

MPA

Master of Public Administration Capstone Applied Research Project

Effects of Homeownership Education on Foreclosure Prevention for First Time Homebuyers

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I. EXECUTIVE SUMMARY

Project Summary

The purpose of this research project was to provide an outcomes-based and process evaluation of the effectiveness of The ABC's of Homebuying, the homeownership education program administered by NEDCO (Neighborhood Economic Development Corporation). NEDCO is a Community Development Corporation and HUD approved Housing Counseling Agency, which serves two counties in Oregon. By tracking participant loan performance, specifically the occurrence of 90-day default, the analysis aimed to draw inferences about the program's impact. Demographic, mortgage and property information was gathered on both defaulting and non-defaulting participants in order to examine whether patterns of default are correlated with demographic or financial characteristics. These data were used to perform a logistic regression to determine whether certain indicators, such as annual income, are statistically significantly associated with default. The analysis also compared the annual percentage of NEDCO participants who defaulted to the annual percentage of Lane County homebuyers who defaulted on their loans in the same time period. Three research questions were examined:

- 1) Do homebuyer education participants have lower rates of default than the general population?
- 2) Among NEDCO participants, are there differences in demographic or mortgage characteristics between groups that did and did not default on their loans?
- 3) Are any demographic or mortgage characteristics significant predictors of default within the data of NEDCO participants?

Methodology

The research team compiled and analyzed NEDCO program data from records of participants who purchased homes between 2002 and 2008 after completing an 8-hour homebuyer education course. Participants in NEDCO's education program were grouped and analyzed by the year in which they purchased a home. This design allowed for the comparison of variable indicators such as interest rates, percentage of area median income, and types of loans obtained which vary in response to changes in the economy and mortgage market. Data on defaulting participants was organized in two ways. To compare to Lane County statistics, the study presents the percentage of NEDCO participants that defaulted on their loans by year of default. To compare demographic and loan characteristics, however, descriptive data on defaulting participants is organized by year of home purchase. The rationale for the reporting of data based on the year of purchase is that mortgage lending and housing market conditions were similar for participants who purchased in the same year. Therefore, the demographic and financial information for homeowners are more comparable when organized into a cohort by the year of purchase rather than by year of default.

Findings

Participant Characteristics

The complete data set for all NEDCO participants from the years 2002-2008 included 693 class attendees who went on to purchase a home within five years of attending ABC's of Homebuying during the same time period. Of these participants, 50 people, representing 7.2 percent of the

group, had a recorded 90-day default on their home loan. A clear majority of 639 participants, or 92.2 percent of the group, did not have a recorded 90-day default (0.6% of ABC's participants purchased homes outside of Lane County, for which default data was not available). The demographic characteristics of the NEDCO participants differed from Lane County statistics in many ways. The median annual income was found to be nearly \$13,000 less for NEDCO participants and mean percentage of AMI was 23 percentage points lower. NEDCO also served a greater proportion of non-white participants, including a higher rate of American Indian/Alaskan Native, Asian, Black/African American, and Hispanic participants than make up the Lane County population.

Sample Default Characteristics

In all years except 2007, NEDCO's rate of default is lower than Lane County's 90-day default rate. For the study period as a whole, Lane County had a mean annual default rate nearly one percentage point higher than the NEDCO participant pool (1.7% and 0.8% respectively). When the unemployment rate in Lane County nearly doubled (6.7% to 12.14%) in 2008 to 2009, the default rates of both populations also increased substantially. Within the NEDCO participant data, the default and non-default groups varied in several of the items of information recorded. Participants who defaulted on their loans earned on average \$3,838 less annually and had a mean percent of AMI 14 percentage points lower than their non-defaulting counterparts. The mean loan-to-value ratio of each group varied as well; the default group's ratio was 5.8 percentage points higher than that of the non-default group. Defaulting participants also reported higher interest rates than the non-default group; defaulters' mean interest rate was greater by over a third of a percentage point. There also existed significant differences in the types of loans that each group obtained. While the majority of all participants secured conventional loans, higher percentages of defaulting participants received FHA and ARM loans. The difference in purchase plans between groups also varied significantly; 52 percent of defaulting participants reported their status at the time of the class to be "purchase pending," compared to 32 percent of non-defaulting participants.

Characteristics that May Influence Default

Race/Ethnicity was found to be a significant factor in defaulting households, with Hispanics more likely than non-Hispanics to default. The difference in the share of defaulters compared to participants who were white was found to be significant at the 1% level, indicating that for their relatively large share of the participant group, they did not have as high a rate of default as could be expected. Asian/Pacific Islander participants also experienced a statistically lower rate of default than would be expected from their share of the participant group. According to the logistic regression model, the loan to value ratio, interest rate, and purchase plans are all each significant predictors of default, holding all other listed variables constant. For each percentage point higher a participant's loan-to-value rate, the odds of default were multiplied by 19.6. An increase in interest rate of 1 percentage point is shown to be associated with an increase in default probability of 340 percent. The closer to purchase a participant was at time of class was also a predictor of default in this model, with participants that were planning on purchasing sooner facing a 6.8 percent increase in likelihood.

Recommendations

NEDCO needs to make a stronger effort to work with the city down payment assistance programs to encourage them to require earlier education to mitigate the number of class participants with a "purchase pending". To help clients deal with low-incomes, a pre-and post-

purchase budget should be created so that the new homeowner can chart a course when expenses change after ownership. Counselors are obliged to help clients understand savings strategies and also make sure all clients have information about the resources that are available for people during hard times. Clients should also be given information about NEDCO's post-purchase counseling and foreclosure intervention assistance programs. Counselors should provide clients with assistance in creating a rapid debt repayment plan that also includes concurrent savings. For down payments, counselors should also encourage clients to adopt a tiered savings plan, with emergency savings, long-term savings and down payment savings included in the plan. All clients should be screened for down payment assistance programs and VIDA, as well as given assistance in identifying other sources they can use for down payment including savings and gifts. Counselors should also provide one-on-one assistance throughout the process for clients for whom English is a second language, including loan document review and screenings of bilingual industry partners. NEDCO's newly instituted requirement for one-on-one counseling as a condition of completing homebuyer education will be used to identify clients whose case includes one or more predictors of default as found by the logistic regression model. Once these factors have been identified, they should be integrated into the client's strategic Action Plan so they will have a written guide of how to take steps now to help prevent future defaults.

In order to evaluate the overall progress and impact of the ABC's of Homebuying, more sophisticated evaluation tools are needed. A combination of participant self-report data and personal finance histories, including credit scores, will allow NEDCO to successfully track and compare participants over time. Pre and post self assessments for financial capability and readiness for homeownership should be gathered in order to evaluate the program's impact. Follow-up interviews with participants will provide different perspectives about the class and how it has affected them over time. Tracking both purchasers and non-purchasers in a longitudinal follow-up will distinguish the short term and long term effects of the class, more specifically the impact it had on a participant's decision to purchase or not purchase a home. NEDCO officials should also monitor participants' credit scores, income, savings, and debt over time as another way to evaluate the impact of the ABC's of Homebuying.

II. INTRODUCTION

Prepurchase homeownership education has been used by community based and governmental organizations for several decades to help first time homebuyers gain knowledge of the homebuying process and to prepare for the responsibilities of homeownership. The primary policy rationale behind homebuyer education is twofold: to extend the opportunity of homeownership to underrepresented populations, including low-income and ethnic and racial minorities and to improve the long-term success of new homeowners. It is thought that financial education and one-on-one financial consultations will help prospective buyers make informed, appropriate choices about their home purchase relative to their financial position and to prepare them for the responsibilities of managing a mortgage. Practitioners hope to enable first time buyers to purchase affordably within their budget, and to obtain a fair and sustainable home loan. A central area of interest from the both the borrower's and lender's perspectives is whether homebuyer education provides the intended outcomes.

Homebuyer education is administered by a variety of organizations, many of which are Department of Housing and Urban Development (HUD) certified Housing Counseling Agencies. HUD certification includes quarterly monitoring and reporting and a biannual performance review which requires strict adherence to HUD policies and rules of operation. This third party review and certification process provides a baseline level of consistency for education and

counseling. For example, approved homebuyer education courses must consist of a classroom-based 8-hour course that covers specific topics such as the homebuying decision, financial preparation, mortgages and real estate. Counseling similarly follows HUD-directed guidelines and must include at minimum financial analysis, credit review, budgeting and referral to community resources.

The purpose of this research project is to evaluate the effectiveness of homeownership education administered by NEDCO (Neighborhood Economic Development Corporation), a Community Development Corporation and HUD approved Housing Counseling Agency, which serves two counties in Oregon, namely Lane and Marion Counties. By tracking participant loan performance, specifically the occurrence of 90-day default, the study aimed to draw inferences about program success and impact. Demographic, mortgage and property information was gathered on both defaulting and non-defaulting participants among NEDCO's Lane County participants, where the history of education was longer and thus the participant pool deeper than in Marion County, in order to examine whether patterns of default can be attributed to demographic or financial characteristics. These data were used to perform a logistic regression to determine whether certain indicators, such as annual income, are more likely than others to predict default. Finally, the study will compare the annual percentage of NEDCO participants who defaulted to the annual percentage of Lane County property owners who defaulted on their loans in the same time period.

Determining the effectiveness of homebuyer education on preventing future incidence of default is of particular importance for homebuyer education providers at this time. Since 2008, an unprecedented number of foreclosures have been executed, and the housing market, a huge generator of personal wealth in America, has faltered as a result. New homebuyers in this environment need assurance that preparation can help mitigate the risks of homeownership, and lenders are interested in a prepared pool of prospective buyers who are well prepared so as to fit into the newly stringent lending criteria that have been instituted as a result of mass foreclosures. Perhaps more importantly, the very existence of housing counseling as an industry depends on financial support from government agencies such as HUD. Reflecting changing political sentiment regarding the importance of homeownership among all socio-economic groups in the U.S., the HUD Counseling budget was eliminated in the FY11 federal budget. This loss of funding jeopardizes the ability of organizations to provide unbiased homebuyer education and counseling for the purposes of helping low-income people build assets, and to provide a level playing field for knowledgeable consumers as they navigate an unfamiliar lending and real estate environment.

III. LITERATURE REVIEW

Introduction

By the end of the 1990s, the percentage of low-income and minority households buying homes was growing faster than the equivalent percentage for any other population group.¹ This pattern is the resultant effect of three decades of housing policy aimed at extending homeownership to underrepresented populations, and thus promoting the individual and community level social and economic benefits thought to be associated with it.² The tools of this policy rationale have included setting minimum community lending requirements for financial institutions, government

¹ Carswell, A. "Does Housing Counseling Change Consumer Financial Behaviors? Evidence from Philadelphia." *Journal of Family and Economic Issues* 30.4 (2009): 339-356. EconLit with Full Text. EBSCO. Web. 18 Jan. 2011.

² Carswell 2009.

assistance with home-buying costs and the lowering of mortgage qualification standards for low-income applicants. In order to mitigate the higher risk of default and foreclosure among these borrowers, homeownership education and counseling (HEC) saw a rapid growth in programs, funding and policy support. Its role in encouraging and facilitating home-buying among these target populations has made it the object of a largely unsuccessful body of research attempting to evaluate its effectiveness at mitigating risk. This paper is an overview of the major impact studies conducted in the last 40 years, the challenges associated with them, and how the evaluation framework has evolved.

Homeownership Education and Counseling

HEC is a broad term for a variety of services provided by financial, governmental and community-based organizations designed to better prepare non-conventional borrowers and first-time homebuyers for homeownership. The timing and format vary and include pre-purchase and post-purchase services and individual counseling, classroom-based or telephone-based instruction, and self study. Content also varies, and depending on the timing of services, may equip borrowers in purchasing a home, securing and managing a mortgage and negotiating financial and mortgage difficulties after purchase. This review looks specifically at studies of pre-purchase education.

Today, many programs are now standardized and certified by the Department of Housing and Urban Development (HUD). Certification includes quarterly monitoring and reporting and a biannual performance review which requires strict adherence to HUD policies and rules of operation. This third party review and certification process provides a baseline level of consistency for education and counseling. For example, approved homebuyer education courses must consist of a classroom-based 8-hour course which covers specific topics such as the homebuying decision, financial preparation, mortgages and real estate. Counseling similarly follows HUD-directed guidelines and must include financial analysis, credit review, budgeting and referral to community resources.

HEC was first incorporated into housing policy with the passing of the 1968 Housing and Urban Development Act which authorized the Department of Housing and Urban Development (HUD) to certify HEC programs in response to high default and foreclosure rates among HUD lending programs.³ The next legislative support for HEC programs was to provide limited funding through HUD grants in the 1974 Housing and Community Development Act.⁴ A gradual growth in funding and provision was seen up until the early 1990s, when HEC became an integral tool for a heightened policy focus of expanded homeownership.^{5,6}

Two legislative actions increased the financial sector's reliance on and promotion of HEC services. The amendments to the Community Reinvestment Act in 1989 strengthened its focus on enforcement of community lending goals set for banks. In 1992 the Federal Housing Enterprise Financial Safety and Soundness Act allowed HUD to mandate affordable lending goals for financial government-sponsored enterprises (GSE) such as Fannie Mae and Freddie Mac. For both GSEs and private banks trying to meet these mandates, HEC services facilitated access to applicants not actively engaged in the financial services market and served as an

³ Quercia, R. and J. Spader. (2008), Does homeownership counseling affect the prepayment and default behavior of affordable mortgage borrowers?. *Journal of Policy Analysis and Management*, 27: 304–325. doi: 10.1002/pam.20326.

⁴ Quercia and Spader 2008.

⁵ Carswell 2009.

⁶ Quercia and Spader 2008.

eligibility screening mechanism for high-risk borrowers.⁷ In fact, the GSEs quickly followed suit by making HEC receipt a requirement for their affordable lending products, and the number of providers began to rapidly increase. Federal funding increased as well: in 1977 its levels were at \$3 million per year and in 2007 it had risen to \$50 million.⁸

Evaluation Literature

The body of research investigating HEC effectiveness is generally related to two related policy rationales. When completed in advance of entering into a purchase or mortgage agreement, it is hoped that HEC will help consumers discern between loan products and homes and make more appropriate decisions relative to their financial situation. In the long term, it is assumed that the financial and homeownership knowledge will have an effect on borrower behavior and mortgage management.⁹ As several authors note, this causal relationship may seem like a reasonable expectation, but for over 30 years investigators struggled to establish convincing, empirical evidence.^{10,11} Difficulties include accessing the necessary data, establishing a comparison group, overcoming small sample sizes and a lack of consistency among services provided.

In their respective reviews of the literature, the Housing Assistance Council and Mallach both find an inconsistent and unconvincing body of studies conducted entirely before 1981. While the HAC authors note study limitations, Mallach, is more pessimistic towards the collective evidence, which he finds to be weak and inconsistent and states that “the outcome of the studies, taken as a whole, is highly ambiguous.”¹²

An early experimental study in San Francisco in 1970 on HUD’s Section 235 program¹³ found that homeownership rates were positively correlated with having received pre-purchase home-buying counseling, as opposed to control groups that received either employment or other financial counseling or no counseling services. However, participants also received two years of financial assistance and the effects of this were not separated out from the counseling. The study also suffered from a small sample size of 104 and used limited qualities in establishing a control group.^{14,15} Furthermore, the study did not look at foreclosure rates, but based on incomplete reports and references in other publications, Mallach speculated that the program had no effect on preventing foreclosure.¹⁶

In 1972, HUD conducted another evaluation of a pre-purchase program with even less useful results. The study of behavioral differences in counseled and non-counseled groups found that while financial behaviors, such as budgeting and saving, did not improve among counseled participants, counseled participants were more likely to own homes and major appliances, and

⁷ Quercia and Spader 2008.

⁸ Quercia and Spader 2008.

⁹ Mallach, A. (2001). “Home ownership education and counseling: Issues in research and definition.” Federal Reserve Bank of Philadelphia. 28 Jan. 2011, www.phil.frb.org/cca/capubs/homeowner.pdf.

¹⁰ McCarthy, G., and R. Quercia. 2000. “Bridging the Gap Between Supply and Demand: The Evolution of the Homeownership Education and Counseling Industry.” Washington, DC: The Research Institute for Housing America.

¹¹ Mallach 2001.

¹² Mallach 2001, pg. 5.

¹³ Under the Section 235 Program, qualified homeowners (low-income) receive a monthly interest reduction payment subsidy which lowers their mortgage loan’s effective interest rate, and, thus, monthly payment.

¹⁴ Strauss L. and S. Phillips, *Housing Counseling in Rural America*, Housing Assistance Council, 1997.

¹⁵ Mallach 2001.

¹⁶ Strauss and Phillips 1997.

to have less debt on their purchases. The selection of a comparison group, Section 235 and 237 participants whose applications to the counseling program were rejected, offers no evidence that differences in findings are not linked to differences in the groups.¹⁷

Even though a 1974 HUD study faced the common constraints of a “small sample and limited matching of the experimental and control groups,” it did demonstrate that counseled purchasers had significantly better loan performance than non-counseled.¹⁸ The report acknowledged that the small sample prohibited ruling out the effects of other variables, such as exogenous shocks, and that generalizability was limited to other newly constructed Section 235 units in cities with economic and housing market conditions like those of Fresno.”¹⁹

In 1981, Congress ordered an evaluation of pre-purchase education and counseling programs to determine if it could have an impact on high default and foreclosure rates among Section 235 participants. Six HUD-approved counseling agencies in three U.S. cities provided study participants. Participants were divided into three categories: those who received written materials, classroom instruction and individual counseling. The first group was designated as the control group; this fact can be seen to weaken the findings since the group received some education and furthermore, the written materials were rated quite highly by all participants.²⁰ The study did find that education and counseling reduced home purchase rates by a small amount, but other findings, few of which were statistically significant, gave no information toward the goal of the study related to default and foreclosure prevention.²¹

After years of attempts, Hiram and Zorn were able to empirically demonstrate in 2001 that “pre-purchase homeownership counseling can significantly reduce the delinquency rates of borrowers.”²² By obtaining data from over 40,000 loans purchased by Freddie Mac under its Affordable Gold program, the authors were able to make comparisons between counseled and non-counseled borrowers. To do this, they made use of a convenient quasi-control group consisting of a small percentage of loan applicants exempted from the program’s mandatory HEC requirements.²³

The advantages of the dataset include information on an extensive number of variables, including loan, borrower and property characteristics. With this information and a logit model created to estimate the likelihood of participants from either group entering into 90-day default, the authors tested the null hypothesis that counseling has no effect on default. They also compared estimated effects across counseling formats. Additionally, individual and loan characteristics were used in an ex-post matched pairs analysis with data from other Freddie Mac loans to affirm any findings. The authors found that counseling does significantly decrease default probability by an average of 19 percent. While no differences in probability were shown among HEC providers, which include governmental, nonprofit, and lending/insuring agencies, a drastic difference in HEC delivery format was estimated: individual counseling could reduce default by up to 34 percent, classroom and home study by 26 percent and 21 percent respectively. Telephone counseling showed no statistically significant effects.²⁴

¹⁷ Strauss and Phillips 1997.

¹⁸ Mallach 2001, pg. 7.

¹⁹ Strauss and Phillips 1997, pg. 102.

²⁰ Strauss and Phillips 1997.

²¹ Mallach 2001.

²² Hiram, A., and P. Zorn. “A Little Knowledge is a Good Thing- Empirical Evidence of the Effectiveness of Pre-Purchase HO Counseling.” <http://www.jchs.harvard.edu/publications/homeownership/liho01-4.pdf>

²³ Hiram and Zorn 2001.

²⁴ Hiram and Zorn 2001.

Studies following this important contribution by Hira and Zorn have taken on a new framework for measuring impact and have benefited from improvements in and access to available data. Evaluations by Hartarska and Gonzalez-Vega (2005) and Quercia and Spader (2008) provide in depth analysis of default and prepayment behavior to find evidence that HEC has had some effect on borrower knowledge and decision-making. As Quercia and Wachter note in their review, the literature on loan default has developed to capture the value of default or prepayment decisions based on when they are made or not made.^{25,26}

Hartarska and Gonzalez-Vega utilize this type of competing-risks model, or proportional hazards analysis, to study 1,338 loans from a HEC program originated during 1992-2000. The finding that default and prepayment hazards differ among counseled and non-counseled borrowers led the authors to conclude that this framework is appropriate for measuring HEC impact. They found that counseled borrowers exercised the prepayment option more frequently but did not default less frequently. They did however, exercise their default option more optimally, or “when it was more ‘profitable’ to default because the value of the house is less than the value of the outstanding balance.”²⁷

Quercia and Spader also adopt this approach in their 2008 study, but instead of the Cox proportional hazards model employed by Hartarska and Gonzalez-Vega, they opt for a multinomial logit framework. This allows for nonparametric modeling of the baseline hazard based on origination indicator variables, which remain fixed based on the financial quarter they originated in.²⁸ The authors do not find that HEC receipt reduces default rates or values. Use of the prepayment option however, is found to be significantly impacted by classroom and individual HEC services, but not by telephone or home study programs. They also find that demographic variables perform as commonly expected across counseled and non-counseled groups: income is positively associated with prepayment; lack of education is associated with higher rates of default; and as the number of children in the household increases, so does default.²⁹

Argarwal looks to a homeownership program for low- to middle-income households to solely investigate whether “mortgage defaults... [can] be prevented by borrower education, credit counseling, and/or disclosure.”³⁰ The dataset consists of loan performance data on 359 loans from the counseling agency and a control sample of loans originated in the same county and time frame selected from LPS Applied Analytics data. Because the program is voluntary, the authors use propensity score matching to control for differences caused by self-selection into the program. The study finds that program participants experience a significantly lower rate of default. It should be noted that the HEC program is substantially more long-term, up to two years, and includes post-purchase loan performance monitoring and counseling, possibly making the robust findings in part attributable to program design.³¹

²⁵ Quercia, Roberto and Susan Wachter. 1996. “Homeownership Counseling Performance: How Can It Be Measured?” *Housing Policy Debate* Volume 7, Issue 1: 175-200.

²⁶ Hartarska, Valentina, and Claudio Gonzalez-Vega. "Credit Counseling and Mortgage Termination By Low-Income Households." *J. of Real Estate Finance and Economics*, 30.3 (2005): 227-243. EconLit with Full Text. EBSCO. Web. 28 Jan. 2011.

²⁷ Hartarska and Gonzalez-Vega 2005, pg. 239.

²⁸ Quercia and Spader 2008, pg. 313.

²⁹ Quercia and Spader 2008, pg. 323.

³⁰ Argarwal, Sumit, et al. “Learning to Cope: Voluntary Financial Education and Loan Performance during a Housing Crisis.” *American Economic Review: Papers and Proceedings* 100:2 (2010): 1-10. Pg. 1.

³¹ Argarwal, et al. 2010.

IV. PROJECT REPORT

Research Questions

The purpose of this study is to provide a summative evaluation of The ABC's of Homebuying, the homeownership education program administered by NEDCO. This analysis aims to collect and study participant default rates³², based on mortgage loans originated by class graduates from 2002-2008, in order to gain understanding about the program's impact as well as participant characteristics and experiences. While this analysis will not be able to demonstrate a causal relationship between the education and any differentiation in default rates of participants in the program and the general population, it will attempt to explain differences in default rates, demographics and outcomes of NEDCO participants as compared to the general population. Several questions that will be examined specifically are:

- 1) Do homebuyer education participants have lower rates of default than the general population?
- 2) Among NEDCO participants, are there differences in demographic or mortgage characteristics between groups that did and did not default on their loans?
- 3) Are any demographic or mortgage characteristics significant predictors of default within the data of NEDCO participants?

Protection of Human Subjects and Confidential Information

Participants in the study were voluntary attendees of *The ABC's of Homebuying* education class given by NEDCO between 2000 and 2008. Secondary data is being used in this study. Therefore, no participants will be contacted or recruited. Public record of foreclosed properties will be used to inform the study as to whether or not the participants defaulted or foreclosed on their loan post homebuyer education. The appropriate human subjects protocol was submitted on February 25, 2011.

Methodology

To begin the evaluation the research team created a dataset containing all NEDCO program data from records of participants who purchased a home between 2002 and 2008 within five years of attending an 8-hour homebuyer course. Records include all or some combination of the following pieces of information: a class registration form filled out by the participant; a record of purchase created by NEDCO staff when proof of participation was requested from a lender or other financier; a property profile recorded at time of sale and retrieved from a title company database; and a good faith estimate received by NEDCO with lender requests for participant certificates of completion, which are required for certain loan programs and for down payment assistance. When one or more of these documents was missing, the team collected information by searching for deeds of trust using the Regional Land Information Database (RLID). RLID was also used to determine if a participant had a recorded default. The researchers searched for recorded default through December 31, 2010 on loans originated between January 1, 2002 and December 31, 2008.

³² This study defines a default as a 90 day or greater default. This is the level of default required before the notice of default is recorded.

A procedure for finding, interpreting and recording data for each independent variable was created to aid in consistent data entry as well as to serve as a standard for future participant tracking at NEDCO. Detailed information about how certain variables were determined, calculated and classified is recorded in this document. [See Appendix A].

Data on participants was organized in two ways. To compare to Lane County statistics, the study presents the percentage of NEDCO participants that defaulted on their loans by year of default. This also allowed for the comparison of an exogenous occurrence, the Lane County unemployment rate, to the yearly rate of default for both NEDCO and Lane County. To compare demographic and loan characteristics, however, descriptive data were organized by year of home purchase, which allowed the study to capture changes in the economic, mortgage and housing markets. This allowed for side-by-side comparison of endogenous qualities, such as average interest rate obtained by a cohort within a particular year, to their rate of default.

To calculate the yearly default rate for NEDCO's participant group, the study divided the yearly cumulative total of participants by the number of recorded 90-day defaults that occurred at any point up until December 31, 2010. For a comparative rate in Lane County's population, the study obtained the yearly numbers of recorded 90-day defaults from CoreLogic, a leading database of private and public data. The data was presented as an annual total, and not as a percentage of default on all current home loans in the county. In order to create a comparative rate of default between NEDCO and the county, a proxy for the total population of home loans was taken from the American Community Survey in the form of Total Housing Units. Because this number includes units for which there is no current home loan, the calculated rate of default for Lane County used by this study is likely deflated.

The study also compared demographics of the total NEDCO participant group to Lane County demographics. Data on median income, percentage of area median income, race/ethnicity and family status were compiled on clients and compared to Lane County statistics taken from the American Community Survey (2005-2009).

The next level of analysis was to compare data on several key participant, loan and purchase characteristics, among those who did and did not default, in an attempt to determine if any of these indicators are correlated with default. Percentages and average rates of several characteristics were totaled for the default and non-default groups. To determine if significant differences existed between groups, independent t-tests and chi-square tests were run on these variables.

The third level of analysis involved looking for variables within the dataset that were predictive of default. A logistic regression model performed on the compiled participant data was used to reveal if any of these characteristics, such as income or the receipt of down payment assistance, affected the likelihood that a participant would default a loan.

Below is a list of variables and comparative county and national statistics, and definitions where needed, that were used to describe program participants, determine probability of default and compare participants to Lane County and national homebuyers.

Participant Demographic Characteristics (as self reported at the date of class participation)

1. Family status: Includes information on whether the participant is single, a couple, a family with children, single head of household (male or female), non-traditional/extended family or other.

2. Family size
3. Race/ethnicity
4. Disability status: refers to participant or any member of household.
5. Gross annual income
6. Percent of area median income (AMI): percentage of AMI was calculated by dividing a participant's gross annual income with HUD's annual AMI levels for Lane County.³³

Homebuying Process Characteristics

7. Purchase plans: reports when the participant anticipated buying a home. Answer choices ranged over three-month intervals from "purchase pending now" to "more than 18 months."
8. Actual length of time between class attendance and home purchase, recorded by number of months.
9. Lender relationship: whether the participant was working with a lender at time of class.
10. Referral source: how the participant heard about the NEDCO class.

Loan, Property and Final Sale Characteristics

11. Property address
12. Purchase price: total purchase price of the home.
14. Annual tax payment
15. First loan amount
16. Second loan amount
17. Loan interest rate
18. Loan program: For the purposes of this study, several commonly used loan programs (special terms or conditions that are layered onto a mortgage loan) were considered, including Oregon Bond Loan, a state sponsored program that provides either 3% cash assistance for down payment and closing costs or a subsidized interest rate that is normally about 1 point lower than rates in the general marketplace; Fannie 97, a program designed for first time buyers that allowed them to put 3% down rather than the traditional 20%; and Interest only, which was placed in the Loan Program category because it is a feature of certain ARM loans. Loan programs are usually designed to make it possible for people to purchase a home when they otherwise might not qualify due to lack of down payment, slightly lower than required credit scores or, in the mid 2000's, lack of documentable income.
19. Loan type: For the purposes of the study, the loan type expresses a main feature of the loan including the whether it is fixed (conventional) or adjustable (ARM), and breaks out various government guaranteed or direct loans. Conventional is defined as a fixed rate loan, most often with a 30 year repayment term, though occasionally other terms of 15 or 40 years appeared in the data set. A Federal Housing Administration (FHA) loan is a government guaranteed mortgage loan that requires a smaller down payment and has less stringent credit and debt to income ratio qualifications than a conventional loan. Veterans Administration (VA) is a government program offered to veterans which carries a low interest rate, very lenient credit qualifications and a 100% financing capability (requiring no down payment). Rural Housing Service offers two main types of loans, guaranteed (where the government insures the loan), and direct (where the government provides the loan directly to the borrower). This type of loan is very flexible, carries consumer friendly requirements and is offered at a subsidized interest rate that can go as low as 1%, depending on the income of the borrower. It is also amortized over either 33 or 38 years in order to make the monthly payment as low as possible for the buyer to encourage homeownership in rural areas. ARM loans (adjustable rate mortgages) were, in fact,

³³ HUD FY10 Income Limits located at <http://www.huduser.org/portal/datasets/il/il10/index.html> AMI levels are classified as follows: Extremely low income, when household income is at or below 30% AMI; very low income, when household income is between 30-50% AMI; low income, household income is between 50% and 80% AMI

available under both conventional and FHA loans, but for the purposes of the study were tracked as a unique loan type. The reason for this is that ARM loans have often been cited as a major factor in the increase in foreclosure activity beginning in 2007. The final loan type included in the study is a balloon mortgage, which is amortized over 30 years, but matures within a shorter time frame (as short as 12 months and up to 20 years), at which time the balance of the loan that has not been repaid in monthly installments comes due at once. This is most often seen in second mortgages, though in this study, loan types for second loans were not considered.

20. Loan terms: Loan terms were tracked by the number of months over which repayment of the principal and interest was allowed.

21. Receipt of down payment assistance: several programs are available in Lane County to assist qualifying and low-income homebuyers with making down payments, including programs run by the cities of Eugene and Springfield and Oregon Housing and Community Services. This study simply tracked whether participants did or did not receive down payment assistance through an official program, but did not examine how much they received or which program was used.

22. PITI Payment: the amount paid per month in principal, interest, taxes and insurance for a given property.

23. Loan-to-value ratio (LTV): “a percentage calculated by dividing the amount borrowed by the price of the home to be purchased; the higher the LTV, the less cash a borrower is required to pay as down payment.”³⁴ Traditionally, borrowers were required to put 20% down on property purchases. Mortgages with a LTV above 80% are required by most lenders to carry private mortgage insurance or to qualify under a government guaranteed mortgage insurance program such as FHA.³⁵

24. Housing cost burden: percentage of household income spent for mortgage costs including principal, interest, taxes, and insurance as well as the cost of utilities. This study used an approximation of utility costs for all participants from Housing and Community Services Agency (the local housing authority) monthly utility allowances for 3 bedroom 1 bathroom homes in Eugene, Springfield and rural Lane County. This resource is used to determine utility allowances for Section 8 rentals in the area, as required by HUD.³⁶ The Section 8 program requires that renters pay no more than 30% of their gross monthly income in housing expenses including rent (or PITI payment) and utilities. The housing cost burden ratio will be analyzed as compared to the generally accepted definition of affordability of thirty percent or lower. A burden above thirty percent is considered to jeopardize a family’s ability to afford other expenses, such as food, clothing and medical care.³⁷

Comparative Statistics

The number of Lane County residents that were delinquent on their mortgages by 90 or more days, as well as the County’s overall rate of delinquency, for years 2002-2010 was provided by CoreLogic. The data was compiled from public records, contributory databases, and proprietary analytics.

³⁴ HUD.gov *Glossary*

³⁵ Federal Reserve Bank of San Francisco: What is Private Mortgage Insurance?
<http://www.frbsf.org/publications/consumer/privatemortgage.pdf>

³⁶ For detailed information about calculating utility allowances, see:
http://portal.hud.gov/hudportal/HUD?src=/program_offices/public_indian_housing/programs/ph/phecc/allowances2

³⁷ U.S. Department of Housing and Urban Development. “Affordable Housing.”
<http://www.hud.gov/offices/cpd/affordablehousing/>

Dependent Variable

The dependent variable measured is the occurrence of 90-day default. Default was selected rather than record of an actual foreclosure of the property for several reasons. The 90-day default records are public information and required no outside assistance to obtain. Additionally, the legal process of foreclosure takes a considerable amount of time and, while a homeowner with a 90-day or greater default is at severe risk of completing a full foreclosure, foreclosure rates are much lower than 90-day default rates, and thus this measure offered a greater opportunity to find results.

Findings and Discussion

Participant Characteristics

The complete data set for all NEDCO participants from the years 2002-2008 included 693 class attendees who went on to purchase a home within five years of attending ABC's of Homebuying during the same time period. Of these participants, 50 individuals, representing 7.2 percent of the NEDCO population, had a recorded 90-day default on their home loan. A clear majority of 639 participants, or 92.2 percent of the group, did not have a recorded 90-day default. The data included four class attendees who bought homes outside of Lane County, who were not included in further analysis (accounting for .6% of the NEDCO data set). [See Table 1]

Table 1. NEDCO Participants Years 2002-2008

Dependent Variable	Frequency	Percentage
No Default	639	92.2%
Default	50	7.2%
Total	693	100%

Demographic characteristics were aggregated for all participants from the time period to provide a comparative view of the population NEDCO serves in contrast to overall Lane County demographic statistics. Using data from the American Community Survey from 2002-2009 for Lane County, the study compared median annual income, mean percentage of AMI, race/ethnicity, and family status of the two groups. The NEDCO group differed from Lane County in many ways. The median annual income was found to be nearly \$13,000 less for NEDCO participants and mean percentage of AMI was 23 percentage points lower. NEDCO also served a greater proportion of non-white participants, including a higher rate of American Indian/Alaskan Native, Asian, Black/African American, and Hispanic participants than make up the Lane County population. NEDCO participants were more frequently members of a family or single, female head of households than the broader population. [Table 2]

Table 2. NEDCO Demographic Characteristics for Participants Years 2002-2008

Demographics of NEDCO Participants Compared to Lane County 2002-2008			
Characteristic	NEDCO	Lane Countyⁱ	
Median Income	\$30,000	\$42,852	
Mean Percentage of AMI	77%	100%	
Race/Ethnicity	American Indian/Alaskan Native	3.5%	1.3%
	Asian	3.6%	2.8%
	Black/African American	6.0%	1.0%
	Hispanic	12.6%	6.1%
	Native Hawaiian/Other Pacific Islander	0.9%	0.2%
	White	73.4%	89.5%
	Other Multiple Race/Non-Hispanic	0.8%	2%
	Asian/Pacific Islander	5.0%	NA ⁱⁱ
	Two or more	2.4%	3.2%
Family Status	Single	25.5%	28.4%
	Couple	25.5%	29.8%
	Family with Children	30.4%	16.9%
	Single Female Head of Family	14.2%	9.4%
	Single Male Head of Family	2.2%	4.4%
	Extended Family/Non-Traditional	2.2%	NA ⁱⁱⁱ

ⁱ Demographic characteristics are from NEDCO data and the 2005-2009 American Community Survey (ACS) 5-Year Estimates for Lane County.

ⁱⁱ Asian/Pacific Islander was not a category of race/ethnicity used in the American Community Survey.

ⁱⁱⁱ Extended Family/Non-Traditional was not a category of family status used in the American Community Survey.

Comparison of NEDCO to Lane County 90-Day Default Occurrence

We find that NEDCO's default rate differs significantly from that of Lane County. In all years except 2007, NEDCO's rate of default is substantially lower than Lane County's 90-day default rate. One possible reason for the spike seen in the default rate among NEDCO's population in 2007 may be explained by research that indicates that low-income people, such as are most commonly served by NEDCO, are impacted earlier and more severely by economic downturns.³⁸

Overall, Lane County had a mean annual default rate nearly one percent higher than the NEDCO participant pool (1.7% and 0.8% respectively). Both groups spike in 2009, with an increase of 1.6 percentage points in NEDCO's rate and an increase of 1.9 percentage points in Lane County's rate from the previous year. Lane County's 90-day default rate increase coincides with the county unemployment level increase that began to climb in 2008, nearly doubling in two year's time with a peak in 2009. [Table 3 and Figures 3 and 4]

³⁸ Sum, Khatiwada, and Palma. 2010. "Labor Underutilization Problems of U.S. Workers Across Household Income Groups at the End of the Great Recession."

Table 3. 90-Day Default Rates by Year of Default: NEDCO Participants vs. Lane County

Year	NEDCO ⁱ		Lane County ⁱⁱ	
	N	Default Rate	N	Default Rate
2002	70	0.0%	141,963	1.4%
2003	168	0.6%	143,484	1.3%
2004	294	0.0%	144,372	1.1%
2005	396	0.3%	145,876	0.8%
2006	500	0.4%	147,986	0.6%
2007	600	1.2%	149,386	0.8%
2008	699	0.6%	150,523	1.4%
2009	778	2.2%	151,178	3.3%
2010	841	1.7%	Not available	4.4%

i NEDCO's population is the cumulative total of all people who purchased homes after attending The ABC's of Homebuying each year. The default rate is calculated as the number of people who defaulted in each given year divided by the total population of NEDCO homeowners.

ii Lane County homeowner population per year is a proxy taken from the annually estimated Total Housing Units figure from the American Community Survey 2002-2009; Lane County default rates were obtained from CoreLogic.

Figure 1. Lane County and NEDCO 90 Day Default Rates

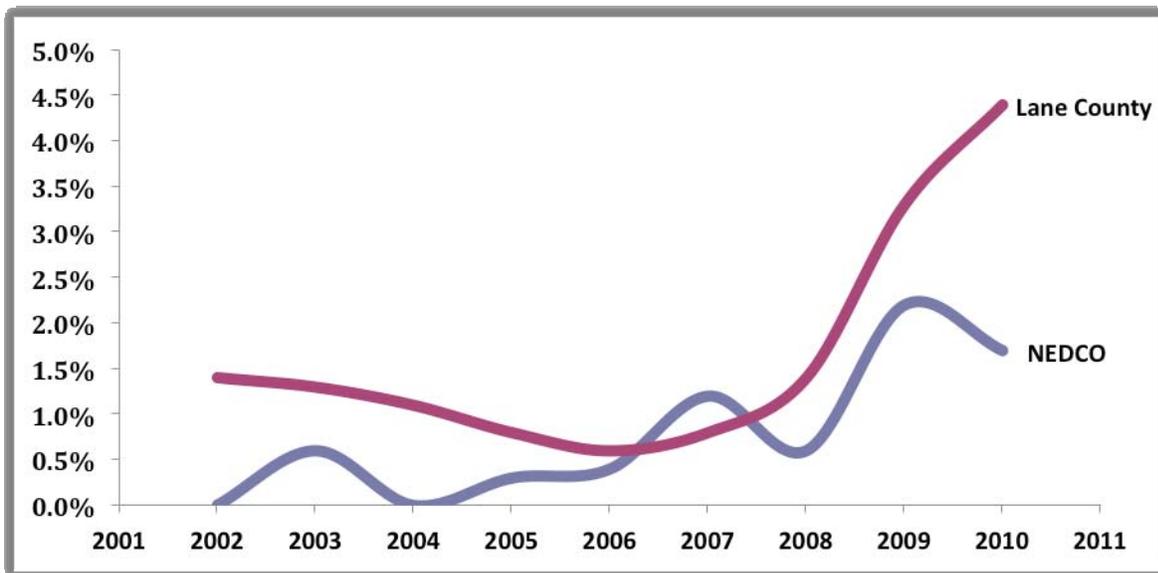
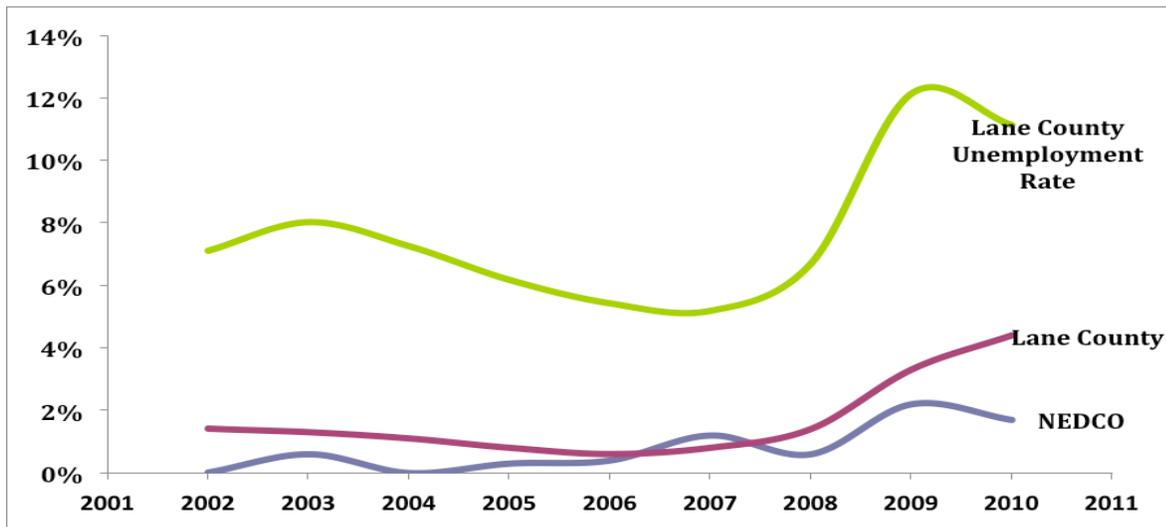


Figure 2. Lane County and NEDCO 90 Day Default Rates with the Lane County Unemployment Rate 2002-2010

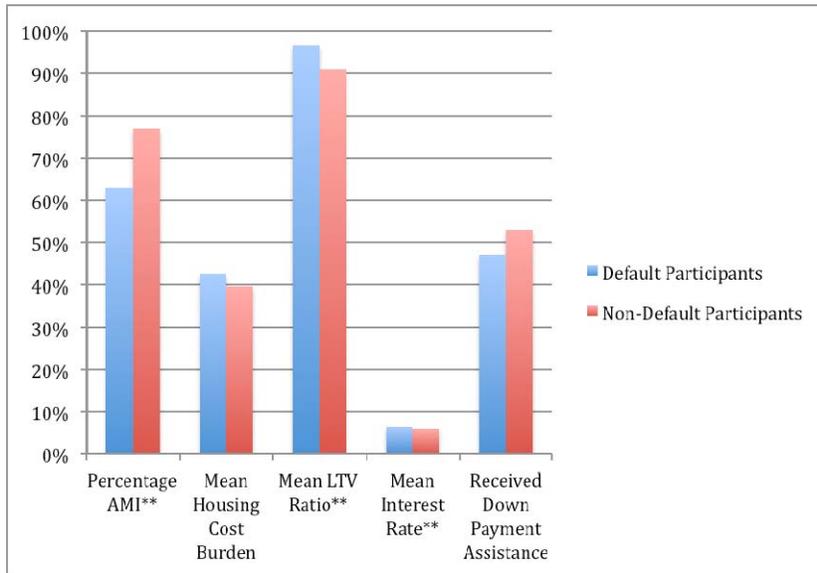


Comparison of Default to Non-Default NEDCO Participants

Within the NEDCO participant data, the default and non-default groups varied in several of the selected variables. Participants that defaulted on their loans earned on average \$3,838 less annually and had a mean percent of AMI 14 percentage points lower than their non-defaulting counterparts. Both of these findings are significant at the 5 percent level. Mean housing cost burden was found to be 1.9 percentage points lower for the non-default group, but this difference was not significant. The mean house payment was nearly the same between groups, and was not found to be significant, though in light of the significantly lower income level of the default group, the house payment similarity is striking. [Table 4 and Figure 3]

The mean loan-to-value ratio of each group varied as well, with the default group experiencing a loan-to-value ratio 5.8 points higher than the non-default group, significant at the 1 percent level. Defaulting participants also obtained higher interest rates than the non-default group; a mean interest rate over a third of a percentage point higher was found to be significant at the 1 percent level as well. The percentage of non-defaulting participants that received down payment assistance, 5.8 percent more than the default group, was not found to be significant, although participants who did receive down payment assistance tend to have a lower loan-to-value ratio. [Table 4 and Figure 3]

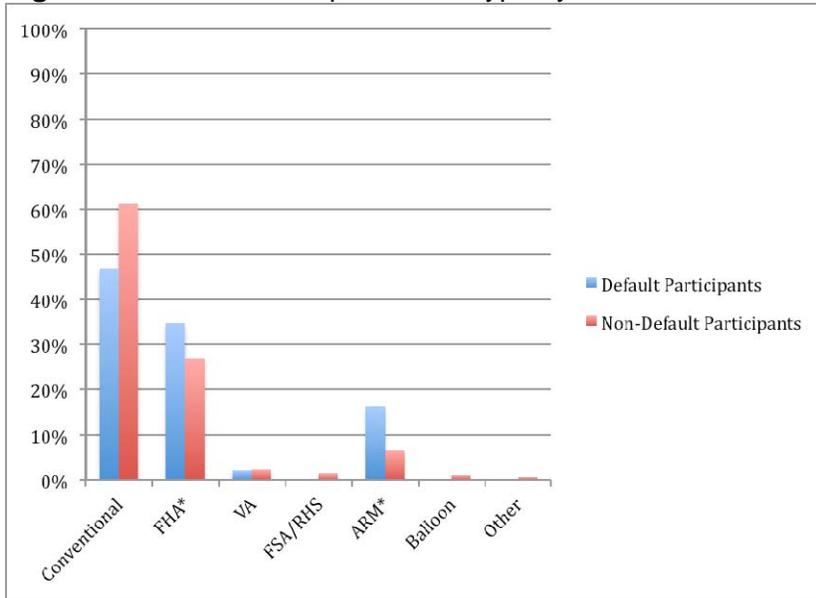
Figure 3. NEDCO Participant Characteristics by Default and Non-Default Participants: Mean Percentage of AMI, Housing Cost Burden, Loan-to-Value, Interest Rate, and Down Payment Assistance



** Indicates significant differences between groups at the 1% level determined by independent t-test.

There also existed significant differences in the types of loans that each group obtained. While the majority of all participants secured conventional loans, the higher percentages of defaulting participants that received FHA and ARM loans were both significant at the 5 percent level. FHA and ARM loans both have more lenient underwriting criteria than conventional loans, requiring lower threshold credit scores, less stringent debt-to-income requirements and higher loan-to-value allowances than typical conventional loans. While these features allow many people to purchase homes earlier than they would otherwise be able to, or who may have not been able to purchase at all without these programs, they do carry a higher risk to the investor, which is typically reflected in the terms, interest rates, and in the case of FHA, a sizeable up-front and monthly mortgage insurance premium payment. [Table 4 and Figure 4]

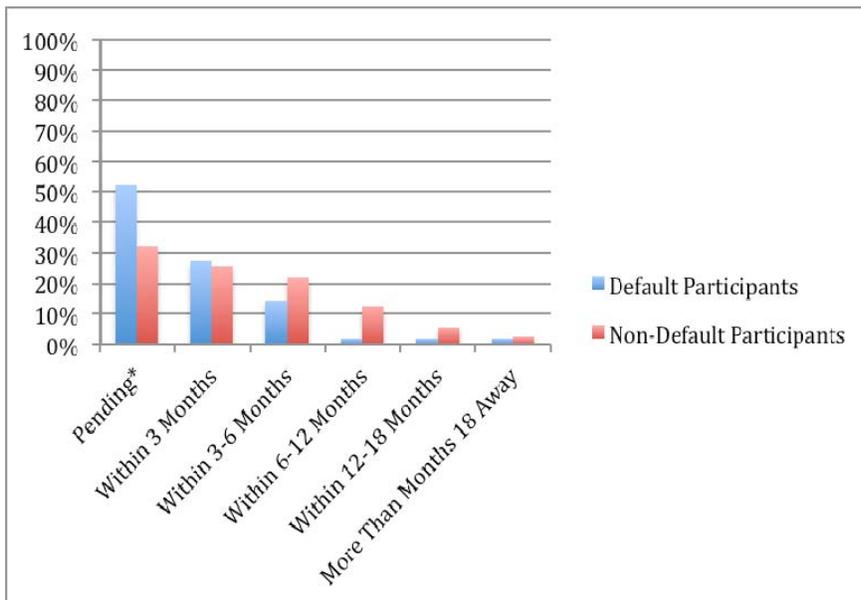
Figure 4. NEDCO Participant Loan Type by Default and Non-Default Participants



* Indicates significant differences between groups at the 5% level determined by independent t-test.

The difference in purchase plans between groups also varied significantly; 52 percent of defaulting participants reported their status to be “purchase pending,” as compared to 32 percent of non-defaulting participants. NEDCO has long surmised that earlier preparation is better for clients, assuming that those whose purchase plans are set veritably in stone are unlikely to gain as much from the class as someone who’s purchase is further into the future. [Table 4 and Figure 5]

Figure 5. NEDCO Participant Purchase Plans Status by Default and Non-Default Participants



* Indicates significant differences between groups at the 5% level determined by independent t-test.

No clear pattern or differences appear in self-reported purchase barriers between groups. Interestingly, non-defaulting participants reported purchases barriers at a higher rate for several

categories of barriers, reflecting perhaps a keener awareness of limitations and the need to further prepare before purchasing a home. No differences in any category showed significance. Similarly, referral source categories failed to show significance between groups, although defaulting participants were more often referred by mortgage loan officers or real estate agents, likely reflecting their level of commitment in the purchase plans category. [Table 4]

Table 4. NEDCO Participant Characteristics by Default and Non-Defaulting Groups

Variable		Default Participants	Non-Default Participants
Mean Income ⁱ		\$29,851*	\$33,689
Mean Percentage of AMI ⁱ		62.9%**	77.1%
Mean Housing Cost Burden ⁱ		42.5%	39.5%
Mean LTV Ratio		96.7%**	90.9%
Mean House Payment		\$1,001	\$999
Mean Interest Rate		6.24%**	5.85%
Received Down Payment Assistance		47.1%	52.9%
Loan Type	Conventional	46.9%	61.3%
	FHA	34.7%*	27.0%
	VA	2.1%	2.2%
	FSA/RHS	0%	1.4%
	ARM	16.3%*	6.5%
	Balloon	0%	1.0%
	Other	0%	0.6%
Purchase Plans	Pending	52.1%*	32.4%
	Within 3 Months	27.1%	25.8%
	Within 3-6 Months	14.6%	21.7%
	Within 6-12 Months	2.1%	12.3%
	Within 12-18 Months	2.1%	5.5%
	More Than Months 18 Away	2.1%	2.3%
Purchase Barriers	Credit Problems	12.2%	7.7%
	Excessive Debt	5.4%	5.2%
	Lack of Down Payment Funds	29.7%	31.0%
	Low Income	23.0%	24.8%
	Unstable income/Self Employment	1.4%	3.0%
	Cannot afford an affordable home	6.8%	13.3%
	None	21.6%	15.0%
Referral Source	Newspaper	1.9%	4.7%
	NEDCO website	5.6%	6.8%
	Mortgage Loan Officer	48.1%	31.7%
	Friend/Relative	16.7%	15.2%
	Flyer/Brochure	1.9%	2.1%
	Real Estate Agent	9.3%	8.4%
	Nonprofit Organization	5.6%	5.4%
	Community College	3.7%	11.9%
	Other	7.4%	13.9%

ⁱ Mean Income, Percentage of AMI, and Mean Housing Cost Burden are based on self-reported income at time of class attendance.

ⁱⁱ To determine statistical significance in variation between groups, an independent t-test was performed on the following variables: mean income, mean percentage of AMI, mean housing cost burden, mean loan to value ratio, mean house payment, mean interest rate, and percentage that received down payment assistance. The remaining variables, loan type, purchase plans, purchase barriers, and referral source, were analyzed using a Chi square test to determine significant differences between groups.

* Indicates significance difference between default and non-default groups at the 5% level.

** Indicates significance difference between default and non-default groups at the 1% level.

Race/Ethnicity was found to be significant among several race groups, showing Hispanics are significantly more likely to default, while White and Asian/Pacific Islander groups were significantly less likely to default. Overall, the default group had proportionally higher rates of participants that identified as American Indians/Alaskan Native, Black/African American, Hispanic, Native Hawaiian/Other Pacific Islander, and Other Multiple Race/Non-Hispanic. Conversely, the percentage of participants that identified as White was 6.9 percentage points higher for the non-defaulting group. [Table 5]

The challenges for the Hispanic population served by NEDCO are well known and relate primarily to language barriers. In Lane County, fully 5.6% of all households report speaking Spanish at home, and 1.8% of all households reporting Spanish as a language spoken report speaking English less than “very well.”³⁹ Because NEDCO has long provided Spanish language services for homeownership preparation, and because it has already been shown that NEDCO serves a larger proportion of Hispanic families than is represented in the general population, it is probably true that more than 1.8% of NEDCO clients have limited English proficiency. This is particularly problematic in the homeownership industry, where complicated loan documents are rarely, if ever, provided in Spanish. It is unfortunately all too easy for Spanish speaking industry professionals to take advantage of limited English speakers who are not familiar with the industry or their rights.

The Asian/Pacific Islander category was a race/ethnicity selection available only on early ABC’s of Homebuying forms. The category was later split to bring NEDCO forms into compliance with census forms which list the two categories as Asian and Hawaiian/Other Pacific Islander. It is quite likely that Asians are the group most represented in the Asian/Pacific Islander category, as their success in loan performance is also reflected in the latter “Asian” category, though that finding was not statistically significant.

Table 5. Frequency Distribution of Categories of Race/Ethnicity of All NEDCO Participants Years 2002-2008

Race/Ethnicity	Default Participants	Non-Default Participants
American Indian/Alaskan Native	3.6%	3.2%
Asian	1.8%	3.5%
Black/African American	5.5%	5.3%
Hispanic	20.0%*	10.7%
Native Hawaiian/Other Pacific Islander	1.8%	0.8%
White	61.8%***	68.7%
Other Multiple Race/Non-Hispanic	3.6%	0.6%
Asian/Pacific Islander	1.8%***	4.8%
Two or More	0%	2.4%

* Indicates significant differences between groups at the 5% level determined by chi square test.

*** Indicates significant differences between groups at the 0.1% level determined by chi square test.

Determining Predictors of Default

The research team used a logistic regression model to narrow down significant findings to control for confounding variables in order to determine which, if any, variables can be used as predictors of a future default. In independent statistical tests as noted above, we determined a

³⁹ American Community Survey 2005-2009

variety of factors are different between defaulting and non-defaulting clients. However, in order to help homeownership education providers to identify at-risk clients so they can work to mitigate future likelihood of default, we created a regression model.

According to the logistic regression model shown below, loan to value ratio, interest rate, and purchase plans are all each significant predictors of default, holding all other listed variables constant. For each percentage point higher a participant’s loan-to-value ratio, the likelihood of future default rose by a factor of 19.6. An increase in interest rate by 1 percent is shown to increase default probability by 340 percent. The closer to purchase a participant was at time of class was also a predictor of default in this model, with participants that were planning on purchasing sooner facing a 6.8 percent increase in likelihood. [Table 6]

Table 6. Logistic Regression Model: Predictive Values of Loan to Value, Interest Rate, House Payment, Down Payment Assistance, Householder Status, Household Size, Purchase Plans, Loan Type, Race/Ethnicity, and Income

Independent Variable	Odds Ratio	Coefficient	Standard Error	P-value
LTV	19.63543	2.977335	26.78465	0.029
Interest Rate	3.43e+26	61.09898	7.37e+27	0.004
House Payment	1.000041	.0000406	.0005858	0.945
Down Payment Assistance	.9955289	-.0044812	.4003941	0.991
Householder Status	1.093618	.0894911	.1865339	0.600
Household Size	1.169031	.1561755	.1616089	0.259
Purchase Plans	.6854731	-.3776461	.122526	0.035
Race/Ethnicity	1.62981	.4884637	.713414	0.264
Loan Type	1.059336	.0576424	.1519859	0.688
Income	.9999671	-.0000329	.0000178	0.064

Discussion

Expected Impact

The procedures and findings of this study will be used to inform future program design, implementation and evaluation of the ABC’s of Homebuying program at NEDCO. More detailed information about who NEDCO’s participants are, their subsequent loan performance and any predictors of default will offer instruction on a variety of program elements, including outreach, class content, delivery mechanisms and counseling strategies. The groundwork laid in conducting this initial evaluation will also be useful in making recommendations for long-term participant tracking and evaluation, including a follow-up agreement for ongoing program evaluation, collaborative systems for information sharing, and participant data organization.

This study will provide a model for assessment of other homebuyer education programs at other comparable organizations with limited evaluation capabilities. Additionally, both a more formalized ability to track and evaluate outcomes and any resulting evidence of success is likely to give NEDCO an advantage in attracting future funding as well as making a case for continued

funding of homebuyer education and counseling at the federal and state levels. This evidence, though not causal, will also contribute to the wide-scale belief among homebuyer education providers and advocates that the service is effective and integral in facilitating healthy homeownership among underrepresented populations.

Limitations

Selection bias may be one limitation in this study. People who are more likely to seek homebuyer education may also be more likely to be in financial distress or concerned about mortgage default and foreclosure. Conversely, homebuyers seeking services may be more motivated or conscientious borrowers, creating a spurious correlation between lower foreclosure rates and homebuyer education participation. Because the data will not include information on exogenous events that may contribute to a foreclosure or default, such as job loss or medical emergency, we will not be able to separate participants that defaulted from lack of knowledge from those that defaulted from circumstances they could not control. This might cause an underestimation of the effects of homebuyer education on default and foreclosures. Finally, we must consider the financial crisis in 2007 and recognize that earlier participants may have had different experiences and thus different mortgage outcomes than those who entered the program more recently.

Another limitation is the Lane County comparative data. The Lane County 90-day default rate that was used as the comparison group includes all dwellings rather than owner occupied only. It also does not exclude NEDCO's clients who defaulted, nor does it exclude all homeowners who ever received education through some other means that we don't know about.

While it is true that there are some limitations in the Lane County data, there are countervailing effects that are not accounted for due to a lack of a direct comparison group of Lane County owners. NEDCO participants' median income and mean percent of AMI is much lower than Lane County's and NEDCO also served a larger number of non-white clients than are represented in the general population. Each of these demographic factors has an impact on loan performance and financial well-being. Therefore, the higher-risk borrowers NEDCO serves mitigate the limitations of Lane County's data, but it is not known to what degree.

There was also a fair amount of missing or unavailable data for this analysis. While many documents were collated, complete registrations for participants were rare.

Recommendations

NEDCO Homeownership Counselors can use the findings unearthed in this study to improve client outcomes based on the predictors of default as described in the logistic regression model.

Strategies that take this model into account include NEDCO's newly instituted requirement for one-on-one counseling as a condition of completing homebuyer education. If nothing else, this strategy allows counselors to identify clients whose case already includes one or more predictors of default as found by the logistic regression model.. Counselors should identify clients with a high likelihood of default in the one-on-one session by looking at their purchase plans – is there a purchase pending now? If so, what is the proposed loan-to-value ratio? Does the client have a sufficient down payment? From what source? Is there a way to increase the down payment to decrease loan-to-value? What is the proposed interest rate for the loan? Is it higher than the mean rate available on the market? If so, what factors are contributing to the

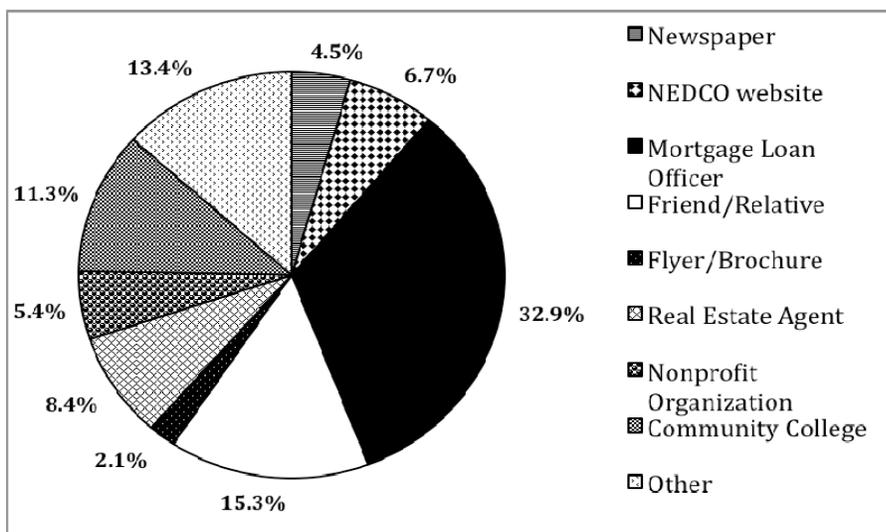
higher rate? Are there things the client can do (improve credit, increase down payment, provide better documentation, select a different lender) to improve the rate they are offered? Once these factors have been identified, they should be integrated into the client's Action Plan, a step-by-step individualized roadmap to a home purchase, so they will have a written guide as to how to take steps now to help prevent them from defaulting later.

Better still than identifying issues with clients when the problem already exists, is to create an environment in which such problems are less likely to develop. It would be helpful to pre-empt the identified predictors of default – all of which have to do with helping clients enter the program earlier in order to get them more prepared before they look for a home loan. Earlier referrals are vital. Of those who defaulted on their loans, 52% had a purchase pending at the time of the class. NEDCO needs to make a stronger effort to encourage people to get into homebuyer education and/or counseling when they first begin to consider the homebuying question – whether homeownership is right for the client.

As we noted above, the most common referral source is a mortgage lender (33% of clients were referred by a lender). [Figure 6] This could mean that some lenders are referring clients who are not ready for a loan to NEDCO classes. But it could also mean lenders are sending clients to classes at the last minute so the client can qualify for down payment assistance. Another avenue for encouraging earlier referrals might be to work with the city down payment assistance programs to encourage them to require earlier education. Perhaps there could be instituted a requirement that a client obtain education before they have a contract for purchasing a home. This would certainly get people in the door before any sales agreement or loan document is signed, making the client less likely to change their plans even if they realize they should after receiving education, and would incentivize lenders and realtors alike to send clients to NEDCO as soon as possible in the process to get the education covered.

NEDCO's education already mentions LTV, interest rates, and planning ahead – but these topics should be covered with renewed fervor, and the significance of these variables ought to be shared when doing outreach to potential clients.

Figure 6: Self-Reported Referral Sources for NEDCO Participants Years 2002-2008



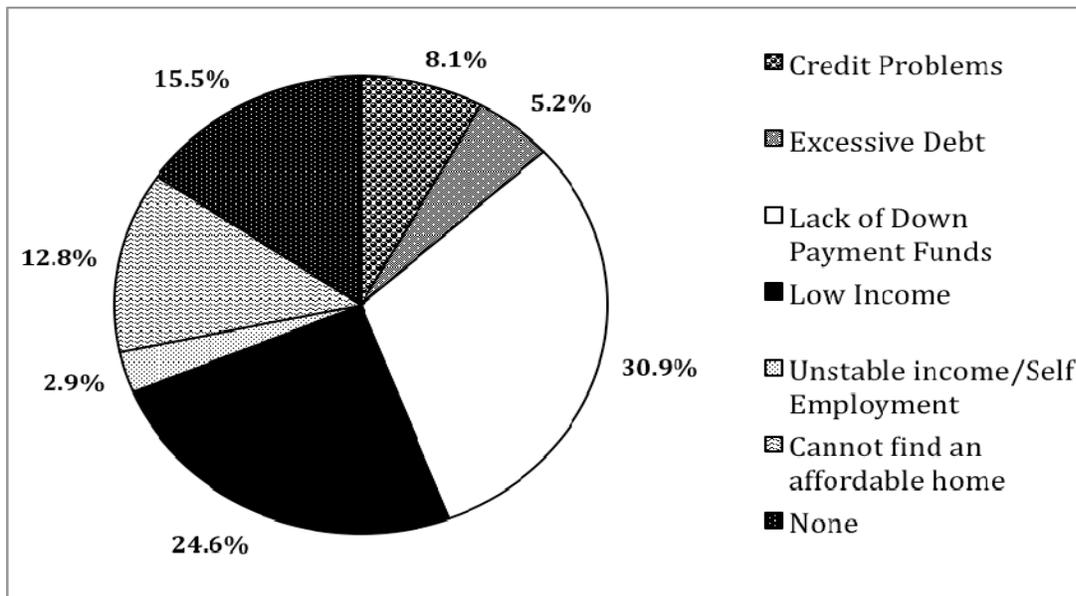
Participants report a referral source at the time of class participation. By far, the most common referral source was mortgage loan officers. A friend or relative was reported second most frequently followed by

the Lane Community College catalogue. Only 7 percent indicated finding out about the class from NEDCO's website, though this option only appeared on registration forms in the mid-2000's and was previously reported as "other".

Reported Barriers to Homeownership as Strategies to Reduce Future Default

NEDCO's goal as a HUD Housing Counseling Agency is to help clients overcome real and perceived barriers to purchasing a home. While none of the reported barriers were themselves found to be statistically significant, they are worth noting as they relate directly to the findings and recommendations highlighted in this study. [Figure 7]

Figure 7: Self-Reported Purchase Barriers for NEDCO Participants Years 2002-2008



Lack of down payment funds and low-income status were the two most frequently reported purchase barriers for NEDCO participants. Combined they accounted for over 50 percent of the responses. These particular barriers are represented by several significant findings described above. Credit problems and being unable to find an affordable home were two additional factors that considerably hindered participants' abilities to purchase homes. Participants that did not report any barriers to purchase made up 15.5 percent of the group, with defaulting NEDCO homeowners reporting "none" as a purchase barrier more frequently than non-defaulting clients. Finally, 5.2 and 2.9 percent reported excessive debt and unstable income/self-employment, respectively, as barriers to purchase.

In order to help clients overcome the income barrier, it is necessary to give them some tools to use in case they need to weather a financial hardship. In both the group and one-on-one settings it is vital to stress the importance of knowing everything there is to know about the money the clients does have: that is, how much do they make, when do they get paid, where does the money go each month and what are their goals? Each client should work out a pre-and post-purchase budget with their homeownership counselor so they can chart a course when their expenses change after ownership. Surprises come up and nearly every new homeowner is hit with more expenses than they expect in the first year of ownership. It is important that they have a plan for dealing with these expenses. NEDCO needs to help clients understand savings strategies that include tiered savings. Clients need an immediate savings account that can be

accessed for the irregular expenses that come up and they also need a long-term saving account for emergencies and money for long-term goals. Finally, NEDCO should make sure all clients have information about the resources that are available for people during hard times. Counselors should make sure they know about charitable and emergency resources available in their area and that they realize accessing help can help them maintain their assets for longer. Also counselors should make sure clients know they can come back to NEDCO or another HUD approved Housing Counseling Agency for post-purchase counseling and, if needed, foreclosure intervention assistance.

Excessive debt and lack of down payment are both related to the LTV of the home the client will eventually purchase. An excessively high LTV will create a higher debt burden for the client, along with any consumer debt the client already carries or is the habit of using to finance their lifestyle. Debt impacts the true cost burden of ownership when consumer debt is taken into account along with the housing costs. It is very important for clients to be in a place when they buy a home, where they do not regularly rely on debt to pay for things in their lives. It is more financially sound for them to adhere to the discipline of saving money for the things they need, rather than accessing debt for regular purchases or incidental, irregular expenses. Counselors can help with this factor by providing the client with assistance in creating a rapid debt repayment plan that also includes concurrent savings. If people pay down debt but put all their resources into paying off debt, the first thing they do when a financial problem comes along is get right back into debt. For down payments, counselors should encourage clients to adopt a tiered savings plan. Along with their own savings, counselors should make sure to screen the client for all down payment assistance programs and Individual Development Accounts, and also help them identify other sources they can use for down payment including gifts from family. Again, clients' own savings need to come into play as sharing the investment of their own finances in the purchase of a property, and clients need to be aware of the up-front costs of purchasing a home so they do not over rely on down payment assistance and gifts.

The credit barrier can impact the type of loan a person is offered as well as the costs associated with that loan, including the interest rate. While loan type and interest rates are both significantly associated with the likelihood of default, credit is a particularly important barrier to address before a client purchases a home. First, counselors must help the client understand that credit is their first and most valuable asset. This is the asset they will use to build all future assets, so it is important that it has the highest possible value. All one-on-one appointments include a credit analysis a report from all three credit bureaus. Counselors can use this opportunity to review the report in detail and provide steps on the Action Plan for all entries that need to be addressed. This may include helping the client write a letter to credit bureaus or giving them tools to negotiate with creditors. Counselors must help clients understand the difference between credit and debt and also show them how they can use credit to get what they want and need without becoming indebted to an unhealthy degree.

While Race/Ethnicity is not a self-reported barrier, it is a barrier nonetheless according to our analysis. When addressing this barrier, counselors should keep in mind the particular challenges a minority client might face including discrimination and cultural differences that may make it more difficult for them to navigate the homebuying process. In particular, language barriers need to be addressed carefully and taken seriously. Counselors should provide one-on-one assistance throughout the process. Additional services in Spanish should be provided including loan document review and referrals to screened bilingual industry partners.

Program Evaluation

In order to evaluate the overall progress and impact of the ABC's of Homebuying, more sophisticated evaluation tools are needed. A combination of participant self-report data and personal finance histories will allow NEDCO staff to successfully track participants over time. Pre and post self assessments for financial capability and readiness for homeownership should be gathered in order to evaluate the program's impact. Follow-up interviews with participants will provide different perspectives about the class and how it has affected them over time. Tracking both purchasers and non-purchasers in a longitudinal follow-up will distinguish the short term and long term effects of the class, more specifically the impact the class had on a participant's decision to purchase or not purchase a home. NEDCO officials should also monitor participants' credit scores, income, savings, and debt over time as another way to evaluate the impact of the ABC's of Homebuying.

Mechanisms for instituting a more intensive long-term program evaluation for this program have begun to be instituted, and data collection processes are progressively more sophisticated than they have been in the past. An online database standard in the homeownership education and counseling industry is now used to track client activities and outcomes, and reporting capabilities within this system are such that information can be pulled and put into the format used to conduct statistical tests for the purposes of this study. The variables selected for tracking in this study can more easily be entered and tracked now, and will continue to be evaluated moving forward. A key recommendation from this study is that NEDCO continue tracking the 90-Day default rate of clients over time as this has never been researched by the organization as a success measure in the past. Given the promising results of this study, ongoing tracking of this measure will help to solidify the case for homebuyer education as it becomes increasingly challenged in the new political climate.

Appendix A

NEDCO Data Entry Procedure

Log in:

Password:

How to access yearly data files on NEDCO server:

From a computer connected to NEDCO's local network the file path is S:\Home Ownership\Program Evaluation\Capstone\Data

How to enter Data in the excel workbook:

1. Start by entering the information found on the Certificate of Completion in the "Class Certificate" tab,
2. Then enter information found on the ABC's Class Registration in the "Class Registration" tab,
3. Then enter information found on the Good Faith Estimate or Property Profile in the "GFE & PP" tab.
4. The worksheet has specifically formatted cells, so please use the conventions shown below when entering the following:
 - a. Dollars – 1,000.00 or 800.00
 - b. Percentages – 89
 - c. Interest Rates – 6.25
5. Do NOT sort data for any reason. This will mix the data inconsistently between sheets on the workbook.
6. Drop down menus in each column are set up in advance. Do not use the "clear contents" function, this will delete the drop down options for the selected area. You can delete rows without altering the drop down menu if needed.
7. Be sure to highlight the box red when you have left the cell blank for any reason. This may be frequent for items found on the GFE and property profile. .
8. If entire page(s) are missing from a participant profile in a notebook enter what you have and mark all missing fields with 99. This might include entering 99 for each column in an entire tab, such as "Class Registration."
9. Remember to save frequently!

How to Enter Class Certificate Information

Enter the Participant's:

1. First Name
2. Last Name
3. Middle Initial
4. Co-participant First Name (when applicable)
5. Co-participant Last Name (when applicable)
6. Co-participant Middle Initial (when applicable)
7. Month of Purchase (written on a note or in the corner of the certificate or found on Good Faith Estimate, Property Profile or Deed of Trust).
8. Year of Purchase
9. Month Attended Class (printed on certificate: **May** 18, 2002): Enter 5 (May is 5th month)
10. Year Attended Class (printed on certificate: May 18, **2002**)

How to Enter Class Registration Information

NOTE: Participant names will be prepopulated as they were entered in the Class Certificate tab.

Enter Participant's:

1. Family Status:
 - a. 1 - Single
 - b. 2 - Couple
 - c. 3 - Family with Children
 - d. 4 - Single Female Head of Family
 - e. 5 - Single Male Head of Family
 - f. 6 - Extended Family/Non-Traditional
 - g. 99 - if there is no answer

2. Farmworker Status:
 - a. 1 - Yes
 - b. 0 - No
 - c. 99 - if there is no answer

3. Lender Relationship:
 - a. 1 - Yes
 - b. 0 - No
 - c. 99 - if there is no answer

4. Purchase Plans:
 - a. 1 – Purchase pending now (signed a sales agreement)
 - b. 2 – Within 3 Months
 - c. 3 – Within 3-6 Months
 - d. 4 – Within 6-12 Months
 - e. 5 – Within 12-18 Months
 - f. 6 – I am more than 18 months away from purchasing
 - g. 99 - if there is no answer
 - h. If there are two options checked, enter the earlier option only.

5. Race/Ethnicity: needs a response for every category
 - a. 1 – Yes, if they selected as an answer (all that apply)
 - b. 0 – No, if they didn't select as an answer
 - c. 99 - ONLY if the section was skipped completely.

NOTE: This section's options have changed over the years. All of the options are listed on the DE sheet so BE SURE to enter 0 when it was not an option listed on your sheet.

6. Purchase Barriers: needs a response for every category
 - a. 1 – Yes, if they selected as an answer (all that apply)
 - b. 0 – No, if they didn't select as an answer
 - c. 99 - ONLY if the section was skipped completely

7. Referral Source:
 - a. 1 – Yes, if they selected as an answer (all that apply)
 - b. 0 – No, if they didn't select as an answer
 - c. 99 - ONLY if the section was skipped completely

8. Is anyone in your family disabled?:

- a. 1 – Yes, if they selected as an answer (all that apply)
- b. 0 – No, if they didn't select as an answer
- c. 99 - ONLY if the section was skipped completely

9. Family Size:

- a. 1 - 1
- b. 2 - 2
- c. 3 - 3
- d. 4 - 4
- e. 5 - 5
- f. 6 - 6
- g. 7 - 7
- h. 8 - 8
- i. 9 - 9
- j. 10 - 10
- k. 11 - More than 10
- l. 99 - if there is no answer

10. Income:

- a. Enter the one number that is clearly an annual income (i.e., \$25,000, \$45,000)
- b. If there is a range of income listed, enter the high end of the range **unless** it has been circled otherwise (e.g., If the low is circled, then enter).
- c. If there is a number given under \$4999 then multiply by 12 to calculate the annual income and enter that enter.
- d. If there is a number given that is over \$5000 then leave as annual income.
NOTE: You might want to look at the disabled or low AMI just to confirm its accuracy.

11. AMI: is a percentage calculated by NEDCO staff.

- a. Enter the number written and usually circled in the middle of the document.
- b. 99 - If the AMI is missing; highlight cell red. AMI will have to be calculated using the HUD AMI limits for the year of class attendance. To calculate AMI, take the gross annual income and divide it into 100% of AMI for the appropriate household size. The result is the percent of AMI.

How to Enter Good Faith Estimate or Property Profile Information

NOTE: Participant names should be prepopulated from the Class Certificate tab.

Enter Participant's:

1. Street Address:

This is the address of property to be purchased: this includes apartment numbers (i.e., 511 32nd Street, Apt #3).

- On GFE: called **Property Address**.
- On Certificate Request Form: called **New Home Address**.
- On PP: called **Property**.
- On Deed of Trust, listed under **Property Information**.

2. City:

Type in the name of the city, no abbreviations.

3. Zip Code:
Enter all five digits, no abbreviations.
4. Purchase Price:
This will be found in different places depending on the form:
 - a. On GFE certificate request form: called **Purchase Price or Sale Price of Property**.
 - b. On Property Profile: **Estimated Sale Price** in the “Other Attributes” Section in the bottom half of the front sheet or “Estimated Sale Price” in the Property Sale Information section.
 - c. On Warranty Deed: **“True consideration for conveyance.”**
5. LTV:
The Loan to Value Calculation will happen when you enter the Purchase Price, First Loan and Second Loan columns in the sheet.
NOTE: On the GFE this is already calculated. Please confirm that the numbers match.
6. First Loan:
 - On GFE: called **Proposed Mortgage Amount or Total Loan Amount**.
 - On PP: called **1st Loan**.
 - On Deed of Trust: **Amount to be repaid**.
7. Interest Rate:
 - On the certificate request form: called **Interest Rate**, it is found in the bottom half of the front sheet.
 - On PP: Written in from deed of trust, if available.
 - On Deed of Trust, available on occasion as an addendum (for ARM and Oregon Bond Loans).
 - If actual interest rate is not available, use the mean annual interest rate based on the loan type (conventional or ARM). Highlight this information because it should not be included in calculating the mean interest rate among participants.
8. Loan Program:
 - On the certificate request form: Type of Loan and/or program used, it is found in the bottom half of the front sheet.
 - d. On PP: Written in from Deed of Trust.
 - e. On Deed of Trust: Available in the addendum, if applicable.
 - Select one from dropdown:
 - a. 1 - OR Bond
 - b. 2 - Fannie 97
 - c. 3 - Other
 - d. 4 - Interest Only
 - e. 99 - Missing data, no answer
9. Loan Type (NOTE Special Instructions):
 - f. On GFE: called **Type of Loan or Proposed Loan**, it is found in the top half of the sheet.
 - g. On PP: called **Loan Type**, it is found in the bottom half of the front sheet.
 - h. On Deed of Trust: found at the bottom of each page; OR uniform loan instrument is Conventional or ARM; FHA loan instrument is FHA; VA or ODVA loan

instrument is VA; Rural Housing is a Rural Development loan. ARM loans feature an Adjustable Rate addendum; Balloon loans feature a Balloon Loan addendum on the Deed of Trust.

- i. Select one from dropdown:
 - a. 1 - Conventional
 - b. 2 - FHA
 - c. 3 - VA-guaranteed (Veterans Administration)
 - d. 4 - FSA/RHS (Farm Service Agency or Rural Housing Service)
 - e. 5 - ARM
 - f. 6 - Balloon
 - g. 7 - Other
 - h. 99 - no data available

NOTE: Special Instructions: To determine the Loan Type if it is unclear: On GFE under Type of Loan, assume a 30 year fixed or 15 year fixed is a conventional loan; and any loan with a denotation such as 3:1 or 5:1 is adjustable rate (ARM).

10. Loan Term:

- On GFE: called **Loan Term or Loan Types or Number of Payments**, it is found in the bottom half of the front sheet.
- On PP: Written in from trust deed.
- Trust Deed: Term of repayment (reported in months).
- Select one from dropdown:
 - a. 1 – 360 Months
 - b. 2 – 240 Months
 - c. 3 – 180 Months
 - d. 4 – 3:1 (ARM)
 - e. 5 – 5:1 (ARM)
 - f. 6 – 7:1 (ARM)
 - g. 7 – 2:1 (ARM)
 - h. 8 – 4:1 (ARM)
 - i. 9 – 6:1 (ARM)
 - j. 10 – 2:6 (ARM)
 - k. 11 – 3:6 (ARM)
 - l. 12 – 5:6 (ARM)
 - m. 13 – 396 Months
 - n. 14 – 456 Months
 - o. 15 – 480 Months
 - p. 16 – 84 Months
 - q. 17 – 12 Months
 - r. 99 – Missing Data

11. Lender Name:

- On certificate request form: on second page of form: “Lender name/address.”
- On PP: under Property Sale Information section, called Lender; enter as appears here.
- On Deed of Trust, Grantee.

12. Second Loan:

- On GFE: Typically does not list a second loan – likely does not exist on the purchase.

- On PP: called **2nd Mtg.**, it is found in the bottom half of the front sheet.
- 0 – if no second mortgage listed.
- Deeds of Trust: If a 2nd mortgage exists, it will appear below the primary mortgage in RLID.

NOTE: Anything under \$10,000 should NOT be entered (assuming it is down payment assistance to be verified and entered later if not available up-front.

13. Property Tax:

- j. On GFE: called **Property Tax or Real Estate Taxes or Property Taxes or County Property Taxes**. This is found in a variety of places on the sheet depending on the version of the GFE used by the lender. Enter the annual amount, not the amount that says, for example “10 months @ \$185.” For this type of format, you would have to do \$185 x 12 and then enter the annual taxes.
- k. On PP: called **Tax Amount**, it is found in the bottom half of the front sheet.
- l. See below for information regarding searching for missing tax amount data in RLID.

14. Downpayment Assistance (DPA) Enter:

- a. 1 - Yes, if downpayment assistance is listed on the certificate request or as a subordinate deed of trust in RLID.
- b. 1 - Yes, if they selected other, *and* wrote in any of the following options:
 - NEDCO
 - VIDA
 - St Vincent de Paul
 - Siletz (or other tribe)
 - FSS (Family Self Sufficiency)
 - Cash Advantage
 - Any non-traditional source save “gift”
- c. 0 - No, if they only selected gift and/or personal savings
- d. 99 - ONLY if the section was skipped completely

15. Finding Default Info:

- m. Go to rlid.org
- n. Log in: (There is no current login)
- o. Go to Deeds and Records
- p. Search by the participant’s full name; to refine search, select a date range.
- q. Look for notice of default or notice of foreclosure.

16. Entering Date of Default:

This is relevant only when the participant has record of a 90-day default

- a. If defaulted, enter date in mm/dd/yyyy format.
- b. 0 - No, no default
- c. 99 - missing data

17. Default:

- a. 1 - Yes, default
- b. 0 - No, no default
- c. 99 - Missing Data

How to Calculate and Enter PITI, Missing Property Tax, and Plus/Minus Interest Rate Information

PITI Payment:

This column needs to be manually entered. The result is calculated with the "Mortgage Calculator" excel form in the Data folder.

Using the Mortgage Calculator:

- a. Loan Amount = First Loan Amount + 2nd Loan Amount.
- b. Annual Interest Rate must be percentage with "%" or numbers (e.g. 5.14% or 0.0514). When you copy the interest rate from GFE, the number will be 5.14 for "5.14%", so you need to either add "%" or simply change it to 0.0514.
- c. Yearly HO Insurance is always 480.
- d. Skip "First Payment Date".
- e. Compound Period and Payment Frequency are always "Monthly".
- f. Term Length (in years),
- g. Purchase Price,
- h. Annual Property Taxes,
- i. The result will be calculated for you.
- j. Round the total PITI payment to the nearest dollar and enter the amount into the PITI column.

Calculating Annual Mean Interest Rates:

- a. To locate historical interest rates, go to the website:
http://mortgage-x.com/general/historical_rates.asp
- b. In the Historical Mortgage Rate Data cells, input the year and month (e.g. From Jan 2006 to Dec 2006),
- c. Check the boxes next to "30 Year FRM (fixed rate mortgage) and 1 Year ARM",
- d. Click "Search".
- e. Copy the table that appears into the Interest Rate worksheet and calculate the mean interest rate for 30 year fixed rate mortgage and Adjustable Rate Mortgage.
- f. For clients missing interest rate data, enter the average rate according to their loan type. Do not include clients for whom the average loan amount was entered in the mean interest calculation for the data sample.

Missing Property Taxes:

- a. Go to Lane County Assessor website:
<http://www.co.lane.or.us/Departments/AssessmentandTaxation/Pages/default.aspx>
- b. Scroll down to find "Property Tax and Appraisal",
- c. Click "Individual Property Account Information",
- d. Select **Lane County Assessment & Taxation Property Information Search.**
- e. In the "site address" cell, enter the address and street only,
- f. Click "Get Results".
- g. On the result page, click the label under "View", you will find the tax information under "Property Value and Taxes" in the "2010 Tax" cell.
- h. Copy the number into Property Tax column in GFE.
- i. If no tax information is available, enter MD in the Tax cell.

Calculating Plus/Minus mean interest rate:

- a. Enter the average interest rate for the appropriate loan type (fixed or adjustable rate) in the Average Interest Rate cell,
- b. In the Plus/Minus mean interest rate cell, the formula:
=interest rate – average interest rate is entered,
- c. For missing data, enter MD.

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