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Family Ownership and Firm Performance: A Closer Look at the Evidence from Public Companies in Chile

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Family Ownership and Firm Performance: A Closer Look at the Evidence from Public Companies in Chile

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Abstract

We revisit the evidence presented in Martinez et al. (2007) using new data and estimation techniques that take into account unobserved firm heterogeneity. The results of the earlier study are found to be robust to the new procedures since performance of family firms continues to be superior to non-family firms.

We then add the risk dimension to the earlier analysis using a risk-adjusted ROA variable, and family firms again performed better. A test of the standard deviations of ROA for both firm categories revealed that family firms not only perform better but also show less volatility in their returns.

Keywords: Family firms, performance.

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1 Introduction

Various authors have maintained that family firms are more profitable than non-family ones, basing their assertion on certain advantages such as the lower agency costs of dealings between family members and a longer-term management perspective. Others, however, take the opposite view, arguing that family businesses have significant disadvantages stemming from their limited capacity to hire external managers for key executive positions and the ever-present possibility they may expropriate value from minority stakeholder. Either of these phenomena could presumably damage market confidence in family companies and negatively affect their share prices.

These apparently contradictory arguments have in fact both been validated by various empirical studies, a number of which are reviewed below. In some markets, family firms' reduced agency costs and long-run perspective will indeed outweigh the potential costs of maintaining relatively mediocre family members as managers and the possibility of market penalization due to the risk of rent-extraction from other stakeholders. In other markets, however, the result may be just the contrary. Most likely there are factors associated with capital market development and institutional and regulatory quality that determine which situation will apply, but these will not be pursued further here.

Our objective, rather, will be to compare the profitability of family firms with non-family ones in the Chilean market, and in the process contribute certain new elements to the existing literature on the subject. This paper may be seen as the continuation of a study by Martinez et al. (2007) (hereafter simply Martinez) in which we incorporate certain methodological improvements and a new conceptual aspect that extends the comparisons beyond profitability to include the risk dimension. This innovation addresses a significant

weakness in that comparing profitabilities of the two types of businesses is of little use without some idea of the risk differential.

For purposes of our research we made use of a recent database that embraces the period between the start of 1998 and the end of 2007. Unlike the Martinez study, whose dummy variables representing years only capture time fixed effects, we apply the method of fixed effect estimation which allows us to capture unobservable heterogeneities such as the structure and quality of management. Also, we control for the effect of AFPs (private pension fund managers), which dominate Chile's financial markets and account to a large degree for any market behavior abnormalities. Finally, we investigate whether our findings are consistent with the concept of the equilibrium risk-return tradeoff and make comparisons using a measure of risk for family versus non-family firms.

These extensions to the Martinez study generate a number of interesting results. First, by using ROA as a profitability measure we found that as in Martinez, family firms are more profitable than non-family ones in Chile. Though our database is more up-to-date than theirs, which covered the years through 2004, and our methodology is statistically more robust, their result continued to hold.

This implies that in the Chilean market, the benefits accruing to family firms' lower agency costs and long-term vision are indeed greater than the costs imposed by a possibly less professional management and the risk of rent-extraction to the detriment of minority stakeholders. This is plausible in a society such as Chile's, for two reasons. First, given the country's population, level of development and degree of social stratification, it is highly likely that many members of business-owning families have attended the best schools and universities so that well-qualified in-family personnel are in fact available to such firms. And second, by Latin American standards Chile has strong institutions and financial

regulation (see, for example, the Fraser Institute's Economic Freedom Index) as a result of major institutional reforms of local capital markets since the 1990s that discourage rent-extraction and others abuses of minority shareholders.

Another of our results was that controlling for AFP investment in family and non-family firms does not change the outcome. In other words, the fact that a firm is "AFPable" (*i.e.*, its characteristics are such that AFPs may legally invest in it) does not explain the difference in profitability despite the influence AFPs have in the Chilean market. Furthermore, even after adjusting ROA for risk, by type of firm, we found that family businesses did better than non-family ones.

Finally, and most importantly, we found that in family businesses profitability is not only higher but has lower variance. This result contradicts the notion of a risk-return tradeoff, which states that if a given asset or asset portfolio has a higher rate of return than some other one, its risk in equilibrium will also be higher. It therefore also constitutes indirect proof that the Chilean equity market does not satisfy the efficient market hypothesis, as was recently described in the finance literature by Romero-Meza et al. (2007), since it is possible to build a portfolio with family firm stocks and obtain abnormal returns for a given level of risk. How to form such a portfolio is not the concern of this paper; that such a possibility exists, however, is interesting in itself and indirectly corroborates empirical findings in the literature on the Chilean market.

2 Related literature

The importance of family firms in the economy and the development of a country is well-established. Compared to the non-family type they exhibit faster growth, account for a higher share of private employment and are more profitable (Lee, 2006). According to the Spain-based *Instituto de la Empresa Familiar*, 85% of businesses in the European Union and 80% of those in North America are in the family category (Phan, Butler and Kowloon, 2005 and Morris, 1997).

Dyer (2006) points out that the definition of a family business can vary widely from study to study, but two versions in particular stand out. The first one is subjective, defining a family firm as one whose management is controlled by the family members who own it. The second definition is more objective, considering a firm to be a family business if it meets certain criteria such as the family's ownership percentage or the number of family members holding directorships or filling key management posts.

The advantages and disadvantages of family businesses have been reviewed in various works. On the advantages side, Miller and Breton-Miller (2006) establish that agency costs and administration are positively affected by family control, ownership and management, the involvement of family owner-managers and the intention of including future generations. Citing Jensen and Meckling (1976), they point out that family firms perform better than non-family ones because their greater ownership concentration reduces the agency costs of monitoring, mitigating in turn the free-rider problem. Also, agency theory holds that directors who are owners and family members will look beyond short-term economic interests and act in furtherance of the long-term strategy of the firm. Such behavior reflects the alignment that exists in family firms between the objectives of owners

and managers, the latter focused on contributing to the company mission and public reputation without neglecting long-run profitability. They are thus protective of the family's long-term fortune invested in the business and extend its life and investment time horizons (McConaughy, 2000; Gomez-Mejia, Nuñez-Nickel and Gutierrez, 2001).

Another positive aspect of the multiplicity that results when various family members with deep management experience and skills form the top management group that runs a firm is the creation of reciprocal interests and mutual confidence and therefore employment security (Davis, 1983). The family's intention to pass the business on to subsequent generations is associated with a conservative management approach that leads to a stronger reputation and relationships with resource providers and better financial performance.

In addition to agency benefits, Dyer (2006) notes that three types of assets are often said to explain the strong performance of family businesses: human capital, social capital and physical/financial capital. Family members are naturally more motivated and committed to the firm due to the family connection, which inspires a sense of loyalty and a willingness to work long hours and be flexible in accepting different work roles. From an early age they learn about the nature of the business, its customers and competitors. Families derive certain advantages in the development of social capital arising from their ability to cultivate and nurture relationships across generations, something non-family businesses cannot normally claim.

Yet another set of advantages specific to family firms, according to McConaughy, Matthews and Fialko (2001), is their superior performance in terms of efficiency, capital structure and company value thanks to lower monitoring costs, longer investment horizons and less propensity to take on risk. Beehr, Drexler and Faulkner (1997) add that family

businesses are better at managing conflicts and offer greater job satisfaction and harmony in the work place.

As for their disadvantages, one frequently noted is that family businesses are limited in their ability to recruit all the specialized professional talent needed to manage the firm's key operations. This is true mainly in cases where the enterprise is relatively large and complex or requires highly specialized knowledge in technology or management systems and processes that cannot be supplied from within the pool of family members. Turning to external personnel to address these needs may create problems of integrating non-family staff into the firm (Dyer, 1989). Thus, the literature suggests that businesses whose management personnel is restricted to family members will have less-developed human capital.

Another disadvantage is the difficulty in monitoring and evaluating family members. According to Schulze, Lubatkin, Dino and Buchholtz (2001), the atmosphere in these companies is such that personnel are treated in terms of who they are, meaning their family status, rather than what they do at work. Errors committed by family members are not sanctioned in order to avoid conflict; not so with non-family staff. This can lead to leadership irresponsibility and excessive risk-taking by family members (Miller and Breton-Miller, 2006). Also, family firms have an incentive to take actions that benefit the family at the expense of company financial results and of external (non-family) investors.

This expropriation of benefits may take the form of a redistribution of wealth from non-family employees to the family (Burkart, Panunzi and Shleifer, 2002), excessive compensation of family members (De Angelo and De Angelo, 2000), lower investment (Chandler, 1990) or the diversion of resources into non-pecuniary benefits instead of income-producing activities (Demsetz, 1983).

Another significant point is raised in Villalonga and Amit (2004), who claim that family firms create value only when the founder is either the CEO or the Chairman of the Board with a non-family CEO. When descendants of the founder serve as CEO or Chairman, value is destroyed.

Comparisons of the financial performance of family and non-family businesses has been the subject of some recent studies. Using data for 1992 through 1999 on the return on assets (ROA) for companies included in the Standard & Poor's 500, Anderson and Reeb (2003) found that family concerns performed significantly better than non-family ones and that the highest profitability was reported by firms in which a family member was also the CEO. They thus concluded that family ownership is an effective organizational structure. From a similar perspective, Lee (2006) utilized data for 1992 through 2002 to confirm that family firms in the U.S. generated more employment and revenue growth and displayed higher profitability. These results bolster the theory that firm performance grows when founder-members belonging to the family are involved in management. Another recent investigation by Allouche, Amann, Jaussaud and Kurashina (2008) on the Japanese economy also showed that family firms perform better, and have a stronger financial structure than non-family firms. Their evidence was based on financial profitability indicators such as return on assets (ROA), return on equity (ROE) and return on invested capital (ROIC).

On the family business sector in Chile little work has yet been published, an exception being the 2007 Martinez study. Its authors examined the impact of family ownership on the performance of Chilean firms listed on the *Bolsa de Comercio de Santiago*, the country's principal stock exchange. Three performance measures were used – ROA, ROE and a proxy for Tobin's q – and the results for family and non-family firms were

subjected to difference of means testing. Their conclusion was that family business were more profitable. The same study obtained OLS estimates of a model that included time fixed effects and dummy variables representing the industrial classification of the firms included in their panel data. These dummies captured unobservable heterogeneity at the industry level but not at the level of the individual firm. Indeed, unobservable factors such as management quality and organizational structure that could affect the profitability of the companies in both categories are not captured by incorporating dummies at the industry level. Furthermore, the unobserved firm heterogeneity could be correlated with explanatory variables. As an example, management quality, which affects profitability, might be correlated with the type of firm (family or non-family), size, age and indebtedness as well as other firm characteristics. Not picking up these correlations meant losing valuable information and the OLS estimators could then be biased.

Martinez also omitted to measure the effect of institutional (AFP) investors on the Chilean capital market, nor did it incorporate the risk levels associated with the returns of family versus non-family firms. Both of these phenomena are included in the model we present below. In the case of AFPs, this reflects our view that the impact of the AFPs is significant and should be taken into account.

3 Methodology and Data

3.1 Hypotheses to be tested

In the light of the research reviewed above, it is likely Chilean family firms will be found to perform better than non-family ones. Our purpose will be to investigate whether

the results of these studies on profitability are in fact true for Chile using new data, a more robust methodology than Martinez and measures to control for the presence of AFPs. The hypotheses we will test are therefore as follows:

Hypothesis 1. *Family firms listed on the Chilean stock market are more profitable than non-family firms.*

As just noted, our survey of the literature leads us to expect that family firms will perform better than non-family ones even without controlling for the effects of AFPs on the Chilean financial markets.

The AFPs are major institutional investors that administer Chileans' pension funds and play a major role in the market due to the large amount of resources they manage. The financial assets in their portfolios reveals which firms they are investing in and may be an indicator of those firms' financial solidity and attractiveness. These funds are the major actors in the Chilean market and their effect on asset profitability has been amply studied (Olivares, 2007). This leads us to the following hypothesis:

Hypothesis 2. *If the effect of AFPs is controlled for, the difference in profitability between family and non-family firms declines significantly or disappears.*

In addition to studying the differences in profitability, we incorporate an analysis of the variance in the returns of the two types of businesses. Previous studies have not carried out such an analysis. We include it here in order to better explain the results and determine whether this variability is an important attribute in the Chilean market. This leads us to a third hypothesis:

Hypothesis 3. *The returns to family firms in the Chilean market exhibit greater variance than returns to non-family firms, and thus are consistent with the equilibrium risk-return tradeoff.*

As well as testing for differences in variance, we adjust the returns for risk and type of firm to determine if the results in Martinez continue to hold. This leads us to our fourth hypothesis:

Hypothesis 4. *After adjusting for risk, the difference in profitability between family and non-family firms disappears.*

3.2 Definition of family firm in the Chilean context

To classify a given company as a family firm we employed three criteria. First, we examined the list of business groups published by the Chilean Superintendant of Securities and Insurance (SVS). As of year-end 2007 there were 117 such groups. In each case, if the group was clearly associated with a business family, the firms constituting it were considered to be family firms.

Second, if a company was not a member of any of these corporate groups we categorized it as a family firm if it was controlled at the senior management level by one or more members of a family firm on the SVS list.

Third, a company not in any business group was classified as a family firm if its board of directors was controlled by one or more members of a family on the SVS list. For both this and the second criterion, we used information from credit rating agencies,

company financial reports, market data and other company sources. Non-family firms were defined as all companies not fitting these three family firm criteria.

3.3 Data set

The data set for our test samples of listed companies covered the period between January 1998 and December 2007. They were obtained from Economática (a Latin American database vendor), the SVS, the Chilean Superintendant of Pension Fund Administrators (SAFP) and the Santiago Stock Market. The number of enterprises in the sample for each year is shown in Table 1.

Table 1
Number of companies in sample, by year.

Year	Total
1998	253
1999	255
2000	259
2001	251
2002	246
2003	241
2004	237
2005	260
2006	257
2007	246
Total	2505

Source: Derived from databases (see text).

Based on the criteria described above, an average of 68% of the businesses in the sample were classified as family firms and 32% as non-family firms for the period covered. The figures for individual years, given in Table 2, reveal that the percentage of family firms remained much higher than non-family ones throughout the ten-year period.

Table 2
Percentages of family and non-family firms.

Year	Family	Non-family	Total
1998	70.8%	29.2%	100%
1999	67.1%	32.9%	100%
2000	68.0%	32.0%	100%
2001	68.5%	31.5%	100%
2002	68.7%	31.3%	100%
2003	69.3%	30.7%	100%
2004	69.6%	30.4%	100%
2005	66.2%	33.8%	100%
2006	66.5%	33.5%	100%
2007	68.7%	31.3%	100%

Source: Derived from databases (see text).

3.4 Model variables

Our regression model contains a single dependent and six independent variables. The dependent variable is the return on assets (ROA), which was chosen for two reasons: first, because it is the most commonly used variable in this type of analysis, and second, to ensure our results would be comparable with those of the Martinez study. ROA is a measure of financial performance that indicates how the firm's assets were managed during the period under study. The data for this variable were drawn from the Economática database.

The independent control variables, measured for each firm, are:

- Family dummy (DFAM): Dummy variable that equals 1 for family firms. The values for this variable were obtained as explained before.

- AFP ownership dummy (DAFP): Dummy variable that equals 1 for firms whose ownership structure includes institutional (AFP) investors. The values for this variable were obtained from SAFP reports on the investment portfolios of Chilean pension funds during the period under study.
- Debt/Assets: Leverage, defined here as the debt/assets ratio, extracted from the Economática database.
- Size: Size of the firm, measured as the natural logarithm of total assets. The raw values were extracted from the Economática database.
- Age: Age of the firm, that is, number of years since it was founded. This information was found on the companies' websites or through direct consultation by telephone.
- Industry: The firm's industrial classification. The Economática database uses a classification system of 19 sectors.

3.5 Methodology

Our sample embraces information on a number of firms over a period of years (1998 to 2007) and thus constitutes a panel data set. As in Martinez, we first test for differences between the means of the returns for family and non-family firms. We then estimate the model using the same method but with our new data. And since there exist non-observable effects that are probably correlated with the independent variables (*e.g.*, the type and quality of management may be different for firms of different size and age), we opted to estimate the relationship using a fixed-effects regression model.

Nevertheless, we allow for the possibility that the unobservable factors are random and thus employ the Hausman test to decide which method is most appropriate. The basic model is written as follows:

$$ROA_{it} = \alpha_i + \beta_1 SIZE_{it} + \beta_2 AGE_{it} + \beta_3 DEBT_{it} + \beta_4 DFAM_{it} + U_{it} \quad (1)$$

$$t = 1998, 1999, \dots, 2007 \quad i = firm$$

Our first step is to determine whether the incorporation of the individual unobservable effects (α_i) changes the results found by Martinez. We then incorporate the dummy variable *DAFP* to establish whether the presence of AFPs in the ownership structure helps explain the profitability differences between family and non-family firms.

Finally, to ascertain the effect of risk we carry out two procedures. First, we perform a difference of variance test on the two firm types. Second, we estimate Equation (1) in which the dependent variable ROA is adjusted for risk. We obtain the standard deviation of ROAs, by firm type, for each year in the sample. We use it as a proxy for risk and divide each firm's ROA by this measure as explained in section 4.2.

4 Results and Discussion

4.1 Comparison of ROA values

The sample data relating to the ROA variable are summarized in Table 3.

Table 3
ROA sample characteristics.

Variable	Obs.	Mean	Std. Dev.
ROA	2476	0.0437126	0.134452

A difference of means test is then performed on the mean ROA values for family and non-family enterprises, the results of which are given in Table 4.

Table 4
Difference of means test for ROA of family and non-family firms.

	Means		Statistics	
	Family	Nonfamily	t	Significance level
ROA	4.79%	3.46%	2.1745	0.0149

As can be seen, family firms had a mean ROA of 4.79% over the ten years under study and thus performed better than non-family firms, whose mean ROA was 3.46%. A *t*-test yielded a value of 2.1745 (p -value=0.0149), demonstrating that this difference is statistically significant and thus corroborating the first result from Martínez despite the use of a different sample.

We then estimate Equation (1) with the same method (OLS) as Martinez using similar independent variables with our new data. The results, set out here in Table 5, are comparable to Martinez both qualitatively and quantitatively. The dummy variable *D*_{family} is positive and statistically significant, implying that even when size, age and debt are controlled for, family firms perform better than non-family firms.

Table 5
 Estimation using method of Martinez et al. (2007)

Variable	ROA
Intercept	-0.2945 (0.000)***
Size	0.0174 (0.000)***
Age	-0.0002 (0.001)***
Debt/assets	-0.0015 (0.000)***
Dfamily	0.0354 (0.000)***
Year Dummies (9)	Yes
Industry Dummies (18)	Yes
Adjusted R2	0.1175
F-statistic	10.74 (0.000)
Obs	2269

***: significant at the 1% level.

As noted earlier, the model specification in Martinez could not capture unobservable heterogeneity in the various firms, whether family or non-family. Factors such as management quality and organizational structure, though they clearly influence performance, are not observable. To incorporate them into the estimation we can add dummies for each firm in the study, an approach that would limit the degrees of freedom, or estimate them using a fixed-effects panel model.

Thus, Equation (1) was estimated allowing unobservable fixed effects correlated with the independent variables. The results are presented in Table 6. The second column contains the equivalent of the estimates in Martinez with unobservable heterogeneity permitted. The results do not change, the Dfamily variable continues to be significant at conventional levels. In other words, under the new methodology and with new data, family firms still perform better.

An important variable not included in the Martínez analysis is the presence of the AFPs, Chile’s largest investors. We have incorporated it in our model to determine the impact of these institutional investors on the performance of family and non-family firms. Existing studies have already described the major influence they wield in the small Chilean capital market (Romero et al., 2007).

The figures in the third column of Table 6 demonstrate that despite the inclusion of a dummy variable to distinguish between firms that do and do not have AFP investors, the previous results remain valid. Family firms continue to show statistically significant higher average returns than non-family ones.

4.2 Comparison of risk-adjusted ROA values

To investigate the possibility that the family firms’ superior performance is accompanied by higher levels of risk, the dependent variable ROA in Equation (1) is replaced with ROARISK, the return on assets adjusted for the risk factor:

$$ROARISK_{i,t} = ROA_{i,t} / \sigma_{j,t}$$

for $i = firm$, $t = year$, $j = family\ firms, nonfamily\ firms$

where ROA is as previously defined and $\sigma_{j,t}$ is the standard deviation of the returns on family and non-family businesses for the year t . Thus, we reestimate Equation (1) using a measure of the dispersion of the returns as a proxy for risk.

The new estimates with risk-adjusted ROA are shown in Table 6. The results obtained when the AFP dummy variable is excluded, given in the fourth column, are statistically significant and reveal that family firms still perform better. The addition of the

AFP dummy variable generates the results indicated in the fifth column, indicating that the variable is itself not significant but its inclusion causes the family firm dummy to become marginally non-significant. It continues to carry a positive sign, however.

Although intuitively we would expect the unobservable effects to be fixed rather than random and correlated with the independent variables such as size, we applied the Hausman test to check this assumption. The results for each specification confirmed that the fixed effects estimation was the correct one for the present cases. The test values and their corresponding p-values are shown in the lower panel of Table 6.

Finally, we tested whether the standard deviation of the returns (the risk proxy) for family firms was greater than that for non-family ones. This was done using a difference of standards deviations test, whose results are given in Table 7.

As can be seen, the standard deviation (or more precisely, the variance) of the ROA values for non-family firms is greater than that of the family firms. The null hypothesis that the deviations for the two categories of firms are the same is therefore rejected with a high level of statistical confidence in favor of the alternative hypothesis according to which the variability of family firm returns is less than that of non-family enterprises.

The foregoing implies that family firms not only perform better than non-family ones but are also less volatile on average. This is significant because it raises the question whether it is possible to build an investment portfolio of family firm stocks that earns abnormal returns above the market line. The results indicate that this would be possible, suggesting indirectly that the Chilean market does not satisfy the weak efficiency hypothesis as other recent studies have already demonstrated (Romero et al., 2007).

Table 6
Fixed-Effects Estimation of Model 1

Variable	ROA	ROA	ROA_RISK	ROA_RISK
Size	0.0545 (0.000)***	0.0541 (0.000)***	0.4081 (0.000)***	0.4057 (0.000)***
Age	0.0001 (0.837)	0.0000 (0.937)	0.0015 (0.785)	0.0009 (0.864)
Debt/Assets	-0.0021 (0.000)***	-0.0021 (0.000)***	-0.0161 (0.000)***	-0.0159 (0.000)***
Dfamily	0.0332 (0.066)**	0.0303 (0.097)**	0.2454 (0.077)**	0.2275 (0.105)
DAFP		0.0099 (0.277)		0.0610 (0.386)
R ² (within)	0.1006	0.1011	0.0975	0.0979
F-statistic	55.78	44.87	53.91	43.27
p-value	(0.000)	(0.000)	(0.000)	(0.000)
Hausman (χ^2)	44.08	46.45	48.53	51.27
p-value	(0.000)	(0.000)	(0.000)	(0.000)
Obs	2269	2269	2269	2269

** : Significance level between 5% and 10%, *** : Significance level < 1%.

Table 7
Variance Ratio Test

Ratio = sd(ROAnofamily)/sd(ROAfamily)
Ho: Ratio = 1 f-statistic = 1.3315
Ha: Ratio \neq 1 prob (F > f) = 0.000
Ha: Ratio > 1 prob (F > f) = 0.000
Ha: Ratio < 1 prob (F < f) = 1.000

5 Conclusions

In this paper we studied the financial performance of family and non-family firms in the Chilean capital market. We revisited the evidence presented in Martinez et al. (2007) and applied new data and a different and more robust methodology that took into account the unobservable heterogeneity in each firm. Our analysis also controlled for the effect of

the private pension funds (AFPs) on the Chilean financial market and adjusted for return risk.

The results we obtained confirmed those presented in Martinez. Controlling for AFP also maintained their original findings. We hypothesize that the reason why family firms exhibit higher returns in the Chilean market is because of the quality of the institutional set up and the capital market regulations improvements implemented in the last 20 years, that make difficult the extraction of value from the minority stakeholders. Also, given the social structure of the Chilean society is highly likely that the family members' human capital is among the highest in the country. All this reinforce the advantages in reducing the agency problem of family firms over the disadvantages of this ownership structure.

We also provide a new interesting result in our paper, showing that family firms are not only more profitable but also less risky. This result is especially interesting because it implies that, theoretically, a portfolio of family firm assets could be built whose returns would be above the expected rate for a given risk level. This constitutes indirect proof of the efficiency problems of the Chilean capital market, which have been recently documented in the literature.

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