



Case Study: Impacts of Homeownership Education and Counseling on Purchasing Power of Clients of INHP, Indianapolis, IN

By Eric Hangen

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OVERVIEW OF THE STUDY

Several studies have considered the impacts of homebuyer education and counseling in reducing mortgage default rates. However, relatively few studies have sought to document whether counseling and education is effective in increasing homebuyer purchasing power, and what the benefit is in increased purchasing power per program dollar invested. This question is particularly important in the wake of decisions by the major Government Sponsored Enterprises to significantly reduce requirements for homebuyer education and counseling.

The study team used customer tracking data from the Indianapolis Neighborhood Housing Partnership (INHP). INHP is a not for profit that helps working families become and remain long term, successful home owners by providing homebuyer education and mortgage and credit counseling services in Indianapolis, Indiana. The Homebuyer Education Program offers a Money Management Class which families attend and graduate from at the beginning of the counseling program. This is a 3 hour class that teaches families how to budget so they can

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save money, pay down judgments and collections and prepare to make monthly mortgage payments (principle, interest, taxes and insurance) in the future. Families also attend Home Buyer Education Classes near the end of the counseling program. This is an 8 or 9 hour class that teaches families how to successfully navigate the home buying marketplace. They learn the range of decisions they will have to make during the process and that their decisions will directly impact their ability not only to become home owners, but to remain home owners. In the Mortgage and Credit Services program counselors meet with families on a monthly basis for up to two years. During these one-on-one, individualized sessions, the family is assisted with developing a plan to help them overcome the specific credit barriers that prevent them from meeting the underwriting guidelines of lenders and qualifying for a mortgage. For many families, this plan will focus on a combination of the following: repaying judgments and collections, disputing errors on the credit report, developing alternative credit lines, developing a traditional credit history, seasoning a bankruptcy or foreclosure, and seasoning late payments. In order for the family to complete the program, INHP and the family confirm they meet the underwriting guidelines of lenders and they can qualify for a mortgage.²

INHP serves a predominantly minority, low and moderate income clientele. During fiscal year 2007, 97% of its direct lending customers earned 80% or less than the HUD Area Median Income. Looking at race and ethnicity, 59% of the clientele identified as African American, 27% as Caucasian, and 14% as Hispanic. A majority of clients (71%) were female. Looking at household size, 28% of clients were one-person households, 27% two-person, 21% three-person, 12% four-person, and 12% five or more person households.

INHP's overall production levels are impressive. In Fiscal Year 2007, the program had 1,160 Education Program Graduates,³ 303 Closed Loans for home purchase or home repair, and \$23 million of INHP and community resources invested in mortgage financing. The organization maintained a counseling pipeline with an average of 410 families actively engaged in monthly meetings.

² INHP offers additional services than those described here. The classes and counseling sessions described are a required, standard part of participating in INHP counseling services.

³ Each graduate represents one household and is counted one time regardless of the number of classes they complete.

The study team used the tracking data to evaluate the changes in credit scores, debt levels, and liquid asset savings levels of all customers that entered the program in fiscal year 2006 and 2007 and completed the program in INHP fiscal year 2007. The level of assistance received by each INHP customer varies with their need, but all customers completed the Money Management Class and the Home Buyer Education Classes and participated in multiple individual counseling sessions.

The study results suggest that homebuyer counseling and education may have a strong effect in boosting the credit scores of the participants studied. **Credit scores increased by an average of 22 points.** For those customers who began with a credit score below 650, the average increase in score was greater, at 28 points. Both of these results were statistically significant at $p < .01$.

The study also observed increases in savings and decreases in indebtedness for participants. Levels of savings in liquid asset accounts increased by an average of \$309 and total indebtedness decreased by an average of \$577. For those customers who began with a credit score below 650, the average increase in savings levels was \$312 and the average decrease in indebtedness was \$364. However, none of these results were statistically significant.

Importantly, **the participants studied had estimated increases in purchasing power that appear significantly greater than the cost of providing the service.** By combining the INHP data with data on average interest rates by credit score from myfico.com, the study team estimated the impact of participants' changes in credit score on their borrowing power, holding other factors constant. **The average increase in borrowing power for the program participants studied was estimated at \$4,515.** For participants entering the program with lower credit scores, the increase was greater – participants entering the program with a credit score under 650 had an average estimated increase in borrowing power of \$5,675. These results were statistically significant at $p < .01$.

The average cost to INHP per customer receiving homebuyer counseling and education is estimated at \$310 per customer trained and \$1,065 per customer counseled, or \$1,375 total per customer. Conservatively calculating the benefit to the average customer studied as \$4,515 in increased borrowing power plus \$309 in increased savings, **the INHP program created an estimated \$3.51 in consumer benefits for every \$1 it spent on the program participants studied.**

It should be emphasized that the results are limited by the fact that completion of the INHP program is defined as participating in mortgage and credit counseling and education and then qualifying for a loan per the underwriting guidelines of INHP and/or its lending partners. Data was not available for participants who have also received counseling and education services but have not yet qualified for a loan. Also, the study did not have a control group. In addition to addressing these limitations as possible, future studies should also seek to incorporate additional data from multiple housing counseling nonprofits.

METHODOLOGY

INHP provided information on the credit scores, incomes, debt levels, and liquid asset savings of customers at or near the date of intake into the program, as well as a second measurement of these variables at program completion. INHP also provided program cost data in order to estimate the cost per customer of providing homebuyer education and counseling.

INHP submitted a database of 194 customer records from customers of its education and mortgage and credit counseling programs who met each of the following criteria:

- entered the program in INHP's fiscal years 2006 or 2007 (April 1, 2005 through March 31, 2007),
- were subsequently marked as having completed homebuyer counseling in INHP's customer tracking database, which means that an INHP counselor determined that the customer met the underwriting guidelines of INHP's lender partners and/or INHP loan programs, and
- for which post-measurements of financial fitness were recorded at least 90 days after the customer made contact with INHP.

The dataset therefore excludes customers who dropped out of the counseling program before completing it. It also does not include customers who have been participating in the program (taking homebuyer education classes and receiving individual counseling) who have not yet been determined to qualify for a loan per the underwriting guidelines of INHP and/or its lending partners. The reader should further note that the data in this report was a snapshot of INHP's customer information, which is dynamic.

Data records were further selected through the following process:

- Eliminating records for which there was no paired information (both “before” and “after” values) for the key variable of any given analysis. According to INHP staff, many of these cases result from customers who completed the program but subsequently decided not to enter the homebuying process. In some of these cases, there were records with paired information for one variable (e.g., credit score) but not for another (such as savings levels). In such cases, the record was included in any analyses for which it provided adequate information.
- Customers beginning the homebuyer education process with no credit score, but who subsequently established a credit score, were analyzed separately rather than calculate their gain in score against a baseline of “0” for the score. There were 10 customers who fit this description. Another 8 customers had no credit score upon intake and no credit score after completing counseling.
- Outliers were removed for savings and debt variables. Only changes in savings of less than \$20,000 (positive or negative) were considered, only changes in total debt of less than \$60,000 (positive or negative) were considered, and only changes in monthly debt payments of less than \$2,000 (positive or negative) were considered. This resulted in the removal of only a small number of outliers.

The resulting data was then evaluated to determine the changes in debt, savings, and credit experienced by customers completing the counseling and education program. Note that the data sets used in the evaluation of each variable were slightly different, although they overlapped to a large degree. (For instance, a few customers with two measurements of savings levels did not have two measurements of credit scores). Statistical significance was computed using 1-tailed Z-tests against the null hypothesis that there was no change in the variable in question (T-tests were used for data subsets with small numbers of observations).

To estimate the impact of credit score changes on borrowing power, the study team examined all for which paired credit scores were reported.

The team used national average interest rates for 30 year fixed rate mortgages reported by Fair Isaac & Company on www.myfico.com by credit score range. That data is as follows:

FICO score range	Average national interest rate (as of 3/26/07)
760 to 850	5.79%
700 to 759	6.02%
680 to 699	6.20%
660 to 679	6.41%
640 to 659	6.84%
620 to 639	7.39%
580 to 619	8.73%
500 to 579	9.79%

The team then used interpolation to estimate an average interest rate for any given credit score. The same table of interest rates by credit score was used to estimate the interest rate available to the customer upon intake and upon the second measurement of credit score – in other words, the interest rate environment was held constant at the March 2007 level. The analysis further assumed a 30-year fixed rate mortgage, and that funds available to apply towards the mortgage payment equaled 28% of monthly income. Income was held constant at the level reported by the customer at intake, in order to preserve a clear focus on the impact of the credit score change.

Data on the cost of providing the homebuyer counseling and education services was provided by INHP.

Caveats and limitations to the methodology

Several important caveats and limitations apply to the study methodology:

- The study only looked at a subset of INHP's total customer base. Most importantly, the data consider only those customers who completed the program – meaning that after taking the money management class and homebuyer education class and participating in individual mortgage and credit counseling, they qualified for a loan per the underwriting criteria of INHP and/or its lending partners. The study does not consider customers who may have received a similar level of services but who have not yet qualified for a loan.

- It should be emphasized that there was no control group for the study (and obviously no random assignment of people to the counseling and education program). People who decide to pursue (and subsequently complete) a homebuyer and education counseling program may have more motivation to improve their financial situation than others, which could affect the observed results.⁴
- Also, the analysis did not have information to measure any changes that might have occurred with program dropouts. Presumably, many in these populations may not have seen the credit score gains that were observed for other customers.
- The analysis of how the improvement in credit scores impacts estimated borrowing power is admittedly a highly stylized one. In the real world, interest rates may respond to certain credit score break points as opposed to the smooth curve generated by the interpolation; people with small changes in credit score might not see any change in the interest rate, while others could see larger changes in rate if they are crossing a break point. In particular, certain mortgage products may have specific minimum credit scores that borrower must satisfy, such that when a potential borrower raises his or her credit score above that level, their borrowing power increases considerably. Also, savings levels may impact borrowing power by meeting cash requirements for certain loan products or altering the loan to value ratio. The analysis did not consider these impacts for the sake of simplicity.
- Finally, customers may or may not actualize any increase in borrowing power that they experience resulting from an increased credit score. For example, borrowing power and savings may increase, but not enough to enable the customer to buy a home. On the other hand, such an improvement in financial position arguably creates other meaningful benefits for the customer that are not measured here (for instance, better pricing on a car loan).

RESULTS

Credit Scores

INHP provided 147 customer records with paired credit scores spaced at least 120 days apart. The initial scores consisted of only a TransUnion score, rather than a TriMerge report, so changes were compared from one TransUnion score to the next. The overall average increase in the credit score was 22 points, from 579 to 601. The median change was 12 points. A one-tailed Z test shows the result to be highly statistically significant at $p < .01$ ($z = 5.68$).

Presumably, customers beginning the counseling and education process with lower credit scores will benefit more from the knowledge gains than customers with higher credit scores.

⁴ See Caskey, John (2006). "Can Personal Financial Management Education Promote Asset Accumulation by the Poor?" Indiana State University: Networks Financial Institute Policy Brief.

Another simple statistical test was performed on the change in credit score for those customers beginning the process with a credit score under 650 ($n = 128$). The average increase in credit score for this population was 28 points. Again, the result was highly statistically significant at $p < .01$ ($z=6.85$). Score increases were even more impressive – an average increase of 69 points and a median increase of 66 points – for customers beginning with a credit score below 520.⁵ This result was also highly statistically significant at $p < .01$ ($n=26$, $t=5.13$).

An unexpected result was the decline in credit scores for customers with a credit score of over 650 ($n=19$). Scores for these customers dropped by an average of 17 points. The result was statistically significant at $p < .05$ ($t = 2.27$) despite the small number of observations.

The table below provides a breakdown of the change in credit score by initial credit score range of INHP customers. Generally speaking, increases in credit score were the greatest among customers with low initial credit scores, although there was some variability in that trend.

Initial FICO Score Range	Average change in FICO score	Number of observations
650 or above	-17	19
580 to 649	14	56
520 to 579	21	46
Under 520	69	26
All customers	22	147

Over the period for which it provided data, INHP also reported serving 18 clients that did not have a beginning credit score. Of these clients, 10 had a credit score reported after completing counseling. The average credit score for these clients was 593. The remaining 8 clients still had no credit score reported when INHP pulled the second set of financial information after these clients completed counseling. Since INHP pulls records prior to or at program completion, it is possible that some of these remaining clients have subsequently succeeded in establishing a credit rating.

⁵ Recall that this average does not include customers with an initial credit score marked as “0” in the database, which was meant to signify they did not have a credit score.

Savings

INHP provided 125 records with paired observations of liquid asset savings levels (most of which also had credit score information). The overall average increase in savings was \$309. This result was not statistically significant ($z = 1.63$).

Customers entering the program with credit scores under 650 experienced slightly higher gains in liquid asset savings, with an average increase of \$312 ($n=111$). This result was not statistically significant ($z = 1.54$). Savings information was only available for 10 customers with initial credit scores of 650 or greater; these customers had an average gain in savings of \$233. Again, the result was not statistically significant ($t = 0.61$). Savings levels appeared greatest for customers with beginning credit scores under 520; however these results also were not statistically significant ($t = 1.42$).

Initial FICO Score Range	Avg. change in savings	Number of observations
650 or above	\$233	10
580 to 649	\$-50	47
520 to 579	\$277	35
Under 520	\$942	29
None reported	\$418	3
All customers	\$309	124

Debt

INHP provided information on total indebtedness levels of customers (looking at qualifying debt for the purposes of mortgage underwriting). Out of 147 observations, the average decrease in total indebtedness was \$577, with a median decrease in total indebtedness of \$499. The result was not statistically significant ($z = 1.13$).

For customers with an initial FICO score below 650, the average decrease in total indebtedness was \$364. The result was not statistically significant ($z=0.658$, $n=128$). For those customers with an initial FICO score at or above 650, the average decrease in total indebtedness was much greater - \$2,481 – although the result was not statistically significant ($t = 1.66$, $n = 16$).

The table below provides a breakdown of average change in total debt owed by the initial FICO score range of the customer. Note that for some initial FICO score ranges total indebtedness actually increased. However, none of the results for any of the FICO score ranges were statistically significant.

Initial FICO Score Range	Avg. change in total debt	N. obs
650 or above	-\$2,481	16
580 to 649	-\$699	54
520 to 579	+\$415	38
Under 520	-\$682	36
None reported	+\$459	3
All customers	-\$577	147

Unfortunately, INHP was not able to provide information on monthly debt payments by customers. Homebuyer education and counseling may be able to help people reduce monthly debt payments even if they do not reduce total indebtedness by appropriately restructuring their debt.

Borrowing power

Using the method described earlier in this paper, the effect on borrowing power of the customer's change in FICO score was estimated, holding income constant. The analysis was conducted on all 147 customer records for which paired observations of credit scores were available.

The overall average estimated increase in borrowing power was \$4,515 – from \$81,508 to \$86,022 – due to an average decrease in the estimated interest rate of 50 basis points. This result is highly statistically significant at $p < .01$ ($z = 5.05$). Customers entering the program with a credit score of under 650 had a greater increase in estimated borrowing power, at an average of \$5,675. This result was also significant at $p < .01$ ($z = 5.88$). Customers entering the program with a credit score of 650 or greater actually saw a slight decrease in borrowing power of \$3,303, a result that was statistically significant at $p < .05$ ($t = 2.35$, $n = 19$).

The table below shows a breakdown of change in estimated borrowing power by initial FICO score range, as well as changes in savings for the same customers.

Initial FICO Score Range	N. obs	Average change in estimated borrowing power
650 or above	19	-\$3,303
580 to 649	56	\$3,729
520 to 579	46	\$5,525
Under 520	26	\$10,132
All customers	147	\$4,515

Service delivery costs

INHP estimates its costs per customer completing homebuyer counseling and education at \$1,375 (\$1,065 to complete counseling and \$310 to complete education).

These costs can be compared to the benefits generated for the INHP customers studied. Based on changes in credit score alone, the average INHP customer studied was estimated to experience an increase of \$4,515 in borrowing power. In addition, the average INHP customer studied increased savings by \$309. We can describe the benefit of participating in counseling and education as the sum of these two figures, or \$4,824 – the average INHP customer studied exited the program with this much additional resources available to use towards the purchase a home. We can therefore estimate that INHP created a benefit for these program participants of \$3.51 ($\$4,824/\$1,375$) for every dollar it spent on its counseling and education activities for them.

NEXT STEPS

Future studies could try several strategies to reduce the limitations associated with this attempt.

For example:

- Rather than the stylized analysis conducted of increased purchasing power, each customer record could be put through a more detailed underwriting exercise (perhaps run through an automated underwriting system, using common sense assumptions for any missing variables requested by the system) to estimate increased borrowing power. Additional data (such as data on monthly debt obligations, as well as detailed underwriting guidelines) would be required for such an analysis. Also, the exercise could focus on other metrics – for example, rather than estimating the increase in borrowing power, a study could seek to estimate the present value of savings in monthly payments on a fixed-price house due to improvements in borrower credit score, debt and savings characteristics. Future studies might also try to quantify the other benefits of homebuyer education and counseling activities, such as increased knowledge with which to obtain the best possible deal on a mortgage (this study does not evaluate the possibility that before counseling, customers may have been more willing to accept higher priced loans than they should have).
- Data for all customers who have received at least a certain level of services (e.g. have finished the required Money Management and Homebuyer Education classes and received at least a certain number of counseling sessions) could be tracked, not just for those customers who actually qualified for a loan. This expanded data tracking effort could be costly in terms of staff time and resources, but would also reduce issues with any selection biases that might be present in the data.
- Data from additional agencies should be sought out, although the difficulties in obtaining good data were extreme, and INHP had among the best data of more than a dozen leading nonprofits contacted for the study.
- In the future, housing nonprofits should consider compiling and tracking basic underwriting information on all active clients at regular intervals, thus reducing the potential issues with selection biases. Intermediaries such as NeighborWorks® might consider requiring member nonprofits to take some steps towards this end.
- At the most ambitious level, nonprofits could participate in experimental study designs with randomly assigned control groups. One nonprofit, Community Development Corporation of Long Island (CDCLI), is participating in a study to measure changes in credit scores of financial fitness program participants that utilizes an experimental design.

Cover photos courtesy of INHP.