

# Online Appendix: The potential impact of financial portability measures on mortgage refinancing: Evidence from Chile

Carlos Madeira\*(Declarations of interest: none)

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## **Abstract**

Online appendix with robustness checks to the original article.

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\*Central Bank of Chile. Comments are welcome at [carlosmadeira2009@u.northwestern.edu](mailto:carlosmadeira2009@u.northwestern.edu).

# 1 Robustness checks to the main analysis

Table A.1 shows the results of the Mortgage refinancing model, estimated from the pooled sample of the EFH survey (all waves between 2007 and 2017). The same model is estimated for Any mortgage refinancing of the household, for the mortgage of its main home, and for other properties (whether held as an investment for future sale or to rent) owned by the household. Note that since some households may have more than one mortgage, then the subscript  $i, c(i), t$  can denote different mortgages. However, that is rare, since 87.9% of the mortgage borrowers have only one mortgage<sup>1</sup>. For the main home by definition the household has only one mortgage. For the models estimated for "any mortgage" and for mortgages in "other properties", the mortgage contract variables denoted by  $i, c(i), t$  use the values for the oldest mortgage of the household.

The models in Table A.1 include all lenders, therefore the bank specific controls are omitted. The results show that the mortgage refinancing probability increases with the number of past months with a positive refinancing opportunity, although the present value of renegotiating is only statistically significant for the other properties or if the number of months is omitted. Perhaps the higher significance of the present value in the refinancing probability of other properties is due to the business motivation of such borrowers, therefore paying more attention to positive refinancing opportunities. The debt service ratio (a proxy of liquidity needs) and financial education are also strongly associated with higher refinancing probabilities, as expected. Looking at the marginal effects, one sees an increase of around 1.5% in the refinancing probability for each point in the log number of months, while each point of financial education increases the refinancing probability by 5%. Similar coefficients were estimated for any mortgage, the main homes and other properties.

Adding interaction effects with financial education to the models, the results in Table A.2 confirm again that debt service and financial education are strongly associated with higher refinancing probabilities. The interaction coefficients show that financial education increases significantly

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<sup>1</sup> Among EFH mortgage borrowers, 92.9% have a mortgage on their main home, 18.5% have a mortgage on another property and 11.5% have mortgages both on their main home plus on another property. Since the EFH survey counts both the main home and up to three other properties of the household, then a few wealthy households can report up to 4 mortgages. In the pooled EFH sample, 87.9% of the mortgage borrowers have only one mortgage, 10.7% have 2 mortgages, 1.1% have 3 mortgages, and 0.3% have 4 mortgages. For households with mortgages in other properties, 88.9% have a only one mortgage, 8.7% have 2 mortgages, and 2.3% have 3 mortgages on other properties.

the marginal impact of the number of months with a positive refinancing probability or the present value of renegotiating. Although the coefficient for the log of the number of months and present value is negative, once one adds the interaction impact with the financial education, the impact of these variables is close to null for the lowest educated households. In particular, each additional unit of financial education if interacted with the number of past months increases the refinancing probability by 0.88%, 0.61% and 1.36%, respectively, for all homes, main homes and other properties, if interacted with the present value of renegotiating. These are large effects considering that the difference in financial education between the least (those with elementary school) and the highest educated (postgraduates) is 3.2 points. It is interesting to note, however, that the interaction with the number of past months has a higher impact on renegotiating the main home, while the interaction with the present value has a higher impact on other properties. Again, this shows that the borrowers in other properties are more motivated by business interest, therefore paying attention to the monetary gains of refinancing.

For the bank mortgages models, the results in Table A.3 show that the number of past months with a positive refinancing opportunity, the debt service ratio, financial education and Other Banks are strongly associated with a higher refinancing probability. Median and Other banks are also positively associated with renegotiating other properties. In terms of aggregate shocks, the impact of supply factors is small and statistically insignificant. However, the demand factors are strongly associated with a higher refinancing probability, especially for the main home. Therefore refinancing activity is mostly driven by borrowers' needs and it is not hindered by capital requirements or balance-sheet restrictions of lenders.

Tables A.4, A.5 and A.6 are similar to Tables A.1, A.2 and A.3, but also include the log of the household's Permanent Income and a quadratic function for the Present Value of refinancing.

Table A.7 shows the mortgage refinancing probability before and after the law, by applying two models estimated using the mortgage contracts for all lenders and all properties (Tables A.1 and A.2). The first model does not include interactions between financial education and the implied optimal decision from the mortgage contract (Model 2 in Table A.1), while the second model includes interactions between the financial education and the optimal decision of an unconstrained borrower (Model 2 in Table A.2). Using the baseline model (Model 2 in Table A.1), the mortgage refinancing probability would increase from 17.9% of all borrowers before the Law to 19.5% after

the Law if we just consider the effect of the lower fixed monetary costs of the refinancing. However, the refinancing probability could increase to 28.6% if one considers the additional boost in financial understanding of the process. This increase in mortgage refinancing happens across all income levels and home values. If one considers just the effect of the lower fixed costs, then the law increases the refinancing probability by 1% in quintiles 1 and 2 (the lowest income), 1.3% in quintile 3 (the middle class), 1.6% in quintile 4, and 2% for the quintile 5 (the richest households). When considering both the reduction in fixed costs and increased financial understanding, then the law implies an increase in the refinancing probability of 7.5% for the lowest income (quintiles 1 and 2), 8.5% for the middle class (quintile 3), 10% for quintile 4, and 13% for the upper income (quintile 5) households. It is interesting to note that the wealthier households are more likely to benefit from the law, either with just pecuniary costs or pecuniary plus cognitive costs.

Across home values in Table A.7 there is a similar pattern. A reduction in pecuniary costs increases the refinancing probability by 1% for homes with lower value (percentiles 1 to 50, i.e., below the median), by 1.5% for the middle value homes (percentiles 51 to 80, i.e., above the median home appraisal), and 2.2% for the top valued homes (percentiles 81 to 100). Again, considering both lower pecuniary and cognitive costs, the law would increase the refinancing probability in 8.4%, 9.9% and 13.1% for the low, middle and top valued homes, respectively. The results also show that the new law has a strong impact on both main home and other properties. With just lower pecuniary costs, the refinancing probability increases by 1.6% for both main homes and other properties. With both lower pecuniary and cognitive costs, the refinancing probability increases by 9.1% for main homes and other properties. Finally, considering the model with interactions between financial education and the optimal mortgage decision (model 2 of Table A.2) does not affect the results much.

As a robustness check, Table A.8 shows results for three counterfactual simulations in which the increase in financial education from the law is lower than one standard-deviation. The results show that these alternative scenarios would still implicate a strong impact of the new law on refinancing probabilities. In particular, the refinancing probability for any home would increase in 3.2%, 5.5% and 8%, respectively, with a change in financial understanding of 0.25, 0.50 and 0.75 fractions of a standard-deviation ( $\sigma_{FE}$ ), respectively. The impact on main homes and properties is very similar, with an increase in the refinancing probability of 2.8%, 4.7% and 6.8%, for changes in financial

understanding of 0.25, 0.50 and 0.75 fractions of a standard-deviation.

In summary, the cognitive cost channel could potentially be the more powerful channel of the new law, with the number of refinancings increasing by 9% for lower pecuniary costs ( $\frac{19.5\%}{17.9\%}$ ) and increasing by 60% ( $\frac{28.6\%}{17.9\%}$ ) with both lower pecuniary and cognitive costs.

The results in Table A.9 show that just with lower pecuniary costs there is a gain of 4.2 UF (around 177 USD)<sup>2</sup> for the average borrower, but these gains increase to 31.9 UF (around 1,344 USD) when both lower pecuniary and cognitive costs are included in the calibration. In absolute terms, the gains are concentrated on the owners of top valued homes and households of higher income. For the scenario with lower fixed payment costs only, the law implies a gain of 2 UF, 3 UF and 7.2 UF for the lower (percentiles 1 to 50), median (percentiles 51 to 80) and top valued (percentiles 81 to 100) homes, respectively. With both lower pecuniary and cognitive costs, there is an expected gain of 13.5 UF, 18.2 UF and 60.7 UF, for the lower, median and top valued homes, respectively. The expected gains for borrowers are 10 UF (421 USD), 17 UF (716 USD) and 24 UF (1,028 USD) if one considers lower financial education benefits such as  $0.25 \times \sigma_{FE}$ ,  $0.50 \times \sigma_{FE}$  and  $0.75 \times \sigma_{FE}$ . Borrowers with mortgages in main homes and other properties earn approximately the same, 3.6 UF (152 USD), in a scenario with lower pecuniary fixed costs only. However, when one includes both lower pecuniary and cognitive costs, borrowers of other properties are the largest beneficiaries, with borrowers gaining an average 22.6 UF (952 USD) and 35.3 UF (1,487 USD) from refinancing of main homes and other properties, respectively. With alternative values for the increase in financial education understanding of just 0.25, 0.50 and 0.75 fractions of a standard-deviation of financial education ( $\sigma_{FE}$ ), the corresponding expected benefits of the law are 7 UF (299 USD), 12 UF (506 USD) and 17 UF (716 USD) for borrowers of main homes and 11 UF (442 USD), 18 UF (775 USD) and 27 UF (1,129 USD) for borrowers of other properties. Therefore the calibration exercise shows that owners of second properties stand much more to gain from a reduction of cognitive costs. Even for a low reduction of cognitive costs such as  $0.25 \times \sigma_{FE}$ , the gains of borrowers in other properties are larger than for main homes. Perhaps this is because households pay a substantial amount of their first property before deciding to engage in the purchase of second properties, therefore the debt value of other properties is more recent and with a larger remaining amount.

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<sup>2</sup>I apply the conversion of 42.13 USD per 1 UF, which was the average value between 2010 and 2019.

I also test how the Financial Portability Law and its effect on mortgage refinancing may affect bank switching and consumer loans. Mortgage contracts have maturities of 20 years or more and in Chile banks often apply the house collateral used for mortgages to all the other credits (consumer installment loans, credit cards, lines of credit) and financial accounts of the customer. To study the impact of mortgage refinancing on bank switching for consumer loans, I use the panel component of the EFH survey. One third of the EFH sample in each wave is kept to be interviewed in the next wave around three years later, allowing to study debt dynamics of the same households over that period. Since household members change over time (young adults may leave the family, some couples divorce, other people marry and therefore increase the household), I consider this rotating sample to represent a panel in cases where at least one member appears in both survey waves.

Using the Panel EFH survey samples, Table A.10 shows that bank switching is quite common for consumer loans in Chile. It is noticeable that households that never renegotiated a mortgage actually have a higher probability of switching banks for a consumer loan than the households that chose to renegotiate a mortgage. Perhaps this is because the households that failed or chose not to renegotiate are unsatisfied with their bank relationship or maybe they finished paying their mortgage loan. Therefore mortgage refinancing should not matter much for bank switching in consumer loans. Around 69% of the Chilean borrowers that report banking consumer loans in two different surveys have changed their bank after three years. The switching rate for consumer loans, however, is 94% for the "other banks", which are the smallest in size. For the retail banks (which are specialized in consumer loans), the bank switching rate is 61%, while it is 77% and 65% for the median sized and large banks, respectively. It is interesting to note that the poorest income quintile has a substantially lower bank switching rate (perhaps due to the lack of bank branches in the poor counties), but otherwise the bank switching rates are fairly constant for the income quintiles 2 to 5. It is also noticeable that less educated customers (those with secondary schooling or less) have even higher bank switching rates for consumer loans than the more educated households. Therefore Chilean households do not appear to have obstacles in looking for different consumer loan offers.

Using the Panel survey data, Table A.11 shows three discrete choice models for the decision of switching banks for a consumer loan. The results show that financial education, debt levels (as measured by the Consumer Debt to Annual Permanent Income Ratio in the first survey wave), a dummy variable for whether the household was paying a mortgage in the first period

( $\text{Mortgage}_{i,t-1}$ ), are negative associated to the probability of bank switching. This makes sense, since households that have a large debt or a mortgage to pay are likely to keep paying those commitments for a longer period and therefore less likely to switch. Also, it is possible that more financially educated households are better able to choose a good bank right from the start. Perhaps less financially literate customers are more likely to be unsatisfied with their first bank choice and therefore more likely to switch. The variables denoting the attraction of renegotiating a mortgage (the log of the past months with a positive refinancing opportunity and the present value of renegotiating) do not impact the bank switching choice, which confirms that mortgage refinancing does not hinder the search for consumer loans. In the same, having renegotiated a mortgage in the past is unrelated to the switching probability (model 3, Table A.11), after accounting for whether the household has a mortgage or not. Some households have multiple bank relationships (for instance, different banks for their mortgage, consumer loans and credit cards). The number of bank relationships is strongly associated with bank switching, a result also confirmed in the previous literature for other countries (Brunetti et al. 2016, Degryse et al. 2019), since multiple relationships reduce search costs and the "customer capture" from lenders. Finally, customers of the smaller banks ("other banks") and mid-sized banks are more likely to switch, which is perhaps due to their more reduced coverage of different services and fewer bank branches. Overall, both the descriptive and the multivariate model analysis confirm that Chilean households find it easy to switch banks for consumer loans and that mortgage refinancing is not an obstacle for this choice.

This brief analysis of the decision to switch banks for getting a new consumer loan shows that having a mortgage decreases the probability of moving to a new bank. Perhaps this result is explained by banks offering better valued products to retain both their customers' mortgages and their other financial accounts, therefore mortgage borrowers may have more bargaining power and the incentives to choose a good bank relationship from the very start. Depending on the unknown motives that lead mortgage borrowers to stay with the same bank, then it is hard to verify the impact of the Financial Portability law on the competition of other financial products.

Table A.1: Mortgage refinancing models (Logit model): all lenders

Robustness checks with linear log-function of the Present Value and Months for refinancing

Variables	Refinanced any mortgage <sub>i</sub>			Main home <sub>i</sub>		Other properties <sub>i</sub>	
	Model 1	Model 2	Model 3	Model 2	Model 3	Model 2	Model 3
ln(Months for refinancing <sub>i,c(i),t</sub> )	0.095* (0.052)	0.125*** (0.017)		0.111*** (0.019)		0.135*** (0.040)	
ln(Present Value of refinancing <sub>i,c(i),t</sub> )	0.023 (0.038)		0.088*** (0.013)		0.075*** (0.014)		0.113*** (0.028)
DSR <sub>i,t</sub>	0.752*** (0.148)	0.759*** (0.147)	0.740*** (0.147)	0.721*** (0.158)	0.710*** (0.158)	0.075 (0.330)	0.030 (0.332)
Financial Education <sub>i</sub>	0.387*** (0.039)	0.392*** (0.038)	0.377*** (0.038)	0.364*** (0.040)	0.353*** (0.040)	0.330*** (0.106)	0.310*** (0.106)
Pseudo R2	0.058	0.058	0.058	0.049	0.048	0.073	0.077
Observations	6,088	6,088	6,088	5,589	5,589	1,375	1,375
Marginal effects at the means:							
ln(Months for refinancing <sub>i,c(i),t</sub> )	0.012* (0.007)	0.016*** (0.002)		0.014*** (0.002)		0.015*** (0.004)	
DSR <sub>i,t</sub>	0.003 (0.005)		0.011*** (0.002)		0.009*** (0.002)		0.012*** (0.003)
ln(Present Value of refinancing <sub>i,c(i),t</sub> )	0.097*** (0.019)	0.098*** (0.019)	0.096*** (0.019)	0.088*** (0.019)	0.087*** (0.019)	0.008 (0.036)	0.003 (0.036)
Financial Education <sub>i</sub>	0.050*** (0.005)	0.0506*** (0.005)	0.0488*** (0.005)	0.0445*** (0.005)	0.0432*** (0.005)	0.0358*** (0.011)	0.0336*** (0.011)

Other Controls: dummies for the year of the survey wave.

Robust Standard-errors in (), \*\*\*, \*\*, \* denote 1%, 5% and 10% statistical significance.

Table A.2: Mortgage refinancing models (Logit) with Financial Education interactions: all lenders  
Robustness checks with linear log-function of the Present Value and Months for refinancing

Logit model	Any mortgage <sub>i</sub>		Main home <sub>i</sub>		Other properties <sub>i</sub>	
Variables	Model 2	Model 3	Model 2	Model 3	Model 2	Model 3
ln(Months for refinancing <sub>i,c(i),t</sub> )	-0.759*** (0.253)		-0.533** (0.267)		-1.528* (0.809)	
ln(Present Value of refinancing <sub>i,c(i),t</sub> )		-0.566*** (0.195)		-0.395* (0.208)		-0.917 (0.569)
DSR <sub>i,t</sub>	0.786*** (0.147)	0.775*** (0.148)	0.742*** (0.158)	0.736*** (0.158)	0.096 (0.331)	0.046 (0.333)
Financial Education <sub>i</sub>	0.309*** (0.043)	0.298*** (0.044)	0.306*** (0.045)	0.299*** (0.046)	0.205* (0.116)	0.197* (0.119)
Fin. Education <sub>i</sub> × ln(Months for refin. <sub>i,c(i),t</sub> )	0.068*** (0.019)		0.050** (0.021)		0.125** (0.060)	
Fin. Education <sub>i</sub> × ln(PV of refin. <sub>i,c(i),t</sub> )		0.050*** (0.015)		0.036** (0.016)		0.077* (0.042)
Pseudo R2	0.061	0.060	0.050	0.049	0.077	0.080
Observations	6,088	6,088	5,589	5,589	1,375	1,375
Marginal effects at the means:						
ln(Months for refinancing <sub>i,c(i),t</sub> )	-0.098*** (0.033)		-0.065** (0.033)		-0.166* (0.089)	
ln(Present Value of refinancing <sub>i,c(i),t</sub> )		-0.074*** (0.025)		-0.048* (0.026)		-0.101 (0.064)
DSR <sub>i,t</sub>	0.102*** (0.019)	0.101*** (0.019)	0.091*** (0.019)	0.090*** (0.019)	0.011 (0.036)	0.006 (0.036)
Financial Education <sub>i</sub>	0.040*** (0.005)	0.039*** (0.006)	0.038*** (0.005)	0.037*** (0.005)	0.023* (0.013)	0.022* (0.013)
Fin. Education <sub>i</sub> × ln(Months for refin. <sub>i,c(i),t</sub> )	0.009*** (0.003)		0.006** (0.003)		0.014** (0.007)	
Fin. Education <sub>i</sub> × ln(PV of refin. <sub>i,c(i),t</sub> )		0.006*** (0.002)		0.004** (0.002)		0.008* (0.005)

Other Controls: dummies for the year of the survey wave.

Robust Standard-errors in (), \*\*\*, \*\*, \* denote 1%, 5% and 10% statistical significance.

Table A.3: Refinancing of bank mortgages (Logit model)

Robustness checks with linear log-function of the Present Value and Months for refinancing

Logit model	Renegotiated any mortgage <sub>i</sub>			Main home <sub>i</sub>		Other properties <sub>i</sub>	
Variables	Model 1	Model 2	Model 3	Model 2	Model 3	Model 2	Model 3
ln(Months for refinancing <sub>i,c(i),t</sub> )	0.134** (0.063)	0.106*** (0.021)		0.091*** (0.023)		0.129*** (0.047)	
ln(Present Value of refinancing <sub>i,c(i),t</sub> )	-0.021 (0.045)		0.069*** (0.015)		0.057*** (0.016)		0.107*** (0.033)
DSR <sub>i,t</sub>	0.743*** (0.173)	0.738*** (0.173)	0.726*** (0.173)	0.689*** (0.185)	0.684*** (0.185)	0.069 (0.367)	0.033 (0.368)
Financial Education <sub>i</sub>	0.372*** (0.052)	0.369*** (0.052)	0.363*** (0.052)	0.350*** (0.055)	0.346*** (0.055)	0.325** (0.128)	0.309** (0.129)
ln(bank assets <sub>c(i)</sub> )	0.086 (0.092)	0.085 (0.092)	0.083 (0.092)	0.105 (0.102)	0.102 (0.102)	0.266 (0.180)	0.264 (0.180)
Bank's ROA <sub>c(i)</sub>	4.838 (8.295)	4.415 (8.246)	3.182 (8.250)	-3.815 (8.640)	-4.808 (8.643)	26.73 (19.60)	25.83 (19.62)
Retail Bank <sub>c(i)</sub>	-0.236 (0.514)	-0.237 (0.514)	-0.249 (0.514)	0.185 (0.518)	0.167 (0.518)		
Median Bank <sub>c(i)</sub>	0.097 (0.143)	0.092 (0.142)	0.080 (0.142)	0.057 (0.153)	0.043 (0.153)	0.885*** (0.286)	0.867*** (0.287)
Other Bank <sub>c(i)</sub>	0.374** (0.185)	0.373** (0.185)	0.369** (0.185)	0.203 (0.207)	0.205 (0.207)	1.024*** (0.358)	1.033*** (0.359)
Supply factors <sub>i</sub>	-0.033 (0.061)	-0.033 (0.061)	-0.028 (0.061)	-0.017 (0.071)	-0.016 (0.071)	0.072 (0.122)	0.078 (0.122)
Demand factors <sub>i</sub>	0.131*** (0.037)	0.132*** (0.037)	0.136*** (0.037)	0.142*** (0.042)	0.145*** (0.042)	0.060 (0.076)	0.061 (0.077)
Pseudo R2	0.048	0.048	0.047	0.039	0.038	0.083	0.086
Observations	4,041	4,041	4,041	3,694	3,694	1,125	1,125

Marginal effects at the means:

ln(Months for refinancing <sub>i,c(i),t</sub> )	0.019** (0.009)	0.0151*** (0.003)		0.0123*** (0.003)		0.014*** (0.005)	
ln(Present Value of refinancing <sub>i,c(i),t</sub> )	-0.003 (0.006)		0.010*** (0.002)		0.008*** (0.002)		0.012*** (0.004)
DSR <sub>i,t</sub>	0.106*** (0.025)	0.105*** (0.025)	0.103*** (0.025)	0.093*** (0.025)	0.092*** (0.025)	0.008 (0.040)	0.004 (0.040)
Financial Education <sub>i</sub>	0.053*** (0.007)	0.053*** (0.007)	0.052*** (0.007)	0.047*** (0.007)	0.047*** (0.007)	0.036** (0.014)	0.034** (0.014)

Other Controls: dummies for the year of the survey wave.

Robust Standard-errors in (), \*\*\*, \*\*, \* denote 1%, 5% and 10% statistical significance.

Table A.4: Mortgage refinancing models (Logit model): all lenders  
Robustness checks with inclusion of a quadratic function of the Present Value (in log),  
plus a linear-log of the Months for refinancing and the Permanent Income

Variables	Any mortgage <sub>i</sub>		Main home <sub>i</sub>		Other properties <sub>i</sub>	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
ln(Months for refinancing <sub>i,c(i),t</sub> )	0.167*** (0.0540)	0.156*** (0.0574)	0.178*** (0.0576)	0.166*** (0.0623)	-0.101 (0.132)	-0.129 (0.137)
ln(Present Value of refinancing <sub>i,c(i),t</sub> )	-0.0382 (0.0393)	-0.293*** (0.0655)	-0.0527 (0.0419)	-0.363*** (0.0720)	0.173* (0.0921)	0.0183 (0.143)
ln(PV <sub>i,c(i),t</sub> ) <sup>2</sup>		0.0403*** (0.00792)		0.0492*** (0.00876)		0.0264 (0.0183)
ln(P <sub>i,t</sub> )	0.549*** (0.0599)	0.503*** (0.0607)	0.430*** (0.0643)	0.374*** (0.0655)	0.598*** (0.130)	0.577*** (0.131)
DSR <sub>i,t</sub>	1.054*** (0.152)	1.046*** (0.152)	0.939*** (0.162)	0.923*** (0.162)	0.314 (0.341)	0.325 (0.341)
Financial Education <sub>i</sub>	0.101** (0.0484)	0.111** (0.0485)	0.137*** (0.0519)	0.153*** (0.0521)	-0.00917 (0.124)	-0.00907 (0.124)
Pseudo R2	0.073	0.078	0.058	0.064	0.097	0.099
Observations	6,088	6,088	5,589	5,589	1,375	1,375

Other Controls: dummies for the year of the survey wave.

Robust Standard-errors in (), \*\*\*, \*\*, \* denote 1%, 5% and 10% statistical significance.

Table A.5: Mortgage refinancing models (Logit)  
with Financial Education interactions: all lenders

Robustness checks with inclusion of a quadratic function of the Present Value (in log),  
plus a linear-log of the Months for refinancing and the Permanent Income

Logit model	Any mortgage <sub>i</sub>			Main home <sub>i</sub>	Other properties <sub>i</sub>
Variables	Model 1	Model 2	Model 3	Model 3	Model 3
ln(Months for refinancing <sub>i,c(i),t</sub> )	0.969 (0.895)	-0.328 (0.252)	0.184*** (0.0590)	0.187*** (0.0641)	-0.102 (0.140)
ln(Present Value of refinancing <sub>i,c(i),t</sub> )	-1.338* (0.707)	-0.287*** (0.0659)	-0.748*** (0.207)	-0.659*** (0.223)	-0.856 (0.605)
ln(PV <sub>i,c(i),t</sub> ) <sup>2</sup>	0.0376*** (0.00820)	0.0369*** (0.00812)	0.0367*** (0.00811)	0.0471*** (0.00892)	0.0221 (0.0188)
ln(P <sub>i,t</sub> )	0.499*** (0.0608)	0.502*** (0.0608)	0.500*** (0.0608)	0.372*** (0.0655)	0.585*** (0.132)
DSR <sub>i,t</sub>	1.074*** (0.153)	1.065*** (0.152)	1.071*** (0.152)	0.939*** (0.162)	0.352 (0.342)
Financial Education <sub>i</sub>	0.0653 (0.0519)	0.0715 (0.0519)	0.0640 (0.0519)	0.124** (0.0556)	-0.0955 (0.134)
Fin. Education <sub>i</sub> × ln(Months for refin. <sub>i,c(i),t</sub> )	-0.0601 (0.0684)	0.0389** (0.0196)			
Fin. Education <sub>i</sub> × ln(PV of refin. <sub>i,c(i),t</sub> )	0.0795 (0.0532)		0.0350** (0.0151)	0.0226 (0.0161)	0.0660 (0.0444)
Pseudo R2	0.079	0.079	0.079	0.065	0.101
Observations	6,088	6,088	6,088	5,589	1,375

Other Controls: dummies for the year of the survey wave.

Robust Standard-errors in (), \*\*\*, \*\*, \* denote 1%, 5% and 10% statistical significance.

Table A.6: Refinancing of bank mortgages (Logit model)

Robustness checks with inclusion of a quadratic function of the Present Value (in log),  
plus a linear-log of the Months for refinancing and the Permanent Income

Logit model Variables	Any mortgage <sub>i</sub> Model 3	Main home <sub>i</sub> Model 3	Other properties <sub>i</sub> Model 3
ln(Months for refinancing <sub><i>i,c(i),t</i></sub> )	0.167** (0.0671)	0.140* (0.0716)	-0.122 (0.156)
ln(Present Value of refinancing <sub><i>i,c(i),t</i></sub> )	-0.238*** (0.0745)	-0.263*** (0.0795)	0.0457 (0.162)
ln(PV <sub><i>i,c(i),t</i></sub> ) <sup>2</sup>	0.0288*** (0.00960)	0.0348*** (0.0104)	0.0214 (0.0221)
ln( <i>P<sub>i,t</sub></i> )	0.524*** (0.0744)	0.383*** (0.0801)	0.578*** (0.149)
DSR <sub><i>i,t</i></sub>	1.054*** (0.179)	0.906*** (0.190)	0.343 (0.380)
Financial Education <sub><i>i</i></sub>	0.117* (0.0614)	0.161** (0.0661)	0.0314 (0.144)
ln(bank assets <sub><i>c(i)</i></sub> )	0.130 (0.0926)	0.123 (0.102)	0.344* (0.185)
Bank's ROA <sub><i>c(i)</i></sub>	-9.347 (8.643)	-15.31* (9.051)	12.10 (20.10)
Retail Bank <sub><i>c(i)</i></sub>	0.0375 (0.518)	0.376 (0.520)	
Median Bank <sub><i>c(i)</i></sub>	0.0680 (0.144)	0.0186 (0.154)	0.855*** (0.293)
Other Bank <sub><i>c(i)</i></sub>	0.252 (0.188)	0.0978 (0.209)	0.834** (0.368)
Supply factors <sub><i>i</i></sub>	-0.0679 (0.0623)	-0.0380 (0.0714)	0.0538 (0.124)
Demand factors <sub><i>i</i></sub>	0.107*** (0.0380)	0.121*** (0.0426)	0.0583 (0.0786)
Pseudo R2	0.065	0.050	0.105
Observations	4,041	3,694	1,125

Other Controls: dummies for the year of the survey wave.

Robust Standard-errors in (), \*\*\*, \*\*, \* denote 1%, 5% and 10% statistical significance.

Table A.7: Refinancing probability (in %) before and after the law

Panel A calibration: Model 2 of Table A.1									
Group	Before the law			After the law					
	Any home	Main	Other	Lower pecuniary costs			Plus cognitive costs ( $\sigma_{FE}$ )		
				Any home	Main	Other	Any home	Main	Other
All households	17.9	16.6	14.4	19.5	18.2	15.9	28.6	25.7	23.4
Household Income Quintile:									
1	12.8	11.9	10.0	13.8	13.0	10.2	20.3	18.4	15.1
2	12.2	11.7	7.6	13.3	12.8	7.9	19.4	18.0	11.7
3	14.5	13.6	9.7	15.8	14.9	10.3	23.0	21.0	15.4
4	17.0	16.0	11.6	18.5	17.6	12.9	27.0	24.7	18.3
5	22.0	20.2	16.7	24.0	22.3	18.6	35.2	31.3	27.5
House value strata:									
1 (percentiles 1-50)	14.1	13.2	14.8	15.1	14.2	16.1	22.5	20.4	22.9
2 (percentiles 51-80)	16.7	16.1	15.5	18.2	17.7	17.0	26.6	24.9	24.9
3 (percentiles 81-100)	22.0	20.2	18.0	24.2	22.4	20.2	35.1	31.2	30.5
Panel B calibration: Model 2 of Table A.2									
Group	Before the law			After the law					
	Any home	Main	Other	Lower pecuniary costs			Plus cognitive costs ( $\sigma_{FE}$ )		
				Any home	Main	Other	Any home	Main	Other
All households	17.8	16.5	14.4	19.4	18.1	15.9	28.4	25.6	23.4
Household Income Quintile:									
1	12.7	11.8	10.3	13.6	12.9	10.6	20.1	18.3	15.5
2	12.2	11.6	8.2	13.2	12.7	8.5	19.3	17.9	12.3
3	14.3	13.5	9.5	15.6	14.8	10.1	22.8	20.9	15.2
4	16.7	15.8	11.7	18.2	17.4	13.0	26.7	24.5	18.4
5	21.9	20.1	16.7	24.0	22.2	18.5	35.1	31.3	27.5
House value strata:									
1 (percentiles 1-50)	13.7	12.9	14.6	14.7	13.9	16.0	22.1	20.1	22.7
2 (percentiles 51-80)	16.6	16.1	15.4	18.1	17.7	17.0	26.5	24.9	24.9
3 (percentiles 81-100)	22.0	20.1	18.2	24.1	22.4	20.4	35.1	31.1	30.7

Table A.8: Refinancing probability (in %) after the law for distinct levels of cognitive costs

Model 2 of Table A.1		After the law: Lower pecuniary and cognitive costs								
Cognitive improvement		$0.25 \times \sigma_{FE}$			$0.50 \times \sigma_{FE}$			$0.75 \times \sigma_{FE}$		
Group		Any home	Main	Other	Any home	Main	Other	Any home	Main	Other
All households		21.1	19.3	17.2	23.4	21.3	19.1	25.9	23.4	21.2
Household Income Quintile:										
1		14.8	13.8	11.2	16.4	15.2	12.4	18.3	16.7	13.7
2		14.2	13.5	8.7	15.8	14.9	9.6	17.5	16.4	10.6
3		17.0	15.8	11.4	18.8	17.4	12.6	20.8	19.2	13.9
4		19.9	18.6	13.7	22.1	20.5	15.1	24.5	22.5	16.7
5		26.0	23.5	20.1	28.9	26.0	22.4	32.0	28.6	24.9
House value strata:										
1 (percentiles 1-50)		16.4	15.2	17.2	18.3	16.8	19.0	20.3	18.5	20.9
2 (percentiles 51-80)		19.7	18.8	18.5	21.8	20.7	20.5	24.1	22.7	22.6
3 (percentiles 81-100)		26.0	23.5	22.0	28.9	25.9	24.6	32.0	28.5	27.5

Table A.9: Expected welfare gains of refinancing for the mean mortgage borrower (in UF)

Panel A: a: Before the law; b: After the Law (lower pecuniary costs only)									
c: After the Law (lower pecuniary costs and lower cognitive costs of $\sigma_{FE}$ )									
Model 2 of Table A.1	Before the law			After the law					
Group	Any home	Main	Other	Lower pecuniary costs			Plus cognitive costs ( $\sigma_{FE}$ )		
				Any home	Main	Other	Any home	Main	Other
All households	41.2	30.9	39.2	45.4	34.5	42.8	73.1	53.5	74.5
Household Income Quintile:									
1	15.5	13.9	10.8	17.0	15.2	11.8	27.0	23.3	20.0
2	10.6	9.8	4.5	12.3	11.4	5.1	19.0	17.0	9.1
3	15.2	13.3	9.8	17.3	15.4	11.2	27.6	23.5	18.7
4	23.0	20.0	12.2	26.3	23.0	14.7	41.6	35.0	24.5
5	73.6	53.3	55.9	80.2	58.8	60.4	129.8	92.1	105.6
House value strata:									
1 (percentiles 1-50)	17.8	16.0	17.7	19.8	17.8	19.7	31.3	27.2	32.3
2 (percentiles 51-80)	23.1	22.9	32.6	26.1	25.9	36.0	41.3	39.8	61.0
3 (percentiles 81-100)	78.9	55.4	78.9	86.1	61.3	85.1	139.6	96.0	151.3
Panel B: c. After the Law (lower pecuniary and cognitive costs)									
lower cognitive costs by $0.25 \times \sigma_{FE}$ (c.1), $0.50 \times \sigma_{FE}$ (c.2), $0.75 \times \sigma_{FE}$ (c.3)									
Model 2 of Table A.1	After the law: Lower financial and cognitive costs								
Cognitive improvement	$0.25 \times \sigma_{FE}$			$0.50 \times \sigma_{FE}$			$0.75 \times \sigma_{FE}$		
Group	Any home	Main	Other	Any home	Main	Other	Any home	Main	Other
All households	51.2	38.0	49.7	58.2	42.9	57.6	65.6	48.1	66.0
Household Income Quintile:									
1	18.8	16.7	13.1	21.2	18.7	15.1	24.0	20.9	17.4
2	13.4	12.3	5.9	15.1	13.7	6.9	17.0	15.3	7.9
3	19.2	16.7	12.6	21.7	18.8	14.4	24.5	21.0	16.4
4	29.1	25.0	16.4	33.0	28.1	18.9	37.2	31.4	21.6
5	90.9	65.3	70.4	103.6	73.9	81.8	116.7	82.8	93.6
House value strata:									
1 (percentiles 1-50)	22.0	19.6	22.3	24.8	21.9	25.4	27.9	24.5	28.8
2 (percentiles 51-80)	29.1	28.5	41.5	32.9	32.0	47.8	37.0	35.8	54.4
3 (percentiles 81-100)	97.6	67.8	99.7	111.3	76.8	116.2	125.4	86.3	133.6

Table A.10: Switching banks for consumer loans (Panel EFH, 2011-2014, 2014-2017)

<b>Bank type (year 1):</b>	All households	Never Refinanced	Refinanced	Secondary	Technical or	College
		a Mortgage	Mortgages	or less	some college or more	
<b>All banks</b>	69.3	71.7	45.6	73.9	63.5	65.2
Large	64.6	69.4	25.2	77.9	53.2	55.1
Retail	60.9	61.5	53.3	59.2	61.8	63.9
Median	76.6	80.0	55.8	92.4	79.7	69.8
Other banks	93.8	94.9	79.3	96.9	91.6	88.9
<b>Income quintile</b>						
1=poorest	58.0	58.0		62.6	49.5	49.2
2	71.1	72.9	26.8	70.4	43.7	87.4
3	71.2	72.9	34.9	69.8	75.7	74.0
4	70.4	71.6	55.1	78.8	60.3	62.6
5=wealthiest	68.2	72.4	45.7	79.2	64.6	63.8
<b>Bank (year 1):</b>						
Banco de Chile	59.3	65.0	18.4	75.7	28.6	61.2
Banco Estado	74.4	77.9	33.9	83.9	49.4	65.4
BCI	60.3	61.6	47.0	70.6	84.2	47.3
Santander	62.5	70.1	18.3	73.8	88.6	44.7
Retail banks	60.9	61.5	53.3	59.2	61.8	63.9
Median banks	76.6	80.0	55.8	92.4	79.7	69.8
Other Banks	93.8	94.9	79.3	96.9	91.6	88.9

Sample: 1,257 households that were interviewed twice (on 2011-2014 or 2014-2017) and that reported a banking consumer loan (installment loan or credit card debt) in both survey years.

Table A.11: Switching behavior of consumer loans between banks (Logit model)

Panel EFH data (2011-2014, 2014-2017)

Logit model	Model 1		Model 2		Model 3	
Variables	Coefficient	Marginal effect	Coefficient	Marginal effect	Coefficient	Marginal effect
Financial	-0.200***	-0.038***	-0.199***	-0.038***	-0.199***	-0.038***
Education <sub>i</sub>	(0.071)	(0.013)	(0.071)	(0.013)	(0.071)	(0.013)
Consumer Debt to	-0.848**	-0.161**	-0.831**	-0.157**	-0.834**	-0.158**
Income Ratio <sub>i,t-1</sub>	(0.390)	(0.074)	(0.390)	(0.074)	(0.389)	(0.074)
Mortgage <sub>i,t-1</sub>	-0.553***	-0.105***	-0.532***	-0.101***	-0.545***	-0.103***
	(0.177)	(0.034)	(0.175)	(0.033)	(0.174)	(0.033)
Renegotiated in the					-0.321	-0.061
past dummy <sub>i,t-1</sub>					(0.282)	(0.053)
ln(Months for	-0.424	-0.080	-0.135	-0.026		
refinancing <sub>i,t-1</sub> )	(0.337)	(0.064)	(0.104)	(0.020)		
ln(Present Value	0.199	0.038				
of refinancing <sub>i,t-1</sub> )	(0.220)	(0.042)				
Nr of Banks <sub>i,t-1</sub>	1.149***	0.217***	1.147***	0.217***	1.148***	0.217***
	(0.111)	(0.020)	(0.111)	(0.020)	(0.111)	(0.020)
Retail Bank <sub>i,t-1</sub>	-0.259	-0.061	-0.257	-0.061	-0.252	-0.060
	(0.161)	(0.038)	(0.161)	(0.038)	(0.161)	(0.038)
Median Bank <sub>i,t-1</sub>	0.502*	0.105*	0.509*	0.106*	0.543*	0.112**
	(0.293)	(0.056)	(0.293)	(0.056)	(0.293)	(0.056)
Other Bank <sub>i,t-1</sub>	2.822***	0.321***	2.825***	0.321***	2.832***	0.323***
	(0.296)	(0.028)	(0.296)	(0.028)	(0.297)	(0.028)
Pseudo R2	0.174		0.173		0.173	
Observations	1,257		1,257		1,257	

Other Controls: dummies for the year of the initial panel EFH survey wave.

Robust Standard-errors in (), \*\*\*, \*\*, \* denote 1%, 5% and 10% statistical significance.