

Exploring the Financial Situation of Chileans: New Micro Evidence from Gran Santiago

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September, 2004

(Second Draft - Please Do Not Cite)

Abstract

This paper explores the financial situations of households in Chile using a unique data set. It investigates whether education and income determine a household's amount of loans and savings. We also study whether these factors influence the choice of loan and saving provider, as well as the saving instrument. We conclude by analyzing the impact of access to the financial system on an individual's income level and probability of becoming an entrepreneur. An important conclusion of this paper is that better and richer data will allow a superior understanding of these issues.

1 Introduction

The analysis of the financial situation of agents at the micro level (households and/or firms) has been a topic of huge development in recent years. At least two reasons explain this phenomenon: the availability of newer and richer data, and the necessity of a better understanding of the impact of policy interventions at the micro level.

This paper has been prepared for the conference "Financial Products and Poverty Reduction", Washington DC, September 30th and October 1, 2004.

This paper uses a data set containing micro-level information for a representative sample of households from Chile (specifically Santiago, Chile's capital city) to study their financial situation. This data set is unique in two different dimensions. First, thanks to the efforts of the Economics Department of the University of Chile (the institution that collected the data), we used our own questionnaire on the sample of households in their quarterly survey of employment.¹

Second, the data set is unique because it provides valuable financial information at the household level, which until now has been unavailable. This information provides useful insights into several aspects of the financial behavior of Chileans. This is interesting not only because of the well-known reforms carried out in Chile during the past 25 years (see Edwards and Cox-Edwards (1991) and (2000) for a detailed description of these reforms), but also because of the ongoing and incoming processes of reform.

The paper has the following structure. The next section introduces some important facts concerning Chile. Section 3 presents the data set, and in section 4 we describe the main results obtained from it. Section 5 presents a preliminary evaluation of the impact of access to a financial system on occupation choice and income, and section 6 presents possible extensions and the conclusions.

2 Chile

Two important facts distinguish Chile from the rest of the countries in the region. First, due to successful economic performance during the last two decades Chile has become a paradigm among the developing countries. Figure 1 presents the trends of a selected list of aggregate economic series for Chile.

Second, several structural reforms have directly and indirectly affected the economic performance of Chile. These reforms started in the late 70's. They modified the labor, the health, the financial, and the educational systems (see Edwards and Edwards (1991) for a description of these reforms).

¹We want to thank the efforts of the Economics Department of the University of Chile and its Division of Surveys. In particular, David Bravo was an important source of support for collecting the data.

However, not much has been learned about the effects of these reforms beyond the trends observed for the aggregate (macro) series. Whether the impacts of these reforms were positive from a microeconomic point of view is still an unresolved issue. This is mostly due to the lack of good micro-level information in Chile. This is surprising and disturbing for several reasons. First, the policy maker can only make precise ex-ante evaluations of the interventions if good quality data is provided. Second, good information will help to identify failures in the design of the interventions already in place. Finally, since good quality data sets are important ingredients for the design of successful future policy interventions, its lack may not only affect the impact of the policy in place, but also the design of successful future interventions.

This paper describes how, with small effort, it is possible to generate relevant information that provides better understanding of the financial conditions of the agents. The next section describes the micro data available in Chile, with particular interest on available information on the financial conditions of the Chilean household.

2.1 Micro-Data in Chile

The two most important (and publically available) Chilean surveys containing information at the household level are the CASEN surveys (Encuesta de Caracterización Socioeconómica Nacional) and the survey of employment of the University of Chile. Neither of them are administered by the Chilean Bureau of Statistics (Instituto Nacional de Estadísticas, INE).²

The CASEN is a set of eight household surveys with information on different socio-economic dimensions (education, health, income, occupation, etc.). It is representative of the whole country, but unfortunately it has been collected only since 1987 and only every two or three years.³ This fact has impeded the utilization of these surveys as a tool for clarifying the impact of the reforms carried out during the early 80s.

The University of Chile's survey of employment on the other hand, is a set of quarterly household

²The INE does collect information at micro level, but its data sets (electronic files) are not in general available.

³The CASEN has collected data in 1987, 1990, 1992, 1994, 1996, 1998, 2000, and 2003.

surveys collected since 1957.⁴ This survey contains information on income, employment status, occupation characteristics, number of worked hours, the number of worked days, and periods of unemployment at the household level. It also contains information about education and income. Unfortunately, this survey is representative only of Santiago and some suburbs (which represent approximately 45% of the Chilean population).⁵

The condition of the information available for businesses and firms is not better. The annual Chilean manufacturing census (Encuesta Nacional Industrial Anual, ENIA) conducted by the Chilean Bureau of statistics (INE) is the most important and only publicly available survey. This survey covers all manufacturing plants in Chile with more than 10 employees and has been conducted annually since 1979. The ENIA contains information about business organization, percentage of national capital, percentage of foreign capital, sector information, total production value, added value, total consumption of energy, number of blue collar employees, number of white collar employees, total wages paid to blue collar employees, total wages paid to white collar employees, total annual sales, total export sales, total expenditure in licenses, and the stock of capital among other variables.⁶ All the information is available at the plant level and the plants are followed over time.⁷

None of these surveys contain information about the financial aspects of the households or/and business. However, this may be simply due to the fact that this kind of information is simply irrelevant in a developing economy like Chile. Unfortunately, this is not the case. Good quality data sets are building blocks for a more precise evaluation of the financial situation of an economy at the micro level.⁸ Moreover, since households

⁴Only for the second quarter of each year is electronically available.

⁵This survey has been extensively used in the analysis of inequality, poverty (see Bravo, Contreras and Urzua (2003)), and social security (Pages and Montenegro (1998)).

⁶The number and characteristics of these variables vary from year to year.

⁷Urzua (2004) points out important problems in the data.

⁸Samphantharak and Townsend (2004) precisely illustrate how valuable this kind of information is understanding the financial situation of households, especially those with business activities in developing countries. In particular, provided with information on net income, cash flow, consumption, investment, and the various financing devices they show that households can actually be studied as corporate firms. Based on this logic, they use the balance sheet, income statement and statement of cash flows to analyze the rate of return to production activities, the debt to net wealth ratio, and the movement of both consumption and investment to income in the households. Furthermore, these financial accounts allow them to decompose and

and firms are inherently connected through these channels, this limited data also implies that there is limited knowledge about the nature of these financial connections. The lack of knowledge especially impacts micro firms because of their indistinguishable borderline between household and business. Furthermore, these firms are particularly important in Chile because as a whole their employees comprise 40% of the total employment in the Chilean economy.⁹

This paper provides evidence regarding the financial situation of Chile's households and businesses.

3 The Data Set

The survey utilized in this paper is a sub-sample of the survey collected quarterly by the Economic Department of the University of Chile. More precisely, our sample is a quarter of the June 2003 sample. Fortunately, given the characteristics of the design of the survey, our sample is representative of Santiago and the nearest suburbs (Gran Santiago).¹⁰ As mentioned above, the employment survey of the University of Chile provides mostly information about the occupational status, some sources of income, and demographic characteristics at the individual level.

In June of 2003 however, the survey incorporates a battery of questions created with the conscious aim of characterizing the financial situation of the households (and indirectly their micro firms) in Chile's capital city. Its design was based on the experiences of several studies conducted in Thailand (see Townsend (2003)), a nation the shares certain characteristics with Chile

Our questionnaire included the following items: (i) assets owned by members of the household (paid price and acquisition date), (ii) entrepreneurship (characteristics of the business), (iii) credits and loans

quantify the consumption and investment deficits into their various financing components and to study household portfolio management.

⁹For the same reason, during the last 10 years, several interventions have been designed to improve the economic performance of these firms. Their results have yet to be evaluated.

¹⁰The employment survey conducted by the University of Chile is designed such that after dividing Gran Santiago into quarters, the sample comprises of 3,060 households. Each quarter is representative of the whole area. Our sample is one of these quarters.

(amount, collateral, guarantors, dates, and the financial institution providing the money), and (iv) savings (amount, instrument, and financial institution in which the agent has the deposit).¹¹ The individuals in our sample were asked retrospectively about these items.

3.1 Outliers

Given the small sample size, the results are sensitive to the presence of outliers. Four cases were consequently left out of the analysis. The first case corresponds to an individual declaring savings of 7 million dollars. The second case is 44 years old male who reports 74,000 dollars in loans. However, given his low level of total personal income, his case was determined implausible.¹² The last two cases corresponds to husband and wife, 62 and 68 years old, respectively. Both declare 145,000 dollars in savings (mutual funds). This indicates some measurement error problem, hence they were left out of the analysis.

4 Exploratory Results

Table 1 presents descriptive statistics of the most important variables in our sample. The numbers are similar to the numbers obtained in the full sample of the June 2003 survey. The average years of schooling in the sample is 10.99 (11.06 in the full sample), the fraction of females is 54.8% (53.37% in the full sample), and the unemployment rate is 12.5% (13.1% in the full sample). All these numbers are computed using the adult sample.

The variables describing the loan situation (unavailable for the full sample), show that 12.6% of the adults in the sample declare to have loans at some point in the last 5 years (this is our definition of access to the financial system), and that only 1.4% of the people indicate that loans were obtained from informal

¹¹Our questionnaire also included questions regarding expenditure in education, as well as the opinion of the individual in regards to his economic situation in the last five years (1998-2003).

¹²We investigated this case in more detail. He declares that in order to receive the \$74,000 he had to leave as pledge (land) of the same value. The credit was provided by a commercial bank. He does not declare any savings nor wealth.

sources.¹³ Table 1 also indicates that in average the annual amount of loan held was \$2,827, which is high if we consider that the average total personal income in the sample is \$4,236 per year ($\353×12).¹⁴

On the other hand, we have that only 10.7% of the sample declares to have any kind of savings at the moment of the interview and that the average amount of savings is equal to \$999.

Finally, Table 1 presents a measure of total wealth at the individual level based on the value of the stock of new assets accumulated during the period 1998-2003. We are able to obtain this measure of wealth for 15.8% of the sample. The average wealth is \$3,594, and surprisingly, the correlation between this measure and the total monthly personal income is only 0.26.

Tables 2 and 3 present similar information as Table 1, but they break down the information by type of occupation (entrepreneur or non-entrepreneur) and the occupational status (employed, unemployed, and outside the labor force), respectively.

Table 2 indicates that in general, entrepreneurs are less educated, older, and have more experience than the non-entrepreneurs in our sample. Moreover, their total personal income and total wealth are also higher than the comparison group. In terms of their financial situation, they report more access to the financial system, as well as a larger amount of loans. However, the group non-entrepreneurs report higher savings.¹⁵

Table 3 shows that there is a positive correlation between years of schooling and the occupational status. We also find that total personal income and occupational status covariate negatively. None of these predictions are unexpected. What is surprising is that there is no clear correlation between the financial variables and the occupational status. Employed people have more access to the financial system (i.e. to loans), higher debts, and save more than the other two groups. However, the people outside the

¹³ Informal sources are: friends, neighbor, a boss, or family. A detailed description of the other sources is presented in the appendix.

¹⁴ The amount of credit is also higher relative to the income if we consider the income only from the individuals reporting debts. In particular, for these people we obtain an average monthly income of \$470.57, thus the average amount of monthly credits represents approximately a 50 percent of the the total monthly personal income at the moment of the interview.

¹⁵ Notice however that only 6 individuals in the group of non-entrepreneur report savings.

labor force dominate the unemployed in the same three dimensions. Finally, the unemployed report the highest amount of wealth, whereas the employed report the lowest amount of wealth.¹⁶

In what follows we present a more detailed analysis of our results.

4.1 Access to The Financial System: Institutions and Loan Amounts

We start this section analyzing the links among the loan situation of the households, their income, and their educational level.

Table 4 considers three categories of income level (poor, middle, and rich) computed using the total personal monthly income and three categories of education (8 or less years of schooling, between 9 and 12 years of schooling, and more than 12 years of schooling). We observe that when average over education levels there is a larger fraction of entrepreneurs in the groups with higher income level. The same relationship is not observed when looking across educational levels. In particular, we have that in general the group of people with secondary education (between 8 and 12 years) have the lowest rate of entrepreneurship (except in the group of rich individuals). This table also sheds light on the characteristics of our alternative measure of wealth. We observe that, in general, income and educational level do not necessarily covariate positively with total wealth. For example, for poor, going from secondary to tertiary education implies a reduction of approx. \$1,200 in the total wealth (2,707 vs. 1,496 dollars).

In Table 5 we present the average annual loan amount (in the period 1998-2003) as well as the loan to income ratio by income and educational categories. We find a clear positive relation between average loan amount and both income and education. The only exception to this appears in the poor when moving from the secondary (\$624.3) to the tertiary (\$274.6) educational levels. Notice however that when we allow individuals enrolled in any educational institution to enter into the analysis, the average loan amount for poor people with tertiary education goes from \$274 to \$728 dollars. The other numbers in the table are

¹⁶The sample size of the unemployed people reporting wealth is small, and so the results must be interpreted with caution.

very similar even after this modification. Therefore, the positive correlation previously mentioned holds in general if we drop those not enrolled in any educational institution. This result suggests the importance of education in the demand for loans for those with low income.

The second main result from Table 5 is the difference in the loan to income ratios across the different cells. Even though overall the correlation between the loan to income ratio and the educational level is positive (0.54), we obtain a different picture when we focus the analysis on low income individuals. In this case, the largest ratio is observed for less educated people (0.4). Notice that we do not find a clear relationship between income level and the loan to income ratio.

Tables 6, 7 and 8 evidence the relationship between access to financial system, and occupation, education, and income, respectively. As previously mentioned, access to financial system is created using information for the period 1998-2003 on the individual loan history. Therefore, the individual is said to have access if he declares having loans at some point during the period 1998-2003. We use the same logic, when assessing access to formal financial system, and we simply exclude informal sources of credit (see Appendix for a description of these sources).

Table 6 shows that in a sample of employed adults not enrolled in any educational institutions, 18% of people declare to have access to financial system (16.6% formal and 2% informal), and among them 10% correspond to entrepreneurs. Despite the small number of entrepreneurs in the sample, in relative terms, an entrepreneur is almost twice as more likely to have access to any financial institutions (32%) than a non-entrepreneur (18%). This is also observed in the case of informal financial institutions.

Notice that in Table 7 the overall fraction of people with access to the financial system differ from what we present in Table 6. This is due to the fact that in the analysis by educational level we include the sample of individuals unemployed and outside the labor force. We obtain that only 13% of the sample has access to credits (1.5% from the informal sector). This result was expected given the evidence from Table 3. From the point of view of the educational levels, the group of people with secondary education with access to

the financial system represents 44% of the total number of people with access to the financial system. This group is followed by the people with tertiary education (32.9%), and finally, primary education (10%). The same order is maintained in the analysis of the informal sources of loan. However, in relative terms, we obtain that among the individuals with 12 or more years the fraction of people obtaining resources from the financial system is the largest, 18.05%. In the secondary and primary education this number is 12% and 10%, respectively. In this sense, there is a positive correlation between access to the financial system and education.

Finally, Table 8 presents the accessibility of financial institutions by our two measures of wealth: the total monthly income at the moment of the interview, and our alternative measure of wealth. As before, the overall numbers of access differ given the differences in the samples. From the point of view of the formal institutions we find that income (regardless of the measure) and access covariate positively. The story is different in the case of the informal sources of credit. In this case, depending on the measure of income, we observe a U-shape (wealth) or inverted U-shape (income) relation between income and accessibility. This is interesting given that usually this relation is assumed to be negative.

Our questionnaire also illuminates the particular institution providing the credit. In particular, we can distinguish among private banks, commercial institutions, credit unions, and the public bank (formal institutions). We continue grouping informal into one. In the appendix we detail each of these categories.

Figure 2 presents the participation of different institutions according to the number of loans provided in the period 1998-2003. We observe that private banks provide 31% of the total number of loans administered. The credit unions are the second most important group, with a participation rate of 24%, whereas commercial institutions provide 23% of the total number of loans given. What is remarkable is that credit unions, more informal institution, are a significant source of resources (loans) for Chileans. The public bank, unexpectedly, lends at a lower rate than informal sources lend (9% vs 13%).

Table 9 shows the lending rate of the five institutions breaking down the information by the borrower's

occupation. The most important difference arises in credit unions and public banks. The 21.1% of the total number of loans obtained by entrepreneurs comes from credit unions, while only 7.8% comes from the public banks. For non-entrepreneur, only 4% of their loans come from credit unions, while 28% of their loans come from the public bank. The low participation rate of the public bank is surprising.

Table 10 presents the number of loans provided by financial institutions and by educational level. There are three very interesting results. First, there is a clear positive correlation between education and access to resources from private banks. Only 7.2% of the total number of loans obtained for less educated people came from private banks, whereas for more educated people, this number reaches almost 54%. Better education seems to mean more access to economic resources from private banks. A different perspective also helps to illustrate this point: 64% of the total loans provided by private banks correspond to the group of more educated people, whereas only 5% correspond to less educated people. Second, in relative terms, the less educated people are more likely to obtain loans from credit unions and informal sources. Finally, 13% of the total number of loans given to less educated people were provided by the public bank. However, they represent only 31% of the total number of loans provided by this institution (the smallest fraction among the three categories). These findings seem to indicate that there are underlying elements in the credit system in which education plays an important role. They suggest that more educated people have access to more economic resources.

Finally, Table 11 presents the number of loans distributed by the borrowers level of income. Note that for both measures of income we observe that the proportion of the number of loans provided by private banks increases as income increases. For example, in panel A (total personal income) we observe that this fraction goes from 4.8% for the poor, to 48.9% for the rich. Inversely, the fraction associated with commercial institutions, credit unions, and informal sources (only in panel A) decrease as income increase: 19% of the total number of loans given to the poor are from informal sources, whereas the same sources represents only 6.4% for those with high income level. The public bank has a small fraction of the total

number of loans assigned, regardless of income level or the measure of income considered.¹⁷

Assigning importance of a financial institution based on its participation on the total number of loans can be misleading. Even though an institution will have a small participation rate, it can end up being the most important credit provider if the loan amount assigned is large enough. In what follows, we investigate these aspects of the credit system.

Figure 3 presents the average loan amount by its sources. From this perspective it is clear that private banks are the most important providers. On average the amount of resources assigned by these institutions is almost \$7,000 per loan. The Public bank also plays an important role since on average it assigns approx. \$2,500 per loan. Interestingly, informal sources provide loans on average, about \$1,900, much higher than the amount computed for commercial institutions (\$1,000 per loan) and credit unions (around \$500 per loan).

Figure 4 presents the total amount of loans accumulated during the period 1989-2003 by financial providers. There is no doubt that private banks dominate the credit market. Again, we observe low participation of the public bank. Both commercial institutions and informal sources have larger volumes of loans during this period than the public bank.

We can extend our analysis of the loan to income ratio studying considering provider separately. Figure 5 presents the average loan to income ratio by provider and income level (we use personal income to compute the income categories).¹⁸ Regardless of the income level considered, private banks have higher ratios. It is striking however, that the poor, in general, show higher average ratios than the other two income categories (their ratio is more than 0.8 in the case of private banks).

Finally, Figure 6 presents the total amount of loans assigned in the period 1998-2003 within each income

¹⁷Only 23% (6%) of the total number of credits assigned by the public bank goes to the people in the low income level in Panel A (Panel B).

¹⁸Notice however that in this figure we are using the same yearly income regardless of the year of the credit. Therefore, two credits from the same individual in the same years are simply considered as different credits, and in both cases we use the same income in the denominator of the ratio. Therefore, we are underestimating the debt to income ratio.

level and by type of financial institution (as before we use personal income to create the categories). We observe important differences among groups. In particular, the poor depend mostly on credit unions and commercial institutions, while middle and rich people mostly use the private banks to obtain resources. The public bank provides a negligible fraction of the loans within each income level. However, proportionally it lends more to rich people.¹⁹

4.2 Savings: Instruments and Institutions by Income and Educational Levels

Another important aspect of the financial situations of households and individuals are their savings.

Table 12 depicts the proportion of the population that saves. We also break down this proportion by occupation. The results indicate that only 11.21% of the population had savings at the moment of the interview. Moreover, this fact is observed regardless of the occupation of the individual.

In Tables 13 and 14 we depict the proportion of the population that saves, broken down by educational and income levels, respectively. The results show that more educated people are more likely to save. More precisely, we find that 13.43% of the more educated people report having any savings at the moment of the interview, whereas only 7.99% of the less educated people report having savings. Notice that, regardless of the educational level, the proportion of individuals with savings does not exceed 15%.

Table 14 presents the proportion of the population that saves, broken down by income levels. We use personal monthly income to construct three categories of income. We find that a larger fraction of individuals in the highest income bracket save, as compared to individuals in the low and middle income levels. But again, even among individuals in the highest income bracket, the proportion of people with savings does not exceed 15%.

Analyzing whether or not individuals have any savings is only one of the interesting aspects of our

¹⁹We also find important differences among the average loan amount provided within income levels. For example, in the low income level we observe that the average credit from the private banks is approx. \$783, whereas the public bank lends in average \$446. The same phenomenon is observed among the rich: private banks lend \$7,200, and public bank grant \$4,220.

study. In what follows, we extend our analysis to incorporate the amount of savings, the different savings instruments, and the financial institutions providing these instruments.

We begin by analyzing the amount of savings at the individual level. Table 15 depicts the total amount of savings at the moment of the interview, by income and educational levels. The results suggest a robust positive correlation between income and amount of savings. However, the correlation between the amount of savings and schooling is less clear. People with 13 or more years of schooling do not necessarily save more than people with secondary education (between 9 and 12 years), although after taking average over income they do.

Figure 7 shows the average amount of savings, by instrument. We observe that mutual funds and time deposits are the two most important savings instruments. The average savings deposit on mutual funds is \$6,000, while the average savings deposit on time deposits is \$4,500. Stocks also appear as important savings instruments (\$2,400).

However, if instead of looking at average amounts of savings we look at total amounts of savings, the conclusions are quite different. Figure 8 depicts the total amount of savings, by instrument. In this context, saving accounts are the most important saving instruments. They represent approximately 45% of the total amount of savings in our sample. Mutual funds and time deposits are still important, but they are clearly less important than savings accounts.

Figure 9 presents total savings by instrument and income level. As expected, individuals in the highest income level save more than individuals in the other two categories. However, there are also important differences in the instruments utilized by individuals in each of the income levels. The figure indicates that the rich diversify more than the other two income groups, since they use all of the saving instruments. The poor and middle utilize only four of the available instruments. In addition, Figure 10 indicates that a similar phenomenon is observed in the case of educational groups. In this case, the more educated people diversify more than the other two educational groups.

5 A preliminary Evaluation of the impact of Access to The Financial System

In this section we use our data set to investigate the impact of access to the financial system on two different outcomes: the probability of entrepreneurship and income.

We begin this section with a caveat. Given the limitations of our data our results should not be interpreted as causal effects. This is due to the possible presence of endogeneity between our treatment variable (access to the financial system) and our outcomes. Notice that this is very likely in our case, since we are unable to include the timing in the analysis.²⁰

5.1 The Probability of Entrepreneurship

We postulate the following model for the probability of entrepreneurship,

$$D_B(i) = \begin{cases} 1 & \text{if } Z(i)^\theta + D_F(i) - U_B(i) > 0 \\ 0 & \text{if } Z(i)^\theta + D_F(i) - U_B(i) \leq 0 \end{cases} \quad (5.1)$$

where $D_B(i)$ is a binary variable which takes the value of 1 if individual i has access to financial institutions and 0 otherwise, $Z(i)$ is a vector of variables affecting the decision to start a business, and $D_F(i)$ is a dummy variable which is equal to 1 if the agent has access to financial institutions and 0 otherwise. Finally, we assume that $(Z, D_F) \perp U_B$ and that $U_F \sim N(0, 1)$.²¹ Therefore, we can use a standard probit model. Finally, θ represents the parameters of interest in our framework.

In our empirical implementation of equation (5.1), the vector Z contains the variables age, years of

²⁰Two additional comments are worth emphasizing. In the first place, we consider the possibility of using the longitudinal information contained in our sample. Preliminary results indicate that, at least for entrepreneurship, the sample size reduces significantly which makes the analysis impossible. Secondly, we tried to incorporate questions that could deliver valid instruments. Unfortunately, our space in the survey was limited to only 10 questions. Furthermore, it is unclear that a clever instrument could have given us a causal effect anyway (see Heckman and Vytacil (2001), and Heckman, Urzua, and Vytacil (2004)).

²¹Notice that the first assumption is very unlikely to hold in the data. This is because we think there could be underlying variables that simultaneously affect the chances of starting a business and of having access to the financial system.

schooling, and a dummy variable to control for gender. Table 16 presents the results from the estimation of equation (5.1). Notice that in this table we include results for two different specifications. Model 1 include only access to financial institutions in general. Model 2, on the other hand, also controls for access to informal sources of credit. The results indicate that the coefficient associated with access to financial institutions is positive and significant in both specifications. In particular, in Model 1 we obtain that the change in the probability of entrepreneurship due to a change in access to the financial system (from no access to access) is 4.1 percentage points. When we incorporate informal sources of credits (Model 2), we find that its impact is actually negative (but not significant), and that the coefficient associated with the formal is (again) positive and is significant. In the table we also observe that more educated people and women have less chances of being entrepreneurs, whereas age appears to have a positive effect on this variable.

5.2 The Income

Following the above logic, but accounting for the continuity of the outcome in this case, we postulate the following standard model of log income:

$$Y(i) = \alpha + X(i)\beta + D_F(i) + \epsilon(i) \quad (5.2)$$

where $Y(i)$ represents the log of monthly personal income, $X(i)$ is a vector of variables affecting income and, as before, $D_F(i)$ is a dummy variable which is equal to 1 if the agent has access to any financial institution and 0 otherwise. Finally, we assume that X, D_F, ϵ .²² The process of log income described by equation (5.2) has been extensively studied in the human capital literature, where it is called a Mincer model. We follow the standard empirical specification of this model, so in the vector X we include experience²³,

²²This assumption is very unlikely to hold in the data. This is simply because we think that there could be underlying variables affecting simultaneously the chances of starting a business and the income.

²³It is computed as age-schooling-6, i.e. it represents potential experience.

experience squared, years of schooling, and gender (dummy). Additionally, we present results for four different specifications. The first model (see Table 17) presents the standard specification. Model 2 incorporates the variable dummy $D_B(i)$, i.e. whether or not the individual is an entrepreneur. Finally, Models 3 and 4 incorporate access to the financial system. The results are presented in Table 17.

In terms of the standard variables, we see that the results are compatible with the findings in the literature (see Bravo, Contreras, and Urzua (2003)). In particular, the so called "return to schooling" is approximately 12% (and significant), and the effect of experience is positive and concave (and significant). Moreover, the gender effect is negative (and significant), i.e. on average women have lower income than men. These results are robust to the different specifications.

From the point of view of entrepreneurship, we find a positive correlation between this variable and log income. In each of the models that include this variable the estimated coefficient is close to 0.45 (and significant).

As mentioned above, Model 3 controls for access to the financial system. The results indicate that on average, people with access to the financial system have 23.3% higher incomes (this number is statistically significant). In Model 4 we also include a dummy variable which is 1 if the individual obtained loans from informal sources at any moment during the period 1998-2003. In this case we obtain a similar relationship as in Model 3 between income and access to the financial system (23.8% and significant), but there is a negative effect on income associated with access to resources from informal sources.

As we mentioned before, these results must be interpreted cautiously. The endogeneity of the decisions is an important element to take into account. Unfortunately, given the limitations of our data, we can not deal with these issues as we would like. Nevertheless, the results obtained from our analysis are interesting and promising. The availability of better data would be an important advance in order to fully understand the economic mechanisms behind them.

6 Conclusions and Recommendations

A Data Appendix

Detail of the sources of loans (institutions).

1.- Private Banks: Banco BCI, Banco BBVA, Banco BHIF, Banco BICE, Banco Chile, Banco Desarrollo, Banco Falabella, Banco Ripley, Bancon Santander, Banco Santiago, Citibank. We also include in this category people answering: Bancario, Banco Comercial, and Banco.

2.- Commercial Institutions: Banefe, Atlas, Casa Comercial, CONOSUR, Corp Banca, Credi Chile, Falabella, Financiera, Finandes, Fundacion Esperanza, HITES, and Ripley.

3.- Credit Unions: Caja de compensacion los andes, caja de compensacion araucana, caja de compensacion los heroes, caja de compensacion Gabriela Mistral, caja de compensacion vida plena, caja de compensacion Jose Miguel Carrera, caja INP, camara chilena de la construccion, cooperativa O'higgins, COPEUCH, mutual de Carabineros de Chile.

4.- Informal Sources: Friend, boss, brother, sister, father, uncle, neighbor, and other member of the family.

5.- Public Bank: Banco del Estado, Credito Fiscal, FOSIS, and INDAP.

Table 1. Descriptive Statistics
Household Financial Survey - Sample of Adults

	N. Obs.	Mean	St. Dev.	Min.	Max.
Age	1973	42.6	17.1	18.0	96.0
Gender (1 if females)	1973	0.548	0.5	0.0	1.0
Experience	1973	25.6	18.9	0.0	86.0
Enrolled in any educational institution (1 if enrolled, 0 otherwise)	1972	0.091	0.3	0.0	1.0
Years of schooling	1973	10.99	4.2	0.0	21
Average loan amount in the last 5 years (2003 US dollars)	248	2827	6819.5	29	48468
Total amount of savings (2003 US dollars)	212	999	2629	1	25583
Entrepreneur (1 if entrepreneur, 0 otherwise)	1973	0.040	0.2	0.0	1.0
Access to Any Financial Institutions during the last 5 years (1 if access, 0 otherwise)	1973	0.126	0.3	0.0	1.0
Access to Formal Financial Institutions during the last 5 years (1 if access, 0 otherwise)	1973	0.112	0.3	0.0	1.0
Currently Employed (1 if employed, 0 otherwise)	1973	0.552	0.5	0.0	1.0
Currently Unemployed (1 if unemployed, 0 otherwise)	1973	0.079	0.3	0.0	1.0
Current Total Monthly Income (2003 US dollars)	1341	353	433	4	4264
Wealth (2003 US dollars)	313	3594	9344	15	85278

Notes: In this table we consider only the sample of adults. Experience represents the potential experience, i.e. age-education-6; average loan annual debts in the last 5 years is created based on the retrospective information reported by individuals regarding the loan history; total amount of savings includes the savings hold on by the individual in different institutions and in different instruments; entrepreneur is a dummy variable that takes the value of 1 if the agent declares to own (totally or partially) a business; the access to financial institution is created using the information on the last 5 years of the loan history. Therefore, the variable is equal to 1 if the individual declared to have had a loan from any financial institution at some point during the last 5 years, and 0 otherwise. In the case of access to formal financial institutions, we consider the same logic as before, and we simply exclude the informal sources of credit (see Appendix for a description of these sources). Current income includes all the sources of income (labor, subsidies, pensions, etc.). Finally, wealth is computed using the information on the value of the stock of new assets accumulated during the last five years.

Source: Own calculations based on the Household Financial Survey, June 2003.

Table 2. Descriptive Statistics
Household Financial Survey - Sample of Employed Adults,
Not Enrolled in any Educational Institution, by Type of Occupation⁽¹⁾

A. Non-Entrepreneur						
Variable	N. Obs.	Mean	St. Dev.	Min.	Max.	
Age	983	40.08	12.34	18	79	
Gender (1 if females)	983	0.43	0.50	0	1	
Experience	983	22.5	13.7	0	65	
Years of Schooling	983	11.59	3.93	0	21	
Average loan amount in the last 5 years (2003 US dollars)	173	3129	7280	44	48468	
Total amount of savings (2003 US dollars)	123	1257	3266	1	25583	
Access to Any Financial Institutions during the last 5 years (1 if access, 0 otherwise)	983	0.18	0.38	0	1	
Access to Formal Financial Institutions during the last 5 years (1 if access, 0 otherwise)	983	0.16	0.36	0	1	
Total Income (2003 US dollars)	922	403	463	11	4264	
Wealth (2003 US dollars)	203	3340	9170	15	85278	
B. Entrepreneur						
Variable	N. Obser.	Mean	St. Dev.	Min.	Max.	
Age	62	45.44	11.71	23	71	
Gender (1 if females)	62	0.37	0.49	0	1	
Experience	62	28.85	13.72	5	60	
Years of Schooling	62	10.58	4.51	2	18	
Average loan amount in the last 5 years (2003 US dollars)	20	3326	3823	284	16156	
Total amount of savings (2003 US dollars)	6	868	1034	7.1	2558	
Access to Any Financial Institutions during the last 5 years (1 if access, 0 otherwise)	62	0.32	0.47	0	1	
Access to Formal Financial Institutions during the last 5 years (1 if access, 0 otherwise)	62	0.29	0.46	0	1	
Total Income (2003 US dollars)	58	539	631	118	3553	
Wealth (2003 US dollars)	37	5270	9780	26	42685	

Notes: In this table we include only the adults declaring to have a job, and not been enrolled in any educational institution at the moment of the interview. Experience represents the potential experience, i.e. age-education-6; average loan amount in the last 5 years is created based on the retrospective information reported by individuals regarding the loan history; total amount of savings includes the savings hold on by the individual in different institutions and in different instruments; entrepreneur is a dummy variable that takes the value of 1 if the agent declares to own (totally or partially) a business; the access to financial institution is created using the information on the last 5 years of the loan history. Therefore, the variable is equal to 1 if the individual declared to have had a loan from any financial institution at some point during the last 5 years, and 0 otherwise. In the case of access to formal financial institutions, we consider the same logic as before, and we simply exclude the informal sources of credit (see Appendix for a description of these sources). Current income includes all the sources of income (labor, subsidies, pensions, etc.). Finally, wealth is computed using the information on the value of the stock of new assets accumulated during the last five years.

(1) An individual is defined as entrepreneur if he declares to own (totally or partially) a business at the moment of the interview.

Source: Own calculations based on the Household Financial Survey, June 2003.

Table 3. Descriptive Statistics
Household Financial Survey - Sample of Adults,
Not Enrolled in any Educational Institution, by Occupational Status⁽¹⁾

A. Employeeed

Variable	N. Obser.	Mean	St. Dev.	Min.	Max.
Age	1045	40	12	18	79
Gender (1 if females)	1045	0	0	0	1
Experience	1045	23	14	0	65
Years of Schooling	1045	12	4	0	21
Average annual debts in the last 5 years (2003 US dollars)	193	3150	6995	44	48468
Total amount of savings (2003 US dollars)	128	1242	3207	1.4	25583
Access to Any Financial Institutions during the last 5 years (1 if access, 0 otherwise)	1045	0.19	0.39	0	1
Access to Formal Financial Institutions during the last 5 years (1 if access, 0 otherwise)	1045	0.17	0.37	0	1
Current Total Income (2003 US dollars)	980	411	475	11	4264
Wealth (2003 US dollars)	240	3638	9272	15	85278

B.- Unemployed

Variable	N. Obser.	Mean	St. Dev.	Min.	Max.
Age	146	33	12	18	74
Gender (1 if females)	146	0	1	0	1
Experience	146	16	13	0	56
Years of Schooling	146	11	3	0	19
Average annual debts in the last 5 years (2003 US dollars)	3	796	720	268	1616
Total amount of savings (2003 US dollars)	10	222	174	7	569
Access to Any Financial Institutions during the last 5 years (1 if access, 0 otherwise)	146	0.021	0.142	0	1
Access to Formal Financial Institutions during the last 5 years (1 if access, 0 otherwise)	146	0.021	0.142	0	1
Current Total Income (2003 US dollars)	36	186	243	14	1094
Wealth (2003 US dollars)	9	4113	9135	156	27465

C. Outside the Labor Force

Variable	N. Obser.	Mean	St. Dev.	Min.	Max.
Age	602	54	19	18	96
Gender (1 if females)	602	1	0	0	1
Experience	602	39	20	0	86
Years of Schooling	602	9	4	0	18
Average annual debts in the last 5 years (2003 US dollars)	41	1796	7043	29	45085
Total amount of savings (2003 US dollars)	59	728	1441	4	8528
Access to Any Financial Institutions during the last 5 years (1 if access, 0 otherwise)	602	0.07	0.25	0	1
Access to Formal Financial Institutions during the last 5 years (1 if access, 0 otherwise)	602	0.06	0.23	0	1
Current Total Income (2003 US dollars)	273	184	212	4	2274
Wealth (2003 US dollars)	54	3739	10564	23	74744

Notes: In this table we include only the adults declaring not been enrolled in any educational institution at the moment of the interview. Experience represents the potential experience, i.e. age-education-6; average loan amount in the last 5 years is created based on the retrospective information reported by individuals regarding the loan history; total amount of savings includes the savings hold on by the individual in different institutions; the access to financial institution is created using the information on the last 5 years of the loan history. Therefore, the variable is equal to 1 if the individual declared to have had a loan from any financial institution at some moment during the last 5 years, and 0 otherwise. In the case of access to formal financial institutions, we consider the same logic as before, and we simply exclude the informal sources of credit (see Appendix for a description of these sources). Current income includes all the sources of income (labor, subsidies, pensions, etc.). Finally, wealth is computed using the information on the value of the stock of new assets accumulated during the last five years.

(1) The occupation status is relative to the principal job declared by the individual. The definition of the categories is the standard.

Source: Own calculations based on the Household Financial Survey, June 2003.

Table 4. Wealth and Entrepreneurship by Income and Educational Levels
Household Financial Survey - Sample of Adults Not Enrolled in any Educational Institution

Income Category	Variable	Years of Schooling			Total
		8 or less years	Between 9 and 12 years	More than 12 years	
Poor	N. Obs.	239	208	39	486
	Average Income (2003 US dollars)	100.78	123.00	131.50	112.75
	Wealth (2003 US dollars)	1869.26	2707.18	1496.43	2134.18
	Entrepreneur	0.03	0.02	0.03	0.027
Middle	N. Obs.	100	219	63	382
	Average Income	241.69	246.17	255.18	246.48
	Wealth	989.95	2283.58	1855.47	1806.83
	Entrepreneur	0.12	0.02	0.06	0.055
Rich	N. Obs.	53	138	230	421
	Average Income (2003 US dollars)	470.94	536.20	921.01	738.21
	Wealth (2003 US dollars)	5659.05	3073.42	6200.66	5054.05
	Entrepreneur	0.11	0.07	0.06	0.069
Total	N. Obs.	392	565	332	1,289
	Average Income (2003 US dollars)	186.77	271.67	701.92	356.67
	Wealth (2003 US dollars)	2436.62	2713.06	5291.82	3562.07
	Entrepreneur	0.064	0.034	0.057	0.049

Notes: In this table we consider only the sample of adults not enrolled in educational institutions. The fraction of entrepreneur is computed using a dummy variable that takes the value of 1 if the agent declares to own (totally or partially) a business. Current income includes all the sources of income (labor, subsidies, pensions, etc.). Finally, wealth is computed using the information on the value of the stock of new assets accumulated during the last five years.

Source: Own calculations based on the Household Financial Survey, June 2003.

Table 5. Loan Amount and Loan to Income Ratio by Income and Educational Levels
Household Financial Survey - Sample of Adults Not Enrolled in any Educational Institution

Income Category	Variable	Years of Schooling			Total
		8 or less years	Between 9 and 12 years	More than 12 years	
Poor	Average annual loan amount in the last 5 years (2003 US dollars)	552.2	624.3	274.6	554.6
	Average annual loan/Total annual Income	0.45	0.40	0.18	0.41
Middle	Average annual loan amount in the last 5 years (2003 US dollars)	670.8	1192.8	1814.3	1163.3
	Average annual loan/Total annual Income	0.24	0.38	0.56	0.37
Rich	Average annual loan amount in the last 5 years (2003 US dollars)	1076.0	3013.1	6712.7	4893.4
	Average annual loan/Total annual Income	0.18	0.59	0.48	0.50
Total	Average annual loan amount in the last 5 years (2003 US dollars)	663.6	1825.0	5575.0	2757.5
	Average annual loan/Total annual Income	0.34	0.46	0.47	0.44

Note: In this table we consider only the sample of adults not enrolled in educational institutions. The average annual loan amount in the last 5 years is created based on the retrospective information reported by individuals regarding the loan history. The measure of income used to compute the ratios, is the total annualized income (monthly personal income x 12) at the moment of the survey. All the variables were measured in 2003 US dollars before computing the ratios.

Source: Own calculations based on the Household Financial Survey, June 2003.

Table 6. Percentage of Individuals,
by occupational choice and access to financial institutions
HFS - Sample of Adults Not Enrolled in any Educational Institution

Financial Institutions \ Occupation	Non-Entrepreneur	Entrepreneur	<i>Overall</i>
No access to financial institutions	77.4%	4.0%	81.4%
Access to Formal Sources	14.8%	1.7%	16.6%
Access to Informal Sources	1.8%	0.2%	2.0%
Overall	94.1%	5.9%	100%

Notes: In this table we include only the adults declaring to have a job, and not been enrolled in any educational institution at the moment of the interview. The occupation is defined according to a dummy variable which takes the value of 1 if the agent declares to own (totally or partially) a business. The access to financial institution is created using the information on the last 5 years of the loan history. Therefore, the variable is equal to 1 if the individual declared to have had loans from any financial institution at some moment during the last 5 years, and 0 otherwise. In the case of access to formal financial institutions, we consider the same logic as before, and we simply exclude the informal sources of credit (see Appendix for a description of these sources). Finally, the total number of observations considered in this table is 1,045.

Source: Own calculations based on the Household Financial Survey, June 2003.

Table 7. Percentage of Individuals,
by educational level and access to financial institutions
HFS - Sample of Adults Not Enrolled in any Educational Institution

Financial Institutions \ Educational Level	8 or less years	Between 9 and 12 years	More than 12 years	<i>Overall</i>
No access to financial institutions	26.99%	39.99%	19.74%	86.73%
Access to Formal Sources	2.68%	5.08%	4.02%	11.77%
Access to Informal Sources	0.33%	0.84%	0.33%	1.51%
<i>Overall</i>	<i>30.01%</i>	<i>45.90%</i>	<i>24.09%</i>	<i>100%</i>

Notes: In this table we consider only the sample of adults not enrolled in educational institutions. The years of schooling is defined according to the information declare by the individual at the moment of the survey. The access to financial institution is created using the information on the last 5 years of the loan history. Therefore, the variable is equal to 1 if the individual declared to have had loan from financial institutions at some moment during the last 5 years, and 0 otherwise. In the case of access to formal financial institutions, we consider the same logic as before, and we simply exclude the informal sources of credit (see Appendix for a description of these sources). Finally, the total number of observations considered in this table is 1,793.

Source: Own calculations based on the Household Financial Survey, June 2003.

Table 8. Percentage of Individuals,
by different measures of income and access to financial institutions
HFS - Sample of Adults Not Enrolled in any Educational Institution

A. Total Current Personal Income ⁽¹⁾

	Poor	Middle	Rich	<i>Overall</i>
No access to financial institutions	33.90%	24.28%	24.83%	83.01%
Access to Formal Sources	3.49%	4.50%	7.37%	15.36%
Access to Informal Sources	0.31%	0.85%	0.47%	1.63%
<i>Overall</i>	37.70%	29.64%	32.66%	100%

B. Wealth ⁽²⁾

	Poor	Middle	Rich	<i>Overall</i>
No access to financial institutions	28.71%	24.42%	18.81%	71.95%
Access to Formal Sources	4.95%	7.92%	12.21%	25.08%
Access to Informal Sources	1.32%	0.66%	0.99%	2.97%
<i>Overall</i>	34.98%	33.00%	32.01%	100%

Notes: In this table we consider only the sample of adults not enrolled in educational institutions. The access to financial institution is created using the information on the last 5 years of the loan history. Therefore, the variable is equal to 1 if the individual declared to have had loan from financial institutions at some moment during the last 5 years, and 0 otherwise.

(1) the total number of observations considered in this case is 1,289. The categories of income represents simply the terciles of the distribution. The measure of income in this case is the total personal income declared by the each individual at the moment of the survey.

(2) the total number of observations considered in this case is 303. The categories of wealth represents simply the terciles from its distribution. The measure of wealth is computed using the information on the value of the stock of new assets accumulated during the last five years.

Source: Own calculations based on the Household Financial Survey, June 2003.

Table 9. Participation of Different Institutions in the Number of Loans
in the Period 1998-2003, by Occupation

HFS - Sample of Adults Not Enrolled in any Educational Institution

	Entrepreneur	Non-Entrepreneur
Private Bank	34.9%	40.0%
Commercial Institutions	22.8%	20.0%
Credit Unions	21.1%	4.0%
Informal Sources	13.4%	8.0%
Public Bank	7.8%	28.0%
<i>Total</i>	100%	100%

Notes: In this table we consider only the sample of adults with a job and not enrolled in any educational institution. The percentages are computed using the information from the loan history reported by the individuals. Notice that in this table we allow the individual to report two different institutions. In this sense, we are not counting individual, but loans. We consider 257 cases. See Appendix for a detailed description of the institutions included.

Source: Own calculations based on the Household Financial Survey, June 2003.

Table 10. Participation of Different Institutions in the Number of Loans
in the Period 1998-2003, by Educational Level
Household Financial Survey - Sample of Adults

	8 and less years	Between 8 and 12 years	More than 12 years
Private Bank	7.2%	23.7%	53.9%
Commercial Institutions	23.2%	30.4%	13.0%
Credit Unions	40.6%	22.2%	16.5%
Informal Sources	15.9%	16.3%	7.8%
Public Bank	13.0%	7.4%	8.7%
<i>Total</i>	<i>100.0%</i>	<i>100.0%</i>	<i>100.0%</i>

Notes: In this table we consider only the sample of adults. The percentages are computed using the information from the loan history reported by the individuals. Notice that in this table we allow the individual to report two different institutions. In this sense, we are not counting individual, but loans. In this case we consider 332 cases (72 with 8 or less years, 140 between 8 and 12 years, and 120 with more than 12 years). See Appendix for a detailed description of the institutions included.

Source: Own calculations based on the Household Financial Survey, June 2003.

Table 11. Participation of Different Institutions in the Number of Loans
in the Period 1998-2003, by Different Measures of Wealth
Household Financial Survey - Sample of Adults

A. Total Current Income⁽¹⁾

	Poor	Middle	Rich
Private Bank	4.8%	23.0%	48.9%
Commercial Institutions	30.2%	23.0%	20.6%
Credit Unions	36.5%	31.0%	14.2%
Informal Sources	19.0%	16.1%	6.4%
Public Bank	9.5%	6.9%	9.9%
<i>Total</i>	<i>100.0%</i>	<i>100.0%</i>	<i>100.0%</i>

B. Total Wealth⁽²⁾

	Poor	Middle	Rich
Private Bank	30.8%	33.3%	39.6%
Commercial Institutions	26.9%	25.6%	22.6%
Credit Unions	19.2%	17.9%	17.0%
Informal Sources	19.2%	5.1%	9.4%
Public Bank	3.8%	17.9%	11.3%
<i>Total</i>	<i>100.0%</i>	<i>100.0%</i>	<i>100.0%</i>

Notes: In this table we consider only the sample of adults. The percentages are computed using the information from the loan history reported by the individuals. Notice that in this table we allow the individual to report two different institutions. See Appendix for a detailed description of the institutions included.

(1) the total number of observations considered in this case is 291. The categories of income represents simply the terciles of the distribution. The measure of income in this case is the total personal income declared by the each individual at the moment of the survey.

(2) the total number of observations considered in this case is 118. The categories of wealth represents simply the terciles from its distribution. The measure of wealth is computed using the information on the value of the stock of new assets accumulated during the last five years.

Source: Own calculations based on the Household Financial Survey, June 2003.

Table 12. Proportion of Individuals,
by occupational choice and saving situation
HFS - Sample of Adults Not Enrolled in any Educational Institution

Savings \ Occupation	Non-Entrepreneur	Entrepreneur	<i>Overall</i>
No Savings	88.75%	89.61%	88.79%
Savings	11.25%	10.39%	11.21%
<i>Overall</i>	<i>100.00%</i>	<i>100.00%</i>	<i>100%</i>

Notes: In this table we consider only the sample of adults not enrolled in educational institutions. The occupation is defined according to a dummy variable which takes the value of 1 if the agent declares to own (totally or partially) a business. The information on savings is relative to the moment of the survey. Then, no savings means that the individual declared to have no savings at the moment of the interview. The total number of observations considered in this table is 1,793.

Source: Own calculations based on the Household Financial Survey, June 2003.

Table 13. Proportion of Individuals,
by educational level and saving situation
HFS - Sample of Adults Not Enrolled in any Educational Institution

Savings \ Occupation	8 or less years	Between 9 and 12 years	More than 12 years	<i>Overall</i>
No Savings	92.01%	87.85%	86.57%	88.79%
Savings	7.99%	12.15%	13.43%	11.21%
<i>Total</i>	<i>100.00%</i>	<i>100.00%</i>	<i>100.00%</i>	<i>100%</i>

Notes: In this table we consider only the sample of adults not enrolled in educational institutions. The information on savings is relative to the moment of the survey. Then, no savings means that the individual declared to have no savings at the moment of the interview. Years of schooling is defined according to the final educational situation declared by the individual. The total number of observations considered in this table is 1,793.

Source: Own calculations based on the Household Financial Survey, June 2003.

Table 14. Percentage of Individuals,
by different measures of income and saving situation
HFS - Sample of Adults Not Enrolled in any Educational Institution

	Poor	Middle	Rich	<i>Overall</i>
No Savings	91.15%	87.17%	86.22%	88.36%
Savings	8.85%	12.83%	13.78%	11.64%
<i>Overall</i>	<i>100.00%</i>	<i>100.00%</i>	<i>100.00%</i>	<i>100.00%</i>

Notes: In this table we consider only the sample of adults not enrolled in educational institutions. The information on savings is relative to the moment of the survey. Then, no savings means that the individual declared to have no savings at the moment of the interview.

(1) the total number of observations considered in this case is 1,289. The categories of income represents simply the terciles of the distribution. The measure of income in this case is the total personal income declared by the each individual at the moment of the survey.

Source: Own calculations based on the Household Financial Survey, June 2003.

Table 15. Total amount of Savings by Income and Educational Levels
HFS - Sample of Adults Not Enrolled in any Educational Institution

Income Category	Years of Schooling			Total
	8 or less years	Between 9 and 12 years	More than 12 years	
Poor	394.7	465.1	54.5	405.3
Middle	480.3	721.6	440.6	637.0
Rich	720.6	1292.1	7121.2	4719.0
Total	468.1	790.4	5821.1	2141.8

Note: In this table we consider only the sample of adults not enrolled in educational institutions. Total amount of savings includes the savings hold on by the individual in different institutions and in different instruments. All the numbers are in 2003 US dollars.

Source: Own calculations based on the Household Financial Survey, June 2003.

Table 16. Probability of Entrepreneurship,
HFS - Sample of Adults Not Enrolled in any Educational Institution

Dependent Variable: 1 if Entrepreneur, 0 otherwise	Model 1		Model 2	
	Coefficient	Change in Probability	Coefficient	Change in Probability
Access to Financial System (loans)	0.376 (0.134)	0.041 (0.018)	0.386 (0.140)	0.043 (0.019)
Access to Informal Financial System (loans)	-	-	-0.091 0.386	-0.007 (0.028)
Gender (1 if female)	-0.235 (0.108)	-0.021 (0.010)	-0.235 0.108	-0.021 (0.010)
Age	0.003 (0.003)	0.0003 (0.0003)	0.003 0.003	0.000 (0.000)
Years of Schooling	-0.008 (0.013)	-0.001 (0.001)	-0.008 (0.013)	-0.001 (0.001)
Constant	-1.721 (0.250)		-1.718 (0.251)	
Number of Observations		1793		1,793
Prob>ch2		0.004		0.0088

Notes: In this table we consider only the sample of adults not enrolled in any educational institutions. Entrepreneur is a dummy variable that takes the value of 1 if the agent declares to own (totally or partially) a business. Access to financial institution is created using the information on the last 5 years of the loan history. Therefore, the variable is equal to 1 if the individual declared to have had loans from financial institutions at some moment during the last 5 years, and 0 otherwise. In the case of access to informal financial institutions, we consider the same logic as before, and so, the variable is 1 if the individual declares to have had any loans from informal sources during the last 5 years (see Appendix for a description of these sources). The standard deviations are presented in parenthesis.

Source: Own calculations based on the Household Financial Survey, June 2003.

Table 17. Mincer Equation: Log Monthly Income,
HFS - Sample of Adults Not Enrolled in any Educational Institution

Variables	Model 1	Model 2	Model 3	Model 4
Gender (1 if female)	-0.233 (0.042)	-0.227 (0.041)	-0.212 (0.041)	-0.212 (0.041)
Experience	0.023 (0.004)	0.021 (0.004)	0.020 (0.004)	0.020 (0.004)
Experience Squared	-0.0003 (0.000)	-0.0002 (0.0001)	-0.0002 (0.0001)	-0.0002 (0.0001)
Years of Schooling	0.124 (0.006)	0.124 (0.005)	0.122 (0.005)	0.122 (0.005)
Entrepreneurship (1 if yes, 0 otherwise)	-	0.458 (0.095)	0.425 (0.095)	0.425 (0.095)
Access to Financial System (loans)	-	-	0.233 (0.055)	0.238 (0.057)
Access to Informal Financial System (loans)	-	-	-	-0.049 (0.168)
Constant	3.870 (0.100)	3.864 (0.099)	3.862 (0.099)	3.862 (0.099)
Number of Observations	1,289	1,289	1,289	1,289
R ²	0.3412	0.3528	0.362	0.362
R ² -Adjusted	0.3392	0.3503	0.359	0.358
Prob>F ⁽¹⁾	0	0	0	0

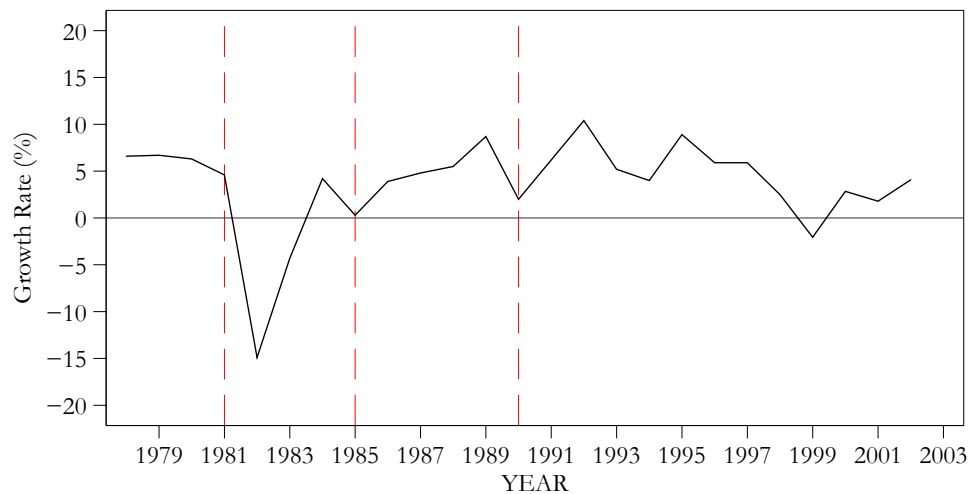
Notes: In this table we consider only the sample of adults not enrolled in any educational institutions. The dependent variable is the log of the monthly personal income. Experience is potential experience, i.e. Age-Schooling-6. Entrepreneur is a dummy variable that takes the value of 1 if the agent declares to own (totally or partially) a business. Access to financial institution is created using the information on the last 5 years of the loan history. Therefore, the variable is equal to 1 if the individual declared to have had loans from any institutions at some moment during the last 5 years, and 0 otherwise. In the case of access to informal financial institutions, we consider the same logic as before, and so, the variable is 1 if the individual declares to have obtained loans from any informal sources during the last 5 years (see Appendix for a description of these sources). The standard deviations are presented in parenthesis.

(1) $F(4,1284) = 166.28$, $F(5,1283) = 139.89$, $F(6,1282) = 121.11$, $F(7,1281) = 103.75$, respectively.

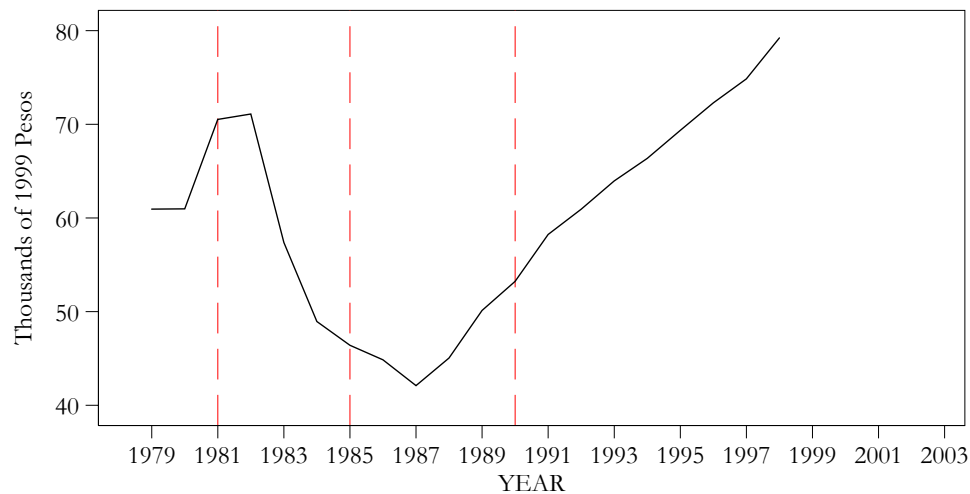
Source: Own calculations based on the Household Financial Survey, June 2003.

Figure 1. Chile 1995–1998

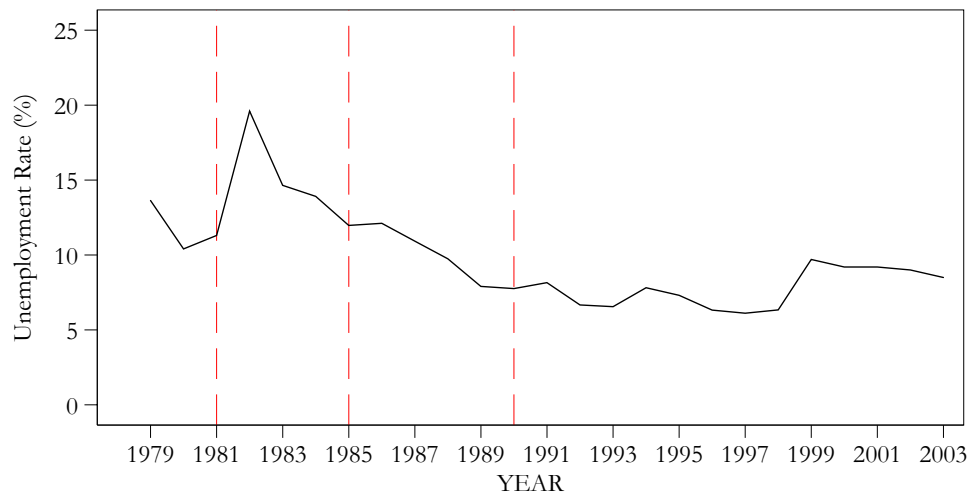
A. GDP Growth
1979–1998



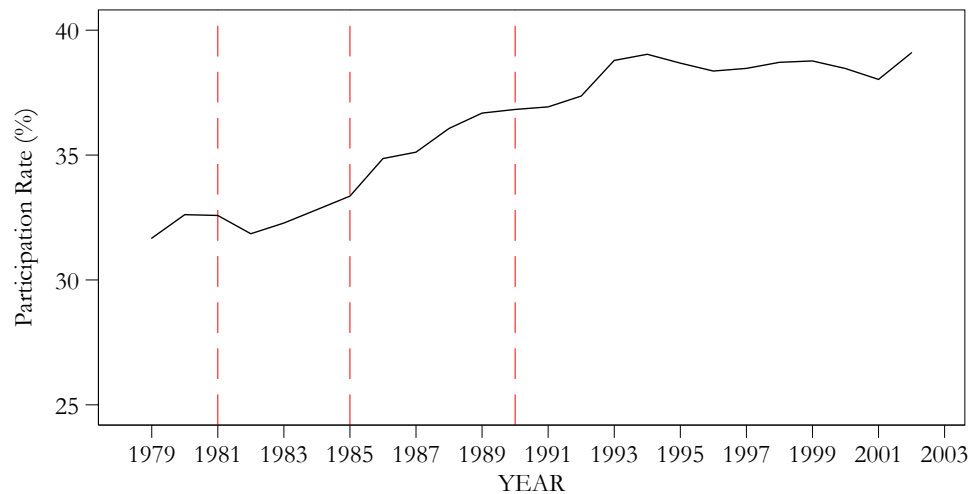
B. Average Minimum Wage
1979–1998



C. Total Unemployment Rate
1979–1998



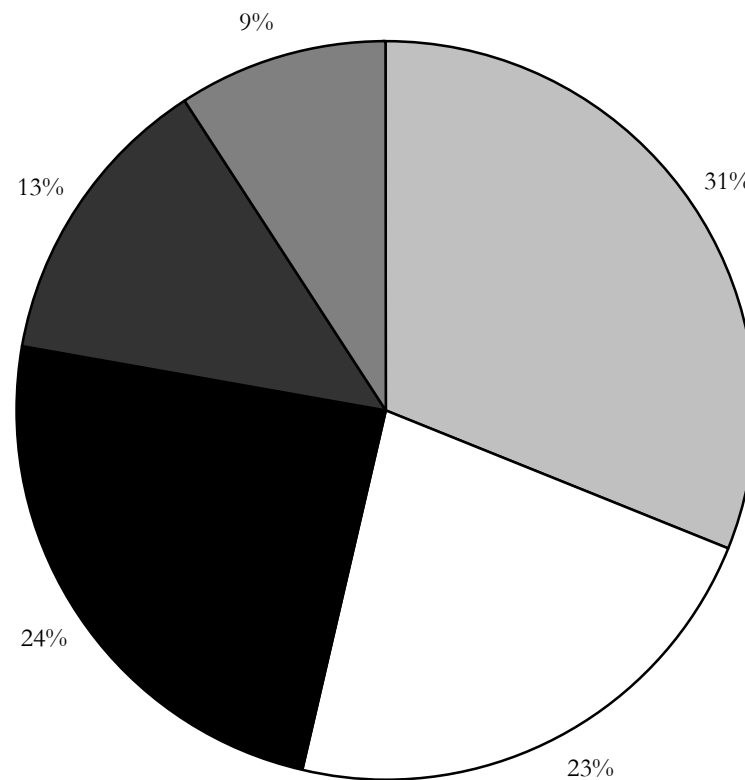
D. Participation Rate(1)
1979–1998



(1): Participation is calculated over the whole population.

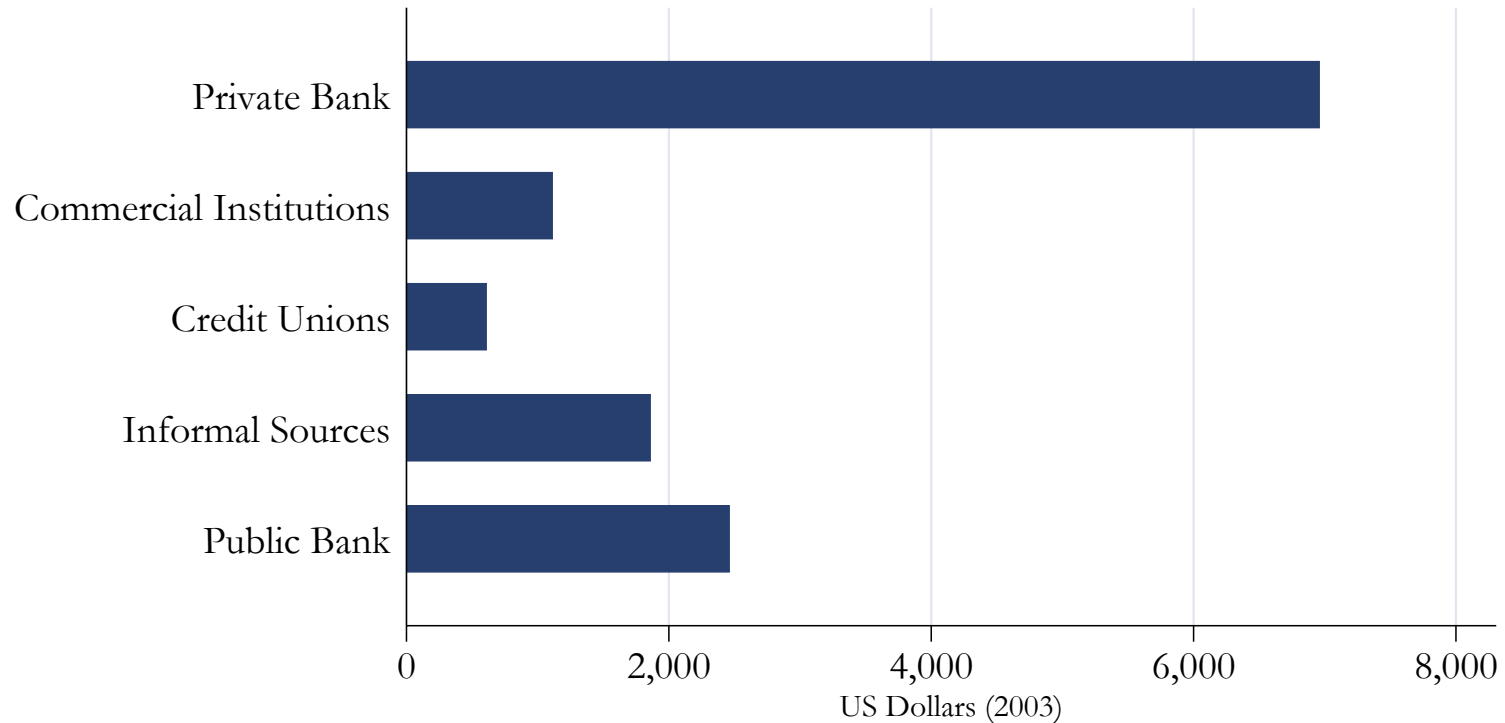
Source: Chilean Bureau of Statistics

**Figure 2. Participation of Different Institutions in the Number of Loans,
Period 1998-2003
Household Financial Survey - Sample of Adults**



Source: Author's calculations using HSF, June 2003.

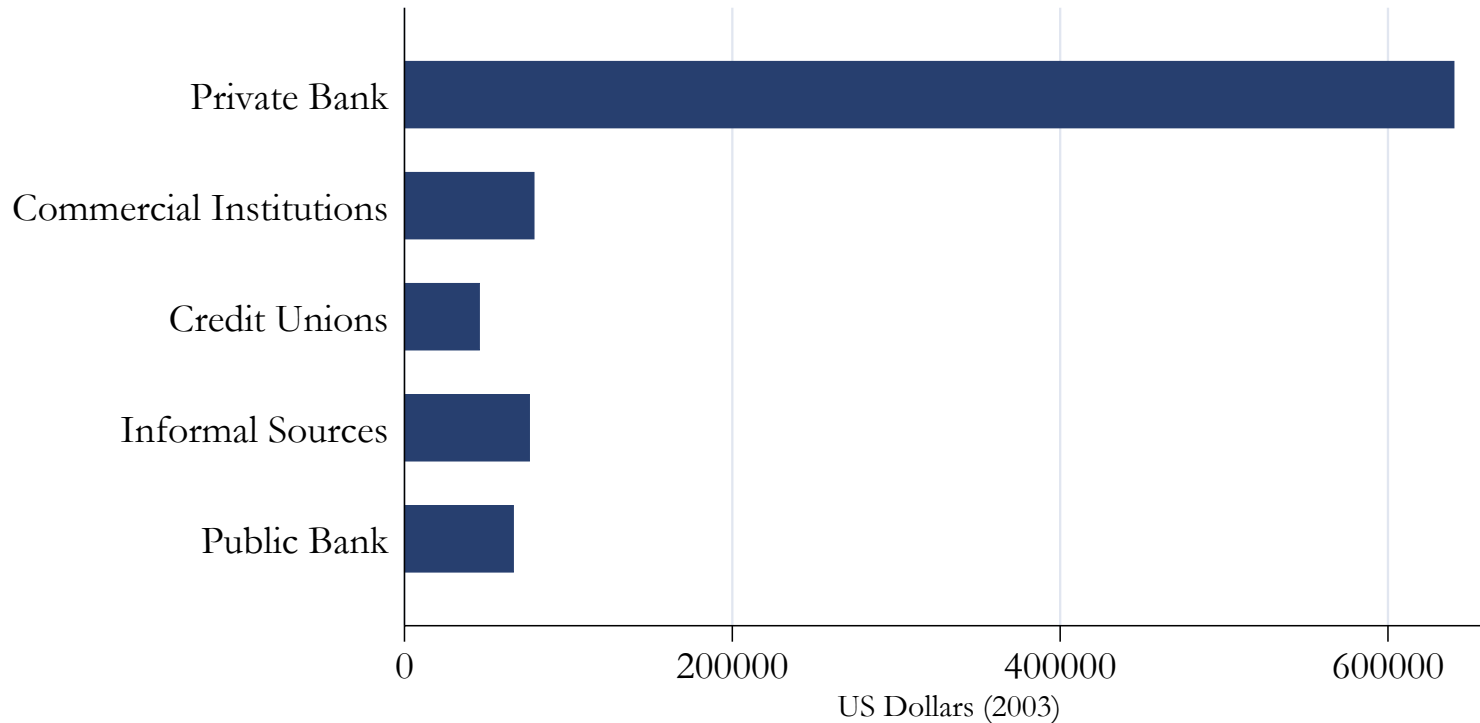
Figure 3. Average Amount of Credits by Financial Provider during the period 1998–2003



Notes: In this figure we include only the adults declaring not been enrolled in any educational institution at the moment of the interview. The information on debts comes from the credit history reported by each individual during the period 1998–2003. The detailed description of the institutions within each category is presented in the appendix.

Source: Author's calculations based on the HFS, June 2003.

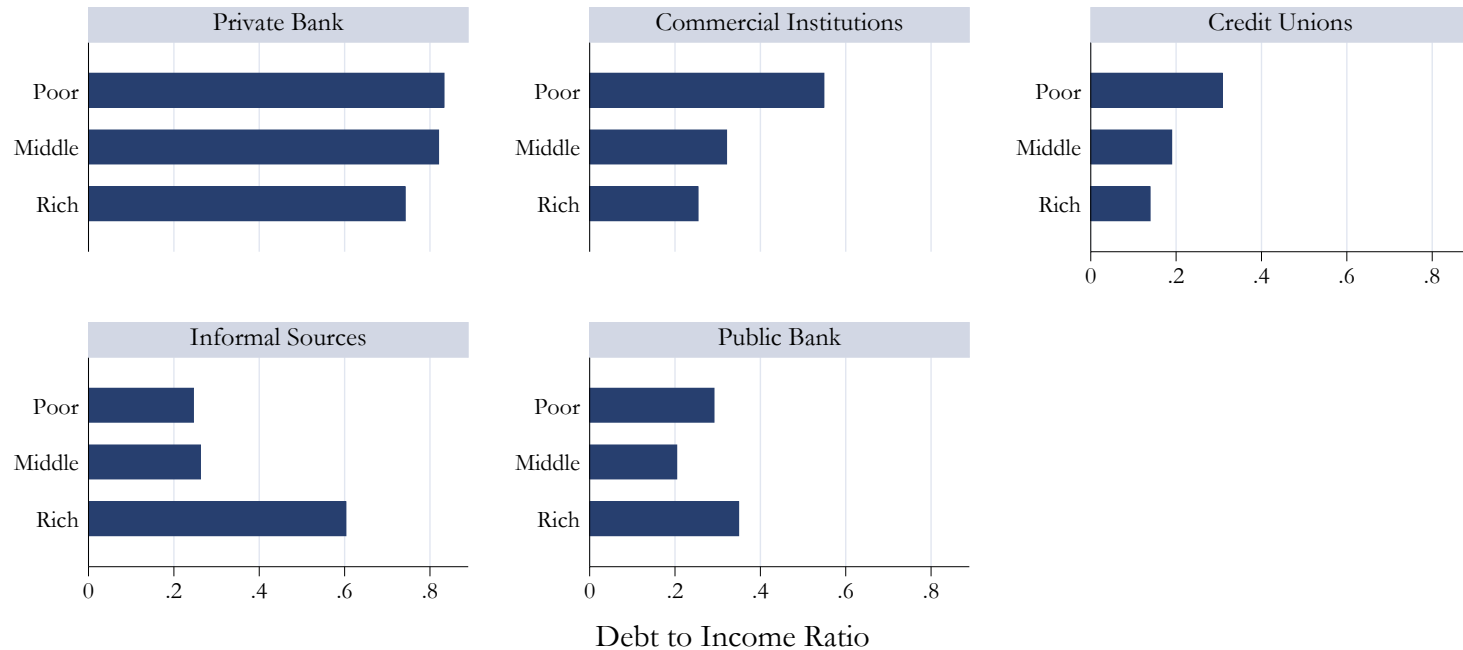
Figure 4. Total Amount of Credits by Financial Provider during the period 1998–2003



Notes: In this figure we include only the adults declaring not been enrolled in any educational institution at the moment of the interview. The information on debts comes from the credit history reported by each individual during the period 1998–2003. The detailed description of the institutions within each category is presented in the appendix.

Source: Author's calculations based on the HFS, June 2003.

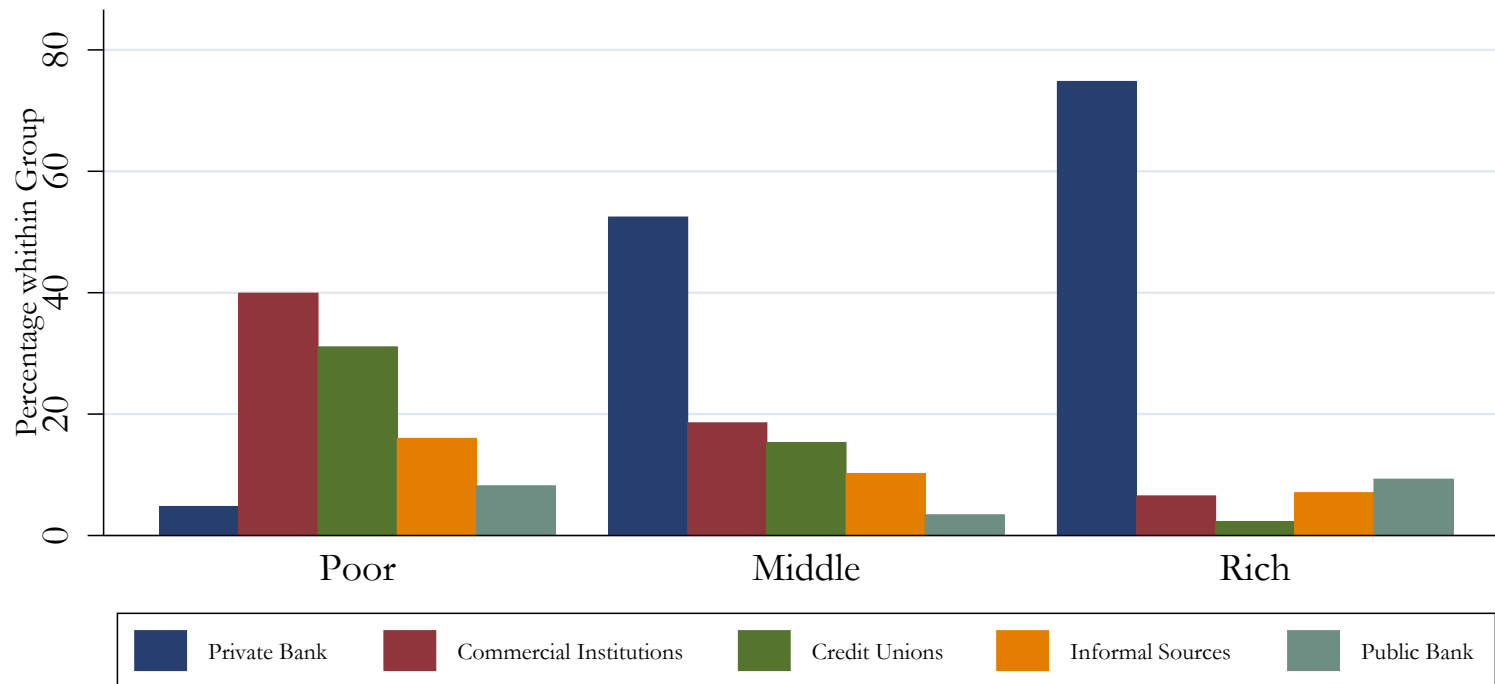
Figure 5. Average Credits to Income Ratio by Financial Provider and Income Level



Notes: In this figure we use the sample of adults declaring not been enrolled in any educational institution at the moment of the interview. In this figure we depict the average of the amount of credit to (annualized) personal income ratio by institution providing the financial system. The information on debts comes from the credit history reported by each individual during the period 1998–2003. The categories of income – Poor, Middle, and Rich – are computed using the terciles of the income distribution. The detailed description of the institutions within each category is presented in the appendix.

Source: Author’s calculations based on the HFS, June 2003.

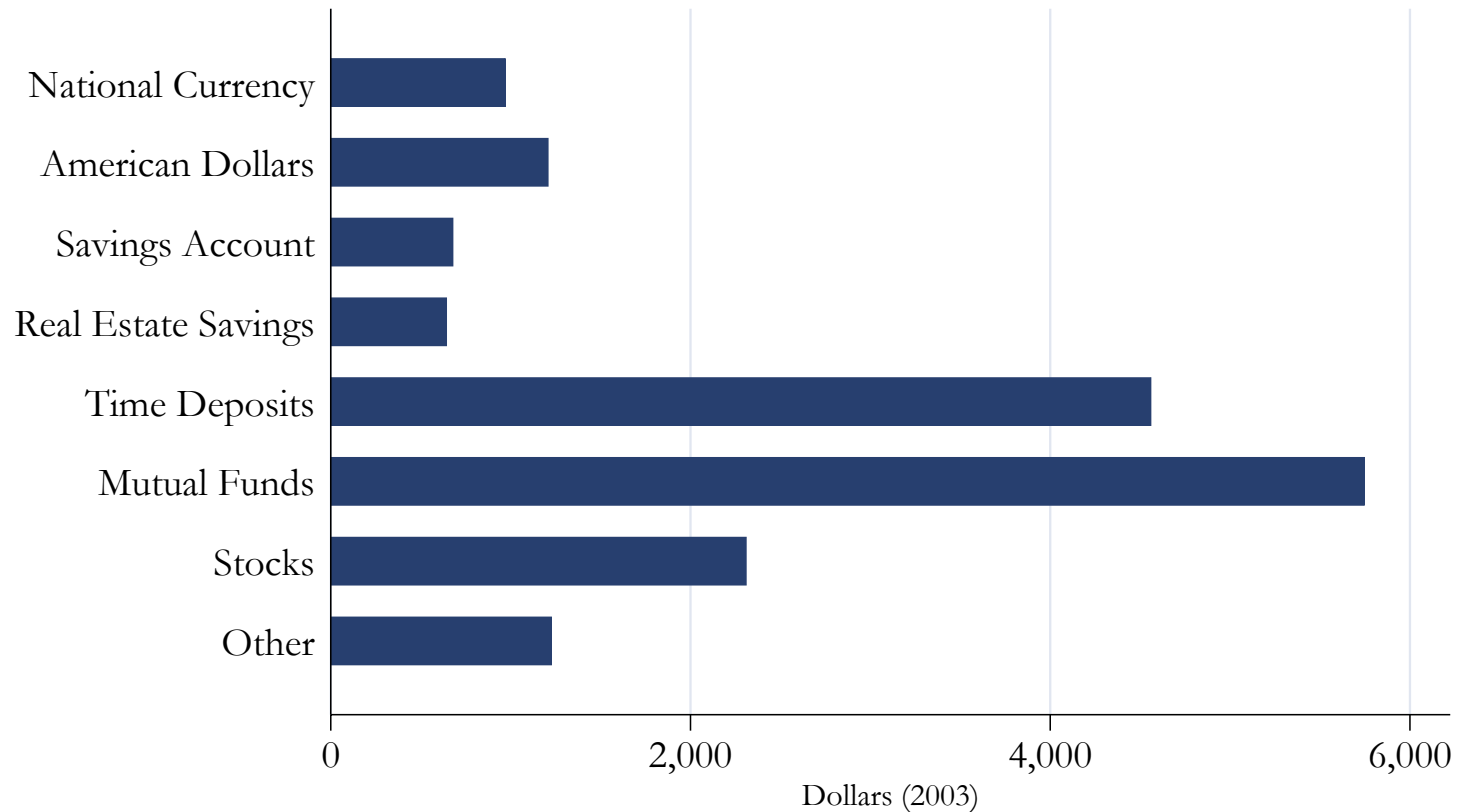
Figure 6. Composition of the Total Amount of Credits
within groups of Income Level, by Financial Provider



Notes: In this figure we use the sample of adults declaring not been enrolled in any educational institution at the moment of the interview. The information on credits (debts) comes from the credit history reported by each individual during the period 1998–2003. The categories of income – Poor, Middle, and Rich – are computed using the terciles of the income distribution. The detailed description of the institutions within each category is presented in the appendix.

Source: Author's calculations based on the HFS, June 2003.

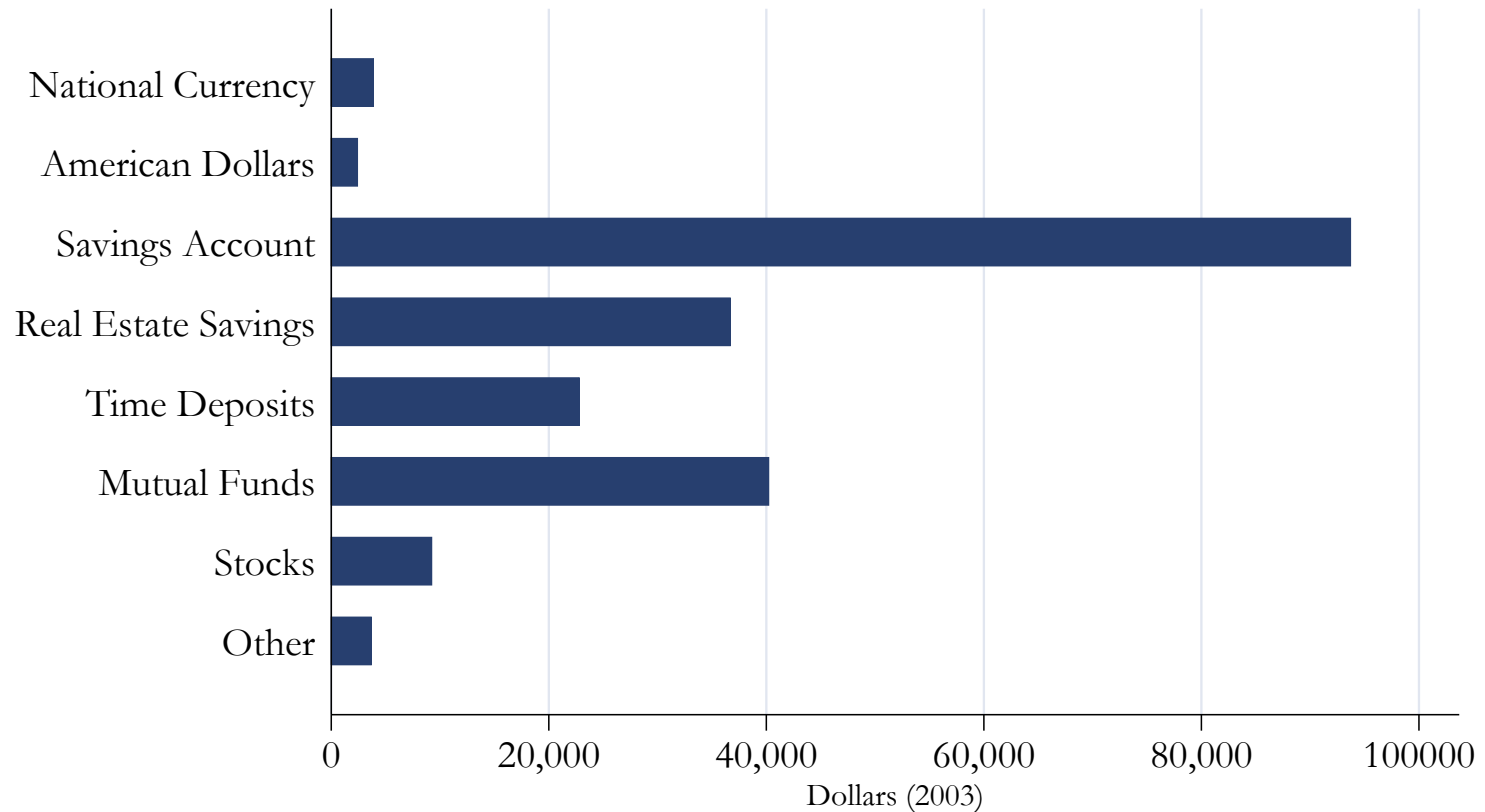
Figure 7. Average Amount of Savings by Instrument



Notes: In this figure we include only the adults declaring not been enrolled in any educational institution at the moment of the interview. The savings comes from the information provided by the individual reports at the moment of the interview. In the appendix we describe each of the instruments considered in this figure.

Source: Author's calculations based on the HFS, June 2003.

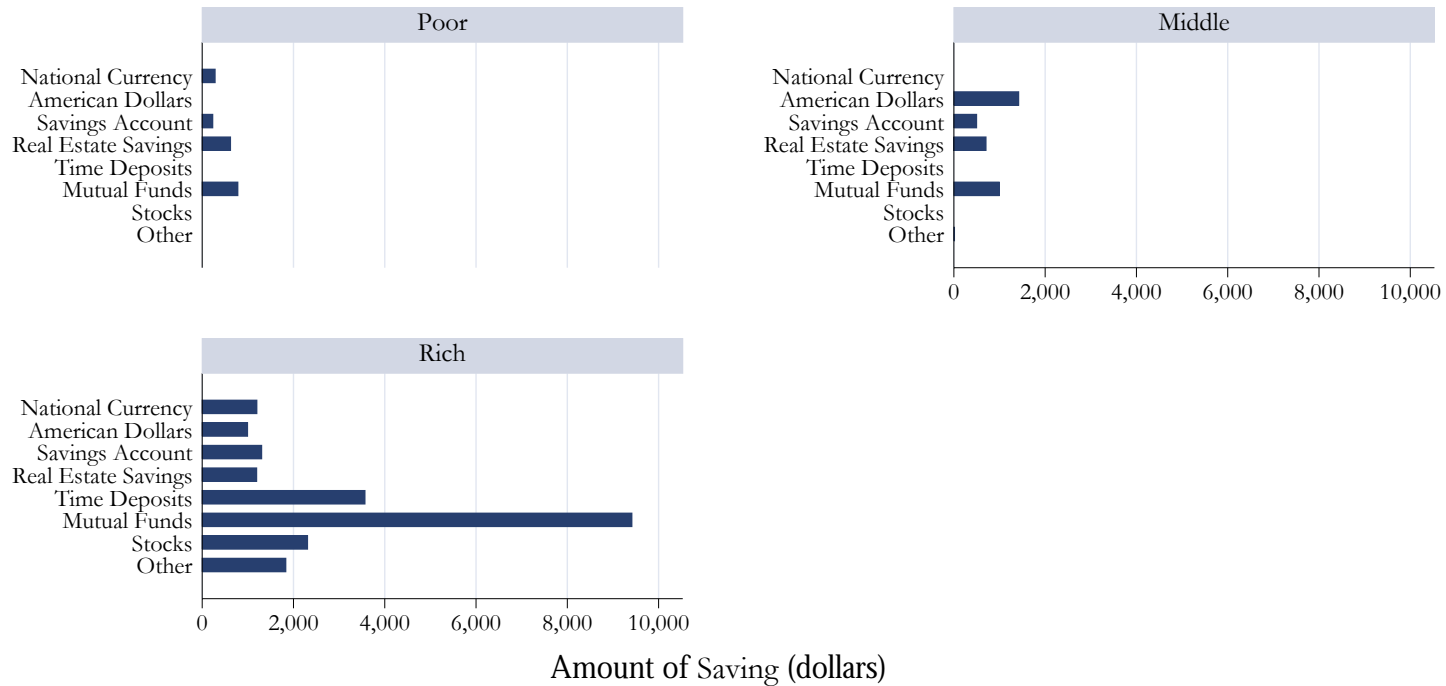
Figure 8. Total Amount of Savings by Instrument



Notes: In this figure we include only the adults declaring not been enrolled in any educational institution at the moment of the interview. The savings comes from the information provided by the individual reports at the moment of the interview. In the appendix we describe each of the instruments considered in this figure.

Source: Author's calculations based on the HFS, June 2003.

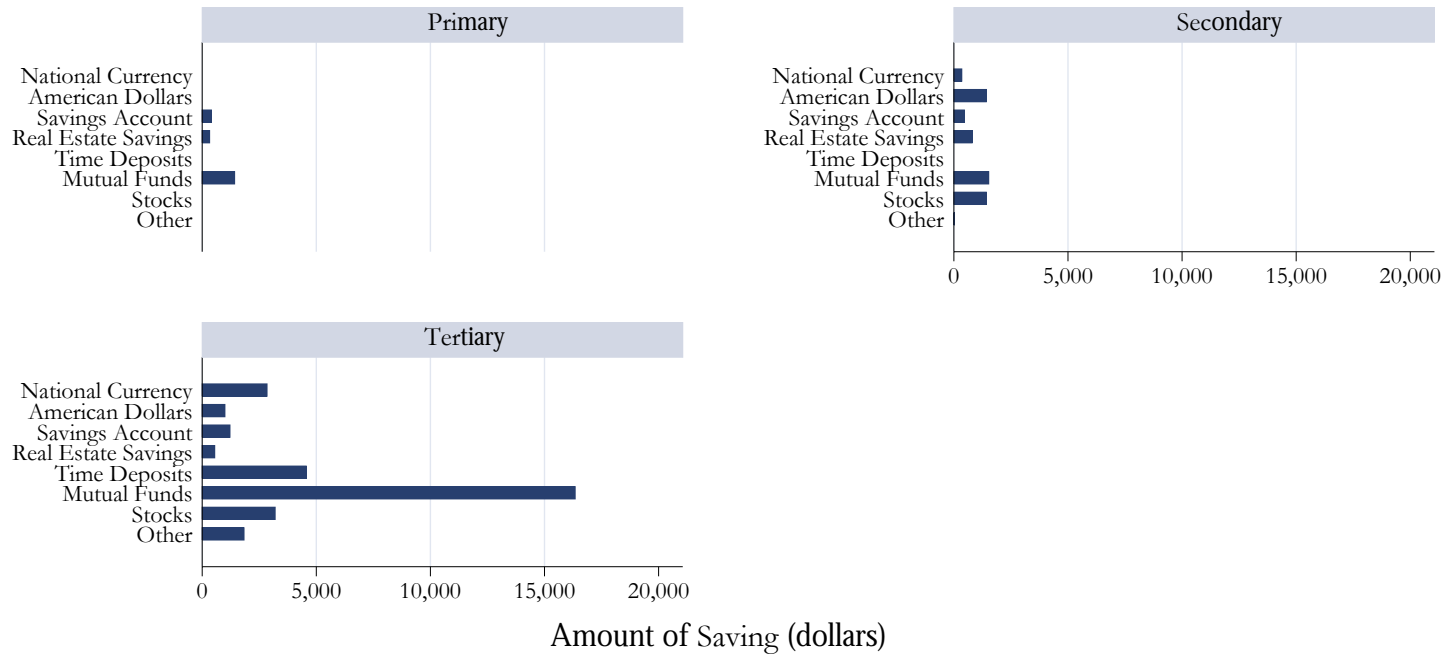
Figure 9. Average Amount of Savings by Instrument and Income Level



Notes: In this figure we use the sample of adults declaring not been enrolled in any educational institution at the moment of the interview. In this figure we depict the average of the savings to personal income ratio by instrument and income level. The savings comes from the information provided by the individual reports at the moment of the interview. The categories of income – Poor, Middle, and Rich – are computed using the terciles of the income distribution. In the appendix we describe each of the instruments considered in this figure.

Source: Author’s calculations based on the HFS, June 2003.

Figure 10. Total Amount of Savings by Instrument and Educational Level



Notes: In this figure we use the sample of adults declaring not been enrolled in any educational institution at the moment of the interview. In this figure we depict the average of the amount of savings by the income and educational level. The educational categories are the following: Primary represents the group of people with 8 or less years of education, Secondary represents the group of people with 9–12 years of education, and finally, Tertiary represents the group of people with 13 or more years of education. The savings comes from the information provided by the individual reports at the moment of the interview.

Source: Author's calculations based on the HFS, June 2003.