not know that there are options besides foreclosure (repayment plans, loan mods, short sales, etc.)

Potential Question #2

What is the best way to get troubled borrowers to contact their lenders when they get into trouble?

- Most people who lose their homes to foreclosure do not contact their lenders (Cutts and Merrill 2008)
- Why not? Embarrassment, hopelessness, etc.
- Many borrowers do not know that there are options besides foreclosure (repayment plans, loan mods, short sales, etc.)
- How to investigate? Run a randomized trial using different methods of first contact with borrowers (phone, letter, referral to third parties, etc.)

Plan of current paper (CLH)

- CLH (2008) uses a unique dataset of troubled borrowers to study these issues

Plan of current paper (CLH)

- CLH (2008) uses a unique dataset of troubled borrowers to study these issues
- Different treatment:

Plan of current paper (CLH)

- CLH (2008) uses a unique dataset of troubled borrowers to study these issues
- Different treatment:
 - One (large) group of (high-risk) borrowers receives a letter encouraging them to contact a third-party counselor.

Plan of current paper (CLH)

- CLH (2008) uses a unique dataset of troubled borrowers to study these issues
- Different treatment:
 - One (large) group of (high-risk) borrowers receives a letter encouraging them to contact a third-party counselor.
 - Another (smaller) group of (lower-risk) borrowers receives a letter encouraging them to contact the servicer directly.

Plan of current paper (CLH)

- CLH (2008) uses a unique dataset of troubled borrowers to study these issues
- Different treatment:
 - One (large) group of (high-risk) borrowers receives a letter encouraging them to contact a third-party counselor.
 - Another (smaller) group of (lower-risk) borrowers receives a letter encouraging them to contact the servicer directly.
- Borrowers live in different states, with different ..

Plan of current paper (CLH)

- CLH (2008) uses a unique dataset of troubled borrowers to study these issues
- Different treatment:
 - One (large) group of (high-risk) borrowers receives a letter encouraging them to contact a third-party counselor.
 - Another (smaller) group of (lower-risk) borrowers receives a letter encouraging them to contact the servicer directly.
- Borrowers live in different states, with different ..
 - 1 Foreclosure procedures (e.g, judicial or non-judicial)

Plan of current paper (CLH)

- CLH (2008) uses a unique dataset of troubled borrowers to study these issues
- Different treatment:
 - One (large) group of (high-risk) borrowers receives a letter encouraging them to contact a third-party counselor.
 - Another (smaller) group of (lower-risk) borrowers receives a letter encouraging them to contact the servicer directly.
- Borrowers live in different states, with different ..
 - 1 Foreclosure procedures (e.g, judicial or non-judicial)
 - 2 Right-of-redemption periods

Plan of current paper (CLH)

- CLH (2008) uses a unique dataset of troubled borrowers to study these issues
- Different treatment:
 - One (large) group of (high-risk) borrowers receives a letter encouraging them to contact a third-party counselor.
 - Another (smaller) group of (lower-risk) borrowers receives a letter encouraging them to contact the servicer directly.
- Borrowers live in different states, with different ..
 - 1 Foreclosure procedures (e.g, judicial or non-judicial)
 - 2 Right-of-redemption periods
 - 3 State anti-foreclosure programs

Plan of current paper (CLH)

- CLH (2008) uses a unique dataset of troubled borrowers to study these issues
- Different treatment:
 - One (large) group of (high-risk) borrowers receives a letter encouraging them to contact a third-party counselor.
 - Another (smaller) group of (lower-risk) borrowers receives a letter encouraging them to contact the servicer directly.
- Borrowers live in different states, with different ..
 - 1 Foreclosure procedures (e.g, judicial or non-judicial)
 - 2 Right-of-redemption periods
 - 3 State anti-foreclosure programs
- Deficiency-judgment (“recourse”) laws are not considered

Potential outcomes (left-hand-side variables)

1 Foreclosure start

Potential outcomes (left-hand-side variables)

- 1 Foreclosure start
- 2 Foreclosure completion

Potential outcomes (left-hand-side variables)

- 1 Foreclosure start
- 2 Foreclosure completion
- 3 Cure

Potential outcomes (left-hand-side variables)

- 1 Foreclosure start
- 2 Foreclosure completion
- 3 Cure
- 4 Modification

Potential outcomes (left-hand-side variables)

- 1 Foreclosure start
- 2 Foreclosure completion
- 3 Cure
- 4 Modification
- 5 Make contact with servicer/lender (conditional on no previous contact)

Potential outcomes (left-hand-side variables)

- 1 Foreclosure start
- 2 Foreclosure completion
- 3 Cure
- 4 Modification
- 5 Make contact with servicer/lender (conditional on no previous contact)
- 6 Days delinquent

Potential outcomes (left-hand-side variables)

- 1 Foreclosure start
- 2 Foreclosure completion
- 3 Cure
- 4 Modification
- 5 Make contact with servicer/lender (conditional on no previous contact)
- 6 Days delinquent
- 7 Complete counseling program (conditional on third-party counselor letter)

Potential outcomes (left-hand-side variables)

- 1 Foreclosure start
- 2 Foreclosure completion
- 3 Cure
- 4 Modification
- 5 Make contact with servicer/lender (conditional on no previous contact)
- 6 Days delinquent
- 7 Complete counseling program (conditional on third-party counselor letter)
 - Only 3.2% of those getting the counseling letter completed a program

Potential outcomes (left-hand-side variables)

- 1 Foreclosure start
- 2 Foreclosure completion
- 3 Cure
- 4 Modification
- 5 Make contact with servicer/lender (conditional on no previous contact)
- 6 Days delinquent
- 7 Complete counseling program (conditional on third-party counselor letter)
 - Only 3.2% of those getting the counseling letter completed a program
 - This is different than “making contact with servicer/lender”

My bottom line

- There are many useful results in this paper

My bottom line

- There are many useful results in this paper
- So many, in fact, that I think that the paper should be split into two papers, each focusing on one of the two questions above.

My bottom line

- There are many useful results in this paper
- So many, in fact, that I think that the paper should be split into two papers, each focusing on one of the two questions above.
- As it stands now, the paper stresses results on the *intersection* of state laws and borrower-contact strategies ...

My bottom line

- There are many useful results in this paper
- So many, in fact, that I think that the paper should be split into two papers, each focusing on one of the two questions above.
- As it stands now, the paper stresses results on the *intersection* of state laws and borrower-contact strategies ...
- ... and that question is the hardest to answer

My bottom line

- There are many useful results in this paper
- So many, in fact, that I think that the paper should be split into two papers, each focusing on one of the two questions above.
- As it stands now, the paper stresses results on the *intersection* of state laws and borrower-contact strategies ...
- ... and that question is the hardest to answer
 - What type of advice were third-party counselors giving?

My bottom line

- There are many useful results in this paper
- So many, in fact, that I think that the paper should be split into two papers, each focusing on one of the two questions above.
- As it stands now, the paper stresses results on the *intersection* of state laws and borrower-contact strategies ...
- ... and that question is the hardest to answer
 - What type of advice were third-party counselors giving?
 - Were these counselors aware of differences in state laws?

State Law/Policy Model (Eq'n 2 and Table 2)

- Borrowers from the two groups are pooled together

State Law/Policy Model (Eq'n 2 and Table 2)

- Borrowers from the two groups are pooled together
- Estimating equation is

$$Y_{is}^{Mar08} = \beta_1 X_{is}^{Jan07} + \beta_2 LAW_s + \text{Fixed Effects} + \beta_3 RURAL_{is} + error$$

State Law/Policy Model (Eq'n 2 and Table 2)

- Borrowers from the two groups are pooled together
- Estimating equation is

$$Y_{is}^{Mar08} = \beta_1 X_{is}^{Jan07} + \beta_2 LAW_s + \text{Fixed Effects} + \beta_3 RURAL_{is} + \text{error}$$

- Stress is on identification of β_2 , the effects of state laws/programs

State Law/Policy Model (Eq'n 2 and Table 2)

- Borrowers from the two groups are pooled together
- Estimating equation is

$$Y_{is}^{Mar08} = \beta_1 X_{is}^{Jan07} + \beta_2 LAW_s + \text{Fixed Effects} + \beta_3 RURAL_{is} + error$$

- Stress is on identification of β_2 , the effects of state laws/programs
 - 1 Foreclosure procedures (e.g, judicial or non-judicial)

State Law/Policy Model (Eq'n 2 and Table 2)

- Borrowers from the two groups are pooled together
- Estimating equation is

$$Y_{is}^{Mar08} = \beta_1 X_{is}^{Jan07} + \beta_2 LAW_s + \text{Fixed Effects} + \beta_3 RURAL_{is} + error$$

- Stress is on identification of β_2 , the effects of state laws/programs
 - 1 Foreclosure procedures (e.g, judicial or non-judicial)
 - 2 Right-of-redemption periods

State Law/Policy Model (Eq'n 2 and Table 2)

- Borrowers from the two groups are pooled together
- Estimating equation is

$$Y_{is}^{Mar08} = \beta_1 X_{is}^{Jan07} + \beta_2 LAW_s + \text{Fixed Effects} + \beta_3 RURAL_{is} + error$$

- Stress is on identification of β_2 , the effects of state laws/programs
 - 1 Foreclosure procedures (e.g, judicial or non-judicial)
 - 2 Right-of-redemption periods
 - 3 State anti-foreclosure programs

State Law/Policy Model (Eq'n 2 and Table 2, con't)

$$Y_{is}^{Mar08} = \beta_1 X_{is}^{Jan07} + \beta_2 LAW_s + \text{Fixed Effects} + \beta_3 RURAL_{is} + \text{error}$$

■ Comments:

State Law/Policy Model (Eq'n 2 and Table 2, con't)

$$Y_{is}^{Mar08} = \beta_1 X_{is}^{Jan07} + \beta_2 LAW_s + \text{Fixed Effects} + \beta_3 RURAL_{is} + \text{error}$$

■ Comments:

- Fixed effect specification is complex – includes both MSA-level and state-level fixed effects

State Law/Policy Model (Eq'n 2 and Table 2, con't)

$$Y_{is}^{Mar08} = \beta_1 X_{is}^{Jan07} + \beta_2 LAW_s + \text{Fixed Effects} + \beta_3 RURAL_{is} + \text{error}$$

■ Comments:

- Fixed effect specification is complex – includes both MSA-level and state-level fixed effects
 - Wichita, KS gets an MSA-level fixed effect (within KS)

State Law/Policy Model (Eq'n 2 and Table 2, con't)

$$Y_{is}^{Mar08} = \beta_1 X_{is}^{Jan07} + \beta_2 LAW_s + \text{Fixed Effects} + \beta_3 RURAL_{is} + \text{error}$$

■ Comments:

- Fixed effect specification is complex – includes both MSA-level and state-level fixed effects
 - Wichita, KS gets an MSA-level fixed effect (within KS)
 - Kansas City MO-KS metro area gets an MSA-level fixed effect (in both KS and MO)

State Law/Policy Model (Eq'n 2 and Table 2, con't)

$$Y_{is}^{Mar08} = \beta_1 X_{is}^{Jan07} + \beta_2 LAW_s + \text{Fixed Effects} + \beta_3 RURAL_{is} + \text{error}$$

■ Comments:

- Fixed effect specification is complex – includes both MSA-level and state-level fixed effects
 - Wichita, KS gets an MSA-level fixed effect (within KS)
 - Kansas City MO-KS metro area gets an MSA-level fixed effect (in both KS and MO)
 - Grainfield, KS (rural area) gets a state-specific fixed effect (KS)

State Law/Policy Model (Eq'n 2 and Table 2, con't)

$$Y_{is}^{Mar08} = \beta_1 X_{is}^{Jan07} + \beta_2 LAW_s + \text{Fixed Effects} + \beta_3 RURAL_{is} + \text{error}$$

■ Comments:

- Fixed effect specification is complex – includes both MSA-level and state-level fixed effects
 - Wichita, KS gets an MSA-level fixed effect (within KS)
 - Kansas City MO-KS metro area gets an MSA-level fixed effect (in both KS and MO)
 - Grainfield, KS (rural area) gets a state-specific fixed effect (KS)
- Rural observations thus help identify β_1 , but not β_2

State Law/Policy Model (Eq'n 2 and Table 2, con't)

$$Y_{is}^{Mar08} = \beta_1 X_{is}^{Jan07} + \beta_2 LAW_s + \text{Fixed Effects} + \beta_3 RURAL_{is} + \text{error}$$

■ Comments:

- Fixed effect specification is complex – includes both MSA-level and state-level fixed effects
 - Wichita, KS gets an MSA-level fixed effect (within KS)
 - Kansas City MO-KS metro area gets an MSA-level fixed effect (in both KS and MO)
 - Grainfield, KS (rural area) gets a state-specific fixed effect (KS)
- Rural observations thus help identify β_1 , but not β_2
- Question: Would this equation degenerate without the Kansas City-type MSAs?

State Law/Policy Model (Eq'n 2 and Table 2, con't)

$$Y_{is}^{Mar08} = \beta_1 X_{is}^{Jan07} + \beta_2 LAW_s + \text{Fixed Effects} + \beta_3 RURAL_{is} + \text{error}$$

- Split-state MSAs are an ideal set-up for Potential Question 1

State Law/Policy Model (Eq'n 2 and Table 2, con't)

$$Y_{is}^{Mar08} = \beta_1 X_{is}^{Jan07} + \beta_2 LAW_s + \text{Fixed Effects} + \beta_3 RURAL_{is} + \text{error}$$

- Split-state MSAs are an ideal set-up for Potential Question 1
 - Identical borrowers

State Law/Policy Model (Eq'n 2 and Table 2, con't)

$$Y_{is}^{Mar08} = \beta_1 X_{is}^{Jan07} + \beta_2 LAW_s + \text{Fixed Effects} + \beta_3 RURAL_{is} + \text{error}$$

- Split-state MSAs are an ideal set-up for Potential Question 1
 - Identical borrowers
 - Identical (MSA-level) economic conditions

State Law/Policy Model (Eq'n 2 and Table 2, con't)

$$Y_{is}^{Mar08} = \beta_1 X_{is}^{Jan07} + \beta_2 LAW_s + \text{Fixed Effects} + \beta_3 RURAL_{is} + \text{error}$$

- Split-state MSAs are an ideal set-up for Potential Question 1
 - Identical borrowers
 - Identical (MSA-level) economic conditions
 - Identical servicer/lender treatment

State Law/Policy Model (Eq'n 2 and Table 2, con't)

$$Y_{is}^{Mar08} = \beta_1 X_{is}^{Jan07} + \beta_2 LAW_s + \text{Fixed Effects} + \beta_3 RURAL_{is} + \text{error}$$

- Split-state MSAs are an ideal set-up for Potential Question 1
 - Identical borrowers
 - Identical (MSA-level) economic conditions
 - Identical servicer/lender treatment
 - Different state laws

State Law/Policy Model (Eq'n 2 and Table 2, con't)

$$Y_{is}^{Mar08} = \beta_1 X_{is}^{Jan07} + \beta_2 LAW_s + \text{Fixed Effects} + \beta_3 RURAL_{is} + \text{error}$$

- Split-state MSAs are an ideal set-up for Potential Question 1
 - Identical borrowers
 - Identical (MSA-level) economic conditions
 - Identical servicer/lender treatment
 - Different state laws
- If we included only MSA's that cross state lines, then β_2 is identified solely by cross-state law differences *within* the same MSA

State Law/Policy Model (Eq'n 2 and Table 2, con't)

$$Y_{is}^{Mar08} = \beta_1 X_{is}^{Jan07} + \beta_2 LAW_s + \text{Fixed Effects} + \beta_3 RURAL_{is} + \text{error}$$

- Split-state MSAs are an ideal set-up for Potential Question 1
 - Identical borrowers
 - Identical (MSA-level) economic conditions
 - Identical servicer/lender treatment
 - Different state laws
- If we included only MSA's that cross state lines, then β_2 is identified solely by cross-state law differences *within* the same MSA
- In fact, this may be what is identifying the regression now

State Law/Policy Findings (Table 2)

- Redemption periods reduce the probability that a troubled loan will cure

State Law/Policy Findings (Table 2)

- Redemption periods reduce the probability that a troubled loan will cure
- State foreclosure programs also reduce the probability that loan will cure

State Law/Policy Findings (Table 2)

- Redemption periods reduce the probability that a troubled loan will cure
- State foreclosure programs also reduce the probability that loan will cure
- Redemption laws raise number of days delinquent, but state foreclosure programs reduce them

State Law/Policy Findings (Table 2)

- Redemption periods reduce the probability that a troubled loan will cure
- State foreclosure programs also reduce the probability that loan will cure
- Redemption laws raise number of days delinquent, but state foreclosure programs reduce them
- *No law or policy affects foreclosures starts or foreclosure completions*

Counseling Offer Models (Eq'n 3 and Tables 3-7)

$$Y_{is}^{Mar08} = \delta \cdot D_i + \beta_1 X_{is}^{Jan07} + error$$

- Treatment variable:

Counseling Offer Models (Eq'n 3 and Tables 3-7)

$$Y_{is}^{Mar08} = \delta \cdot D_i + \beta_1 X_{is}^{Jan07} + error$$

- Treatment variable:

- $D_i = 1$: Borrower i received a letter encouraging him/her to contact a third-party counseling agency

Counseling Offer Models (Eq'n 3 and Tables 3-7)

$$Y_{is}^{Mar08} = \delta \cdot D_i + \beta_1 X_{is}^{Jan07} + error$$

■ Treatment variable:

- $D_i = 1$: Borrower i received a letter encouraging him/her to contact a third-party counseling agency
- $D_i = 0$: Borrower i was asked to contact the servicer/lender directly

Counseling Offer Models (Eq'n 3 and Tables 3-7)

$$Y_{is}^{Mar08} = \delta \cdot D_i + \beta_1 X_{is}^{Jan07} + error$$

■ Treatment variable:

- $D_i = 1$: Borrower i received a letter encouraging him/her to contact a third-party counseling agency
- $D_i = 0$: Borrower i was asked to contact the servicer/lender directly
- No one in the sample was left uncontacted and monitored as a control group

Counseling Offer Models (Eq'n 3 and Tables 3-7)

$$Y_{is}^{Mar08} = \delta \cdot D_i + \beta_1 X_{is}^{Jan07} + error$$

- Treatment variable:

- $D_i = 1$: Borrower i received a letter encouraging him/her to contact a third-party counseling agency
- $D_i = 0$: Borrower i was asked to contact the servicer/lender directly
- No one in the sample was left uncontacted and monitored as a control group

- Equation is estimated using propensity-score weighting:

Counseling Offer Models (Eq'n 3 and Tables 3-7)

$$Y_{is}^{Mar08} = \delta \cdot D_i + \beta_1 X_{is}^{Jan07} + error$$

■ Treatment variable:

- $D_i = 1$: Borrower i received a letter encouraging him/her to contact a third-party counseling agency
- $D_i = 0$: Borrower i was asked to contact the servicer/lender directly
- No one in the sample was left uncontacted and monitored as a control group

■ Equation is estimated using propensity-score weighting:

- Weights for “untreated” observations are related to their estimated probability of getting the treatment (from first-stage probit)

Counseling Offer Models (Eq'n 3 and Tables 3-7)

$$Y_{is}^{Mar08} = \delta \cdot D_i + \beta_1 X_{is}^{Jan07} + error$$

- Treatment variable:
 - $D_i = 1$: Borrower i received a letter encouraging him/her to contact a third-party counseling agency
 - $D_i = 0$: Borrower i was asked to contact the servicer/lender directly
 - No one in the sample was left uncontacted and monitored as a control group
- Equation is estimated using propensity-score weighting:
 - Weights for “untreated” observations are related to their estimated probability of getting the treatment (from first-stage probit)
 - Higher weights go to untreated obs that are similar to treated obs, based on observables

Counseling Offer Models (Eq'n 3 and Table 3, con't)

$$Y_{is}^{Mar08} = \delta \cdot D_i + \beta_1 X_{is}^{Jan07} + error$$

- Claim: “Propensity score matching allows us to establish causal effects even without a formal experimental design.” (p.7)

Counseling Offer Models (Eq'n 3 and Table 3, con't)

$$Y_{is}^{Mar08} = \delta \cdot D_i + \beta_1 X_{is}^{Jan07} + error$$

- Claim: “Propensity score matching allows us to establish causal effects even without a formal experimental design.” (p.7)
- Claim is true, as long as there is *selection on observables*, not unobservables

Counseling Offer Models (Eq'n 3 and Table 3, con't)

$$Y_{is}^{Mar08} = \delta \cdot D_i + \beta_1 X_{is}^{Jan07} + error$$

- Claim: “Propensity score matching allows us to establish causal effects even without a formal experimental design.” (p.7)
- Claim is true, as long as there is *selection on observables*, not unobservables
 - If D_i denoted, say, whether the *borrower* made contact with the lender, this would not be true

Counseling Offer Models (Eq'n 3 and Table 3, con't)

$$Y_{is}^{Mar08} = \delta \cdot D_i + \beta_1 X_{is}^{Jan07} + error$$

- Claim: “Propensity score matching allows us to establish causal effects even without a formal experimental design.” (p.7)
- Claim is true, as long as there is *selection on observables*, not unobservables
 - If D_i denoted, say, whether the *borrower* made contact with the lender, this would not be true
 - In our case, however, selection probably *is* on observables

Counseling Offer Models (Eq'n 3 and Table 3, con't)

$$Y_{is}^{Mar08} = \delta \cdot D_i + \beta_1 X_{is}^{Jan07} + error$$

- Claim: “Propensity score matching allows us to establish causal effects even without a formal experimental design.” (p.7)
- Claim is true, as long as there is *selection on observables*, not unobservables
 - If D_i denoted, say, whether the *borrower* made contact with the lender, this would not be true
 - In our case, however, selection probably *is* on observables
 - Letters were mailed out to all borrowers having some set of shared *observable* characteristics

Counseling Offer Models (Eq'n 3 and Table 3, con't)

$$Y_{is}^{Mar08} = \delta \cdot D_i + \beta_1 X_{is}^{Jan07} + error$$

- Claim: “Propensity score matching allows us to establish causal effects even without a formal experimental design.” (p.7)
- Claim is true, as long as there is *selection on observables*, not unobservables
 - If D_i denoted, say, whether the *borrower* made contact with the lender, this would not be true
 - In our case, however, selection probably *is* on observables
 - Letters were mailed out to all borrowers having some set of shared *observable* characteristics
 - Using propensity score weights controls for observables more flexibly than just entering them in the linear regression

Counseling Offer Models (Eq'n 3 and Table 3, con't)

$$Y_{is}^{Mar08} = \delta \cdot D_i + \beta_1 X_{is}^{Jan07} + error$$

- Claim: “Propensity score matching allows us to establish causal effects even without a formal experimental design.” (p.7)
- Claim is true, as long as there is *selection on observables*, not unobservables
 - If D_i denoted, say, whether the *borrower* made contact with the lender, this would not be true
 - In our case, however, selection probably *is* on observables
 - Letters were mailed out to all borrowers having some set of shared *observable* characteristics
 - Using propensity score weights controls for observables more flexibly than just entering them in the linear regression
 - Linear probability model vs. probit (?)

Counseling Offer Models Results: (Table 3)

$$Y_{is}^{Mar08} = \delta \cdot D_i + \beta_1 X_{is}^{Jan07} + error$$

- A striking finding in Table 3 is that the type of letter makes *no difference* to whether the borrower makes an initial contact, no matter how the comparison group is weighted

Counseling Offer Models Results: (Table 3)

$$Y_{is}^{Mar08} = \delta \cdot D_i + \beta_1 X_{is}^{Jan07} + error$$

- A striking finding in Table 3 is that the type of letter makes *no difference* to whether the borrower makes an initial contact, no matter how the comparison group is weighted
- Raw means:

Counseling Offer Models Results: (Table 3)

$$Y_{is}^{Mar08} = \delta \cdot D_i + \beta_1 X_{is}^{Jan07} + error$$

- A striking finding in Table 3 is that the type of letter makes *no difference* to whether the borrower makes an initial contact, no matter how the comparison group is weighted
- Raw means:
 - Fraction of counseling-offer group contacting lender: 58.5%

Counseling Offer Models Results: (Table 3)

$$Y_{is}^{Mar08} = \delta \cdot D_i + \beta_1 X_{is}^{Jan07} + error$$

- A striking finding in Table 3 is that the type of letter makes *no difference* to whether the borrower makes an initial contact, no matter how the comparison group is weighted
- Raw means:
 - Fraction of counseling-offer group contacting lender: 58.5%
 - Fraction of comparison group contacting lender: 56.5%

Counseling Offer Models Results: (Table 3)

$$Y_{is}^{Mar08} = \delta \cdot D_i + \beta_1 X_{is}^{Jan07} + error$$

- A striking finding in Table 3 is that the type of letter makes *no difference* to whether the borrower makes an initial contact, no matter how the comparison group is weighted
- Raw means:
 - Fraction of counseling-offer group contacting lender: 58.5%
 - Fraction of comparison group contacting lender: 56.5%
- Potential reason: Borrowers did not distinguish between the third-party counseling group and the servicer/lender

Counseling Offer Models (Results: Table 3, con't)

$$Y_{is}^{Mar08} = \delta \cdot D_i + \beta_1 X_{is}^{Jan07} + error$$

- Another striking (but not surprising) finding is that those who were asked to contact the servicer/lender were more likely to get loan modifications.

Counseling Offer Models (Results: Table 3, con't)

$$Y_{is}^{Mar08} = \delta \cdot D_i + \beta_1 X_{is}^{Jan07} + error$$

- Another striking (but not surprising) finding is that those who were asked to contact the servicer/lender were more likely to get loan modifications.
- This fact is also robust to inclusion of controls and to propensity score matching

Counseling Offer/State Law Interactions (Table 4)

- CLH then interact the *LAW* variables with the treatment variable, D_i .

Counseling Offer/State Law Interactions (Table 4)

- CLH then interact the *LAW* variables with the treatment variable, D_i .
- Crucial question: Are the counselors aware of differences in state laws and programs?

Counseling Offer/State Law Interactions (Table 4)

- CLH then interact the *LAW* variables with the treatment variable, D_i .
- Crucial question: Are the counselors aware of differences in state laws and programs?
- Empirical issues:

Counseling Offer/State Law Interactions (Table 4)

- CLH then interact the *LAW* variables with the treatment variable, D_i .
- Crucial question: Are the counselors aware of differences in state laws and programs?
- Empirical issues:
 - We cannot interact D_i with all three *LAW* variables simultaneously (collinearity)

Counseling Offer/State Law Interactions (Table 4)

- CLH then interact the *LAW* variables with the treatment variable, D_i .
- Crucial question: Are the counselors aware of differences in state laws and programs?
- Empirical issues:
 - We cannot interact D_i with all three *LAW* variables simultaneously (collinearity)
 - Inclusion of fixed effects makes comparisons with previous regression difficult

Counseling Offer/State Law Interactions (Table 4)

- CLH then interact the *LAW* variables with the treatment variable, D_i .
- Crucial question: Are the counselors aware of differences in state laws and programs?
- Empirical issues:
 - We cannot interact D_i with all three *LAW* variables simultaneously (collinearity)
 - Inclusion of fixed effects makes comparisons with previous regression difficult
 - Suggestion: See how fixed effects matter for previous regressions

Counseling Offer/State Law Interactions (Table 4)

- Headline finding: Interactions of D_i with indicator for “state foreclosure program” in foreclosure-start and days-delinquent regressions are negative and significant

Counseling Offer/State Law Interactions (Table 4)

- **Headline finding:** Interactions of D_i with indicator for “state foreclosure program” in foreclosure-start and days-delinquent regressions are negative and significant
- **Abstract:** “[S]tate policy efforts aimed at preventing foreclosure may be enhanced by coordination with financial institutions and counseling providers”

Counseling Offer/State Law Interactions (Table 4)

- **Headline finding:** Interactions of D_i with indicator for “state foreclosure program” in foreclosure-start and days-delinquent regressions are negative and significant
- **Abstract:** “[S]tate policy efforts aimed at preventing foreclosure may be enhanced by coordination with financial institutions and counseling providers”
- **Issues:**

Counseling Offer/State Law Interactions (Table 4)

- **Headline finding:** Interactions of D_i with indicator for “state foreclosure program” in foreclosure-start and days-delinquent regressions are negative and significant
- **Abstract:** “[S]tate policy efforts aimed at preventing foreclosure may be enhanced by coordination with financial institutions and counseling providers”
- **Issues:**
 - Direct effect of D_i in foreclosure-start regression is *positive* and significant

Counseling Offer/State Law Interactions (Table 4)

- **Headline finding:** Interactions of D_i with indicator for “state foreclosure program” in foreclosure-start and days-delinquent regressions are negative and significant
- **Abstract:** “[S]tate policy efforts aimed at preventing foreclosure may be enhanced by coordination with financial institutions and counseling providers”
- **Issues:**
 - Direct effect of D_i in foreclosure-start regression is *positive* and significant
 - Could be related to the reduced chance that these people get loan modifications

Counseling Offer/State Law Interactions (Table 4)

- **Headline finding:** Interactions of D_i with indicator for “state foreclosure program” in foreclosure-start and days-delinquent regressions are negative and significant
- **Abstract:** “[S]tate policy efforts aimed at preventing foreclosure may be enhanced by coordination with financial institutions and counseling providers”
- **Issues:**
 - Direct effect of D_i in foreclosure-start regression is *positive* and significant
 - Could be related to the reduced chance that these people get loan modifications
 - Interacted effect of D_i with state-program dummy is:

Counseling Offer/State Law Interactions (Table 4)

- **Headline finding:** Interactions of D_i with indicator for “state foreclosure program” in foreclosure-start and days-delinquent regressions are negative and significant
- **Abstract:** “[S]tate policy efforts aimed at preventing foreclosure may be enhanced by coordination with financial institutions and counseling providers”
- **Issues:**
 - Direct effect of D_i in foreclosure-start regression is *positive* and significant
 - Could be related to the reduced chance that these people get loan modifications
 - Interacted effect of D_i with state-program dummy is:
 - Negative but insignificant in cure regression (short sales?)

Counseling Offer/State Law Interactions (Table 4)

- **Headline finding:** Interactions of D_i with indicator for “state foreclosure program” in foreclosure-start and days-delinquent regressions are negative and significant
- **Abstract:** “[S]tate policy efforts aimed at preventing foreclosure may be enhanced by coordination with financial institutions and counseling providers”
- **Issues:**
 - Direct effect of D_i in foreclosure-start regression is *positive* and significant
 - Could be related to the reduced chance that these people get loan modifications
 - Interacted effect of D_i with state-program dummy is:
 - Negative but insignificant in cure regression (short sales?)
 - Positive and significant in make-contact regression (why?)