

Evaluation of NeighborWorks[®] America's Pre-purchase Counseling Program: Findings

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Presentation Overview

- ▶ Methodology
- ▶ Results
- ▶ Interpreting the Results

Methodology

- ▶ We used information on clients who received pre-purchase counseling from NeighborWorks® (NW) America organizations and who also received their mortgage sometime in 24 month period between October 2007 and September 2009 (FY 2008 and FY 2009).
- ▶ Of the approximately 28,000 clients who received services and purchased a home during that period, 18,258 (62 percent) were matched to Experian data that contains information on mortgage recipients' credit and mortgage characteristics.
- ▶ Experian also constructed a comparison sample of 56,284 borrowers who did not receive pre-purchase counseling from NW America organizations.
- ▶ We performed analyses that estimate counseling's impact on the probability of a loan never going 90+ days delinquent within 24 months of origination. The logit model to estimate this impact is as follows:
 - $p(\text{Loan never 90+ days delinquent within 24 month of origination}) = f(\text{receiving counseling, loan characteristics, borrower creditworthiness measures prior to and at origination and area economic conditions})$
- ▶ Variables that measure borrower credit performance prior to receiving a mortgage help to reduce selection bias in which more financially savvy people elect to enter counseling.

Methodology (cont'd)

- ▶ Experian used propensity scoring to select comparison group borrowers. Propensity scoring creates a comparison group that is very similar to the treatment group for the variables used in the model.
- ▶ The following variables were used in in the propensity scoring model:
 - Income (imputed by Experian);
 - Vantage Score (Experian's credit score) at origination;
 - Total number of open trades;
 - Total number of open trades opened in last six months;
 - Total number of trades ever 60 or more days delinquent or derogatory in the last 24 months including external collections;
 - Total balance on open trades reported in the last six months;
 - Overall balance to credit amount ratio on open trades reported in the last six months;
 - Original first mortgage amount;
 - Monthly first mortgage payment; and
 - Interest rate on first mortgage (imputed by Experian).

Logit Model Parameter Estimates

Variable	Parameter Estimate	P-value	Odds Ratio
indicator of borrower receiving counseling	0.411	0.00	1.51
interaction between first time buyer and counseling	-0.021	0.90	0.98
ratio of total credit outstanding to income	-0.001	0.91	1.00
indicator of FHA loan	-0.52	0.00	0.59
annual income (ignoring those over \$200k)	0	0.00	1.00
square of income	0	0.00	1.00
vantage credit score (500-990 is their range)	0.01	0.00	1.01
loan originated in 2008	0.436	0.00	1.55
loan originated in 2009	0.895	0.00	2.45
county unemployment rate in Jan 08	-0.006	0.75	0.99
change in unemployment rate Jan 08-Jan 10	-0.001	0.15	1.00
housing price index Jan 08	0.001	0.00	1.00
housing price index change Jan 08-Jan 10	0.027	0.00	1.03
ratio of annual mortgage payment to income	-0.877	0.00	0.42

Dependent variable =1 for loans that do not have a serious delinquency

Logit Model Parameter Estimates (cont'd)

Variable	Parameter Estimate	P-value	Odds Ratio
mortgage interest rate computed based on total mortgage payment	0.074	0.00	1.08
dummy for credit >=90 days in 12 months since open	-0.111	0.04	0.90
balance to credit amount ratio on 6 months of trades	-0.004	0.00	1.00
% of trades >=60 days in last 12 months	-0.001	0.44	1.00
total trades open in last 6 months	-0.026	0.00	0.97
total external collections with balance >250	-0.032	0.05	0.97
total external collect inquiries in last 6 months	-0.058	0.19	0.94
number credit inquiries in past 3 months	-0.124	0.00	0.88
total open revolving trades with bal/credit amount >=75 reported in last 6 months	-0.01	0.48	0.99
whether a charge-off	-0.244	0.00	0.78
whether a bankruptcy	-0.321	0.00	0.73
age of borrower	-0.003	0.06	1.00
dummy for NOT first time buyer	-0.291	0.00	0.75
Constant	-3.698	0.00	0.02

Shaded cells are measures of borrowers' use of credit prior to receiving their mortgage

Simulation Results from Logit Model

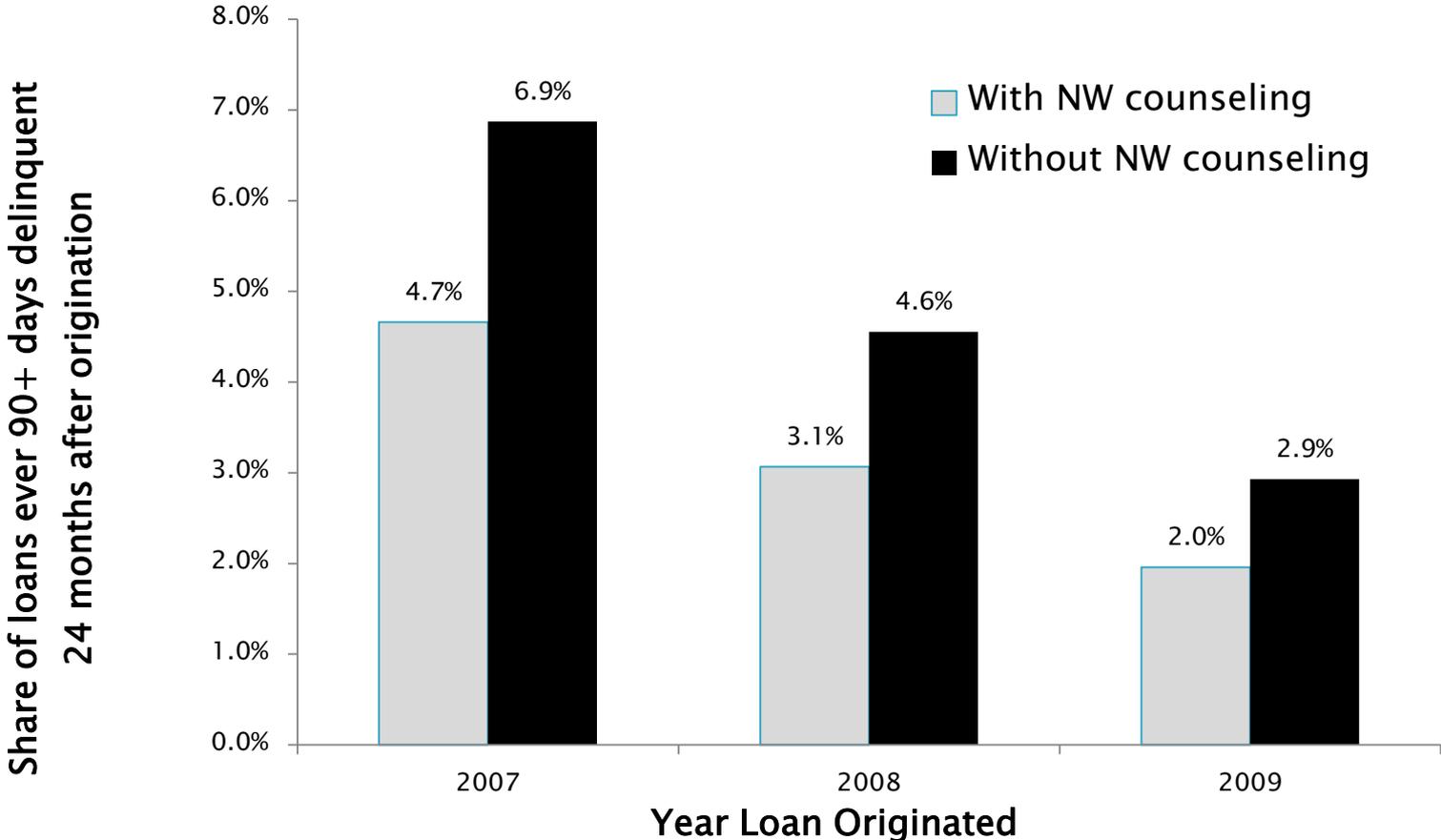
Share of loans ever 90+ days delinquent

	Year Loan Originated		
	2007	2008	2009
First Time Homebuyers			
With NW counseling	4.7%	3.1%	2.0%
Without NW counseling	6.9%	4.6%	2.9%
Difference	-2.2%	-1.5%	-1.0%
% Decline	32.2%	32.7%	33.1%
Repeat Buyers			
With NW counseling	6.1%	4.1%	2.6%
Without NW counseling	9.0%	6.0%	3.9%
Difference	-2.8%	-1.9%	-1.3%
% Decline	31.7%	32.4%	32.9%

Results are consistent for all loan origination cohorts and whether or not client is a first-time homebuyer. First-time homebuyers account for about 86 percent of the sample.

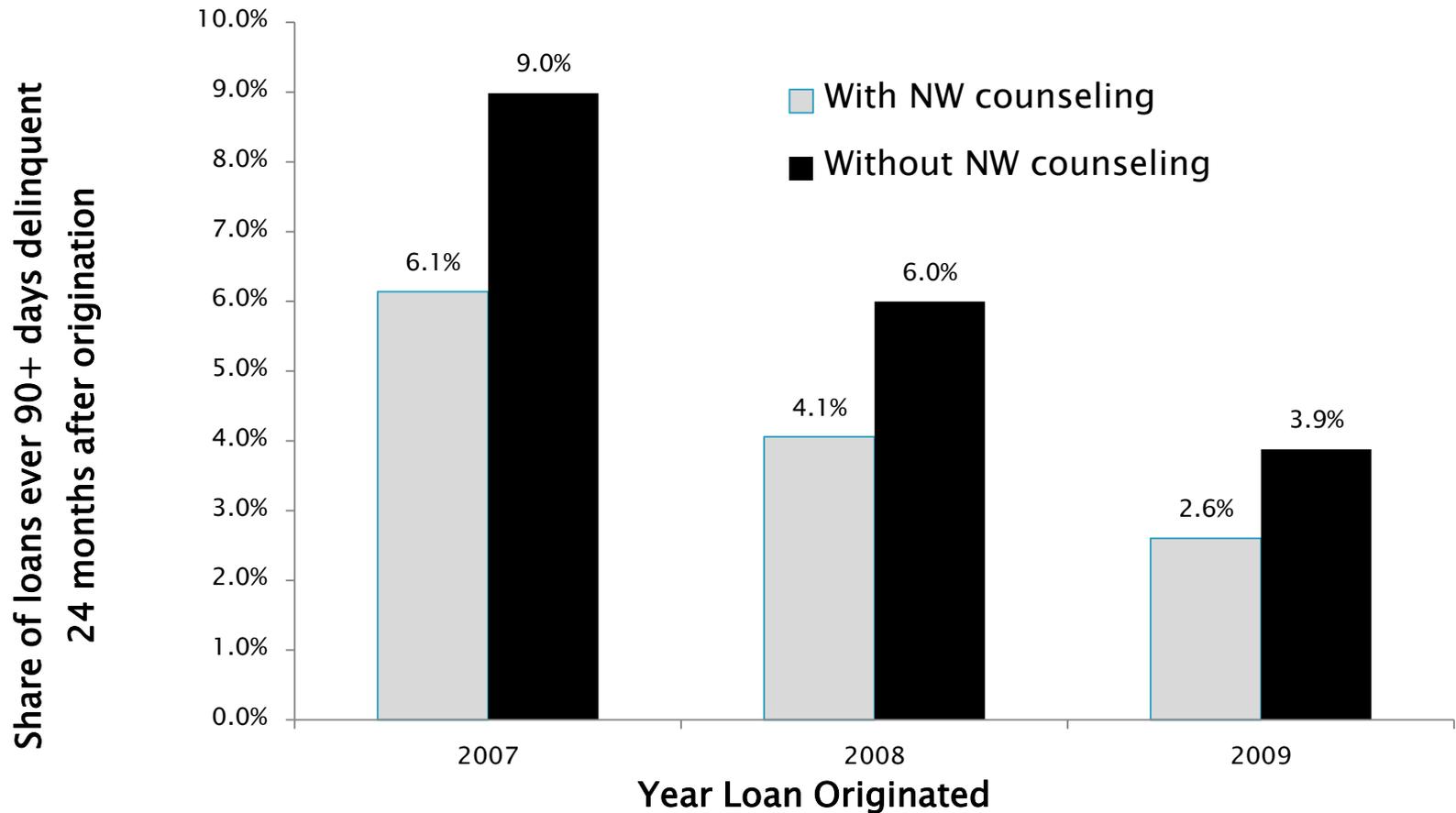
Results (cont'd)

First time buyers



Results (cont'd)

Repeat Buyers



Selection Bias

- ▶ Homebuyers choosing NW counseling may be more (or less) financially savvy than other buyers, biasing study findings.
- ▶ We used three methods to deal with this issue:
 1. propensity scoring,
 2. measures of buyers' difficulties with credit, and
 3. comparison of modeling results with and without buyer credit variables.
- ▶ Impact of NW counseling was higher with financial variables included in our models than without.

Interpreting the Results: The study may understate NW counseling's impact

- Observation period is short: Loans are observed only for 24 months after origination. Counseling may help to improve performance over a longer period of time.
- Study focused on delinquency prevention, not other results of counseling.
- It is likely that counseling affects the type of loan (e.g. prime versus subprime) that a borrower receives—product choice. This was more relevant prior to the financial crisis. To the extent that performance is better for prime loans compared to subprime prime loans, counseling results in better overall loan performance.
- The propensity scoring method results in an analysis that measures loan performance after selecting a mortgage product, thereby eliminating any counseling impact on product choice.
- Nonetheless, even when mortgage products are the same in the counseled and comparison groups, the results show statistically significant and material benefits derived from NW pre-purchase counseling within 24 months of origination.