Minority shareholders and information asymmetry in the Chilean capital market

Berta Silva-Palavecinos
David Cademartori-Rosso
Ricardo Campos-Espinoza
Hanns de la Fuente-Mella

Abstract— In the literature, it is possible to discern two types of information asymmetry in the capital market: a horizontal type – between controlling and minority shareholders – and a vertical type– between the company and investors. Studying them is very useful because information transparency improves the parity conditions of investors, mitigates conflicts of interest, diminishes the risks of privileged information, and reduces capital costs. In this investigation, the different types of minority shareholders are studied and horizontal asymmetry is further investigated to characterize these investors and to identify the causal relations between these characteristics and the asymmetry evaluated through the spread (bid-ask). In Chile, the characterization of minority shareholders is interesting due to the property concentration, the legal framework that protects minority investors, and the accounting rules applied to companies that issue public securities. Thus, this study is descriptive and explanatory in nature and combines primary and secondary information sources. It starts with the characterization of minority shareholders for the 2013 and 2015 terms. Then, a model is proposed to enable the existing relations between the characteristics of such investors and the level of information asymmetry, as measured by the Santiago Stock Exchange (Bolsa de Comercio de Santiago) shares spread with intraday data for the 2013 term, to be studied. The results provide evidence of an existing inverse relationship between the number of minority shareholders in the year 2013 and the information asymmetry for the same term. Nevertheless, there is no significant relationship between the number of minority shareholders who are legal persons and information asymmetry.

Keywords—information asymmetry, spread (bid-ask), minority shareholders

Berta Silva-Palavecinos
Escuela de Comercio / Pontificia Universidad Católica de Valparaíso, Chile

David Cademartori-Rosso
Escuela de Comercio / Pontificia Universidad Católica de Valparaíso, Chile

Ricardo Campos-Espinoza
Escuela de Comercio / Pontificia Universidad Católica de Valparaíso, Chile

Hanns de la Fuente-Mella
Escuela de Comercio / Pontificia Universidad Católica de Valparaíso, Chile

I. Introduction

Among minority investors, we can distinguish those that can be ranked as professionals from others who are non-professionals (Lachmann, Worhmann, and Wompener, 2011). The board's performance is a key factor for investing decisions, although it is tempered by investor types; regarding professionals, these outweigh the directorate's performance, although they will take extra risks that are not undertaken by non-professionals (Sharma, 2006).

Legal persons, who represent a large chunk of corporations' shareholders, can normally be classified as non-professionals, whereas legal entities, established to manage investments, can be classified as professionals. This distinction is important due to the analysis they conduct of the information that they receive, which therefore affects the shares' price and the spread.

Information asymmetry in markets has been a widely studied theme in the literature because of the effect it has on the efficient functioning and the correct assignment of resources, as directed by financial theory (Botosan and Plumlee, 2002; Francis, Lafond, Olsson, and Shipper, 2004; Hail, 2010; Leuz and Verrecchia, 2000). There are also problems of information asymmetry between controllers and minority shareholders (Lefort, 2008; Author, 2014). The spread (bid-ask) is an information asymmetry measure that is widely used in the literature and that increases as the market detects players, for example, stock brokers in possession of profuse information (Glosten and Milgrom, 1985). In Chile, there are important institutional investors that are generally considered minority shareholders, for example, the Pension Fund Managers (AFP), insurance companies, mutual funds, and others that impact the market's liquidity. Institutional investors influence securities liquidity (Cao and Petrasek, 2014). In the American market, it has been demonstrated that liquidity can grow with institutional investors but can decrease when property is concentrated in only a few institutional investors.

There is accessible evidence in the literature of the relationship between the spread and information asymmetry; nevertheless, it does not remain constant during the entire transactional phase. Some authors have demonstrated that this relationship changes over different time intervals during the day, with major changes occurring at the start of the stock market, decreasing around noon, and increasing again during the last trading hours (Tannous, Wang, and Craig, 2013).

The spread (bid-ask) has been an information asymmetry measure used in the literature to gauge information asymmetries because, as the spread increases, the asymmetry increases; alternatively, some authors have worked with liquidity as a proxy following the research by Amihud (2002), who establishes a liquidity measure and uses it as a proxy of stock prices impact. Similarly, Gjerde, Mahenhtiran, and Cademartori (2003) use it in the context of

linking share ownership and the quality of corporate governance with market liquidity.

The methods of calculating the spread are diverse, and different authors use different models (Bollen, Smith, and Whaley, 2004; Amihud and Mendelson, 1986). Spread measures can be ranked as absolute or relative. The former measures take the absolute value between the bid price and the ask price or use a central value as an average or as a median; the latter seek a relative value, aiming to show the existing price differences among the securities, and therefore, they use logarithms between the bid and ask prices of particular securities.

The share ownership concentration is related to liquidity, which is an alternate method of measuring information asymmetry. Thus, we can state that it is another agent that affects it. Similarly, Hernández and Parro (2004) show that the share ownership concentration in the Chilean market is a key agent in explaining the lack of liquidity.

The Chilean equity market is highly concentrated. The first stockholder accounts for 39% of share ownership, and the first three stockholders account for 58%. Latin American markets have a high stockholder ownership concentration, and minority stockholders face risks of damage. Dennis and Weston (2001) infer that the relationship between institutional ownership and the spread is negative and significant, as opposed to Sarin, Shastri, and Shastri (1996), who find a significant but positive relationship.

In the literature, there is generally no differentiation among the different types of minority shareholders, although an individual who has less than 1% of the ownership is not the same as a mutual fund that owns the same percentage.

The Securities and Insurance Superintendence, in its Financial Education Portal, defines a minority shareholder as "any person who, by themselves or in conjunction with other persons with whom there is a joint operation agreement, owns less than 10% of the voting shares in a corporation, provided that this percentage will not allow a board director to be appointed".

Chilean companies, many of them family owned, tend to keep control through a high shareholder ownership, and therefore, when new projects arise, they tend to appeal to bank financing, bond issuing, and credits between related companies (Buchuk, Larrain, Muñoz, and Urzúa, 2014). Issuing bonds entails a signal issued to the market. In addition, the instrument's issuing process requires information delivery, which is not the case with companies that do not assume this type of financing. Therefore, it seems reasonable that this affects information asymmetry.

Different investor types behave differently. They may assume qualitatively diverse risks (Sharma, 2006).Therefore, we can infer that such behavior would impact the spread. In such an environment, it is interesting to study the relationship between information asymmetry and minority shareholders. As defined by the Securities and Insurance Superintendence, minority shareholders are those who have less than 10% of the shareholders ownership. In Chile, there are different types of minority shareholders: i) investment companies, real estate, and consulting firms; ii) legal persons; iii) mutual funds and family compensation funds; iv) Pension fund managers (AFP); v) foundations; vi) insurance companies, banks, stock brokers, management,

and associations; and vii) others, for example, religious congregations, estates, etc.

Based on this literature review, the following hypotheses can be proposed:

Hypothesis 1: The higher the minority shareholder participation in the company's ownership is, the lower the information asymmetry in the capital market.

Hypothesis 2: The higher the rate of participation by minority shareholders as legal persons in the company's ownership is, the lower the information asymmetry in the capital market.

This paper contributes to the literature by differentiating between different types of minority shareholders, which is a relevant difference in regard to other studies that pack all minority shareholders into one set. In addition, the investigation is conducted in a highly concentrated and pyramidal structured market with legislation that attempts to protect minority shareholders, for example, forcing a 30% dividend distribution of corporate benefits.

II.   Methodology

The methodology used is descriptive and exploratory, and primary and secondary data are used for the 2013 and 2015 periods. The empirical analysis is conducted with a sample composed of 42 companies that have had a continued presence in the Santiago Stock Market (IPSA) for a time span extending from 2007 to 2013. The descriptive analysis is performed, stating two moments in time, with the aim of analyzing whether there are significant changes in the study's variables. The company composition has not changed very much over time. Nonetheless, it is noteworthy to observe an agreement in the previous literature with regard to the fact that the ownership concentration is very high and the *free float* very low. This may influence and lower the stock exchange's liquidity, though the companies in the sample enjoy a healthy stock market presence (a minimum of 37 points in 2015 and 52 points in 2013).

Minority shareholders in the Chilean capital markets for the 2013 and 2015 terms are categorized using an exploratory analysis as well as the evolution in time of their composition: i) investment companies, real estate companies, real estate, and consulting firms; ii) legal persons; iii) mutual funds and family compensation funds; iv) pension fund managers (AFP); v) foundations; vi) insurance companies, banks, stock brokers, management, and associations; and vii) others.

An exploratory analysis of the information asymmetry in the Chilean capital market is also conducted, using the Santiago Stock Exchange stock spread with intraday (between 11:00 and 14:00) data for the 2013 term as a proxy for this variable. Two measurements are considered for the calculation: i) the annual average of the difference in prices (the ask price (of the buyer) and the bid price (of the seller)), divided by their medium value (spread_ a_ b_ medium); and ii) the natural logarithm of the difference in prices (the ask price (of the buyer) and the bid price (of the seller)) (spread_ lna_lnb_medium). To that end, the medium is used as a measure of the central tendency of the series, in addition to the standard deviation as a dispersion measure.

The methodological analysis continues with the study of the possible existing relations between minority shareholders and the level of information asymmetry. To that end, different tests are performed: variance homogeneity, equality of means (analysis of variance (ANOVA) of a factor), and correlation analysis.

III. Results

Regarding the case of information asymmetry, as measured through the spread, the magnitudes of the variables are very homogeneous, not presenting very different values in relation to their average value and standard deviation, regardless of the form by which the spread is calculated. However, in regard to the variables related to the characterization of minority shareholders, in 2013 and 2015, the results are somewhat different, showing a wide investor presence of the *legal persons* type for both 2013 and 2015, representing almost 90% and 88% of the total minority shareholders in the sample, respectively. On average, *foundations* show a lesser number of minority shareholders for both 2013 and 2015.

The results of the variance homogeneity analysis, using the Levene statistical test applied to the set of minority shareholders for the periods of 2013 and 2015, shows a rejection of the invalid hypothesis of variance equality, concluding that, in the case of the group of minority shareholders in both 2013 and 2015, there would be a difference among the population variances. To contrast the null hypothesis that the averages of minority shareholders for 2013 and for 2015 regarding they type of shareholder are the same (for each term), as opposed to the alternative that at least the average in a group is different from the others, an ANOVA test is conducted. The results reveal that, regarding the case of minority shareholders in both 2013 and 2015, the null hypothesis of the equality of averages of each of the seven types of minority shareholders is rejected. Therefore, it is not possible to state that the types of minority shareholders are the same for each term of analysis.

Regarding the correlation analysis, initially, a general study is conducted to identify the possible associations between minority shareholders (2013 and 2015) and the information asymmetry in 2013. Then, this same analysis is conducted but disaggregating the minority shareholders for each of the seven categories. Results may suggest that a direct correlation exists between the number of minority shareholders for the years 2013 and 2015, at a significance of 0.01. The same applies to the two information asymmetry measures (spread_a_b_medium, spread_lna_lnb) for 2013, which makes much sense, given that, mathematically, the equation is similar. However, there is not a proper level of adequate significance to indicate that there would be a level of association between minority shareholders in 2013 and information asymmetry for the same term. Nonetheless, it is interesting to analyze the direction of this association (inverse), which would mean that, as more minority shareholders are found in each of the companies in the sample, the less information asymmetry there exists in the market, which is consistent with what has been shown in the literature review.

The result of the correlation analysis for each type of minority shareholder for the 2013 term and the information asymmetry for the 42 companies in the sample for the 2013 term. At first glance, it is possible to perceive the inverse relationship between the information asymmetry measured through the spread and the different minority shareholder types identified, which is consistent with the global analytical results and in the studied literature. However, the meaningful associations are between information asymmetry (independent of its measurement pattern) and the following categories: investment companies, real estate, consulting firms, mutual funds, family compensation funds, insurance companies, banks, stock brokers, management, and associations, to a greater extent (significant at the 0.01 level). To a lesser extent, there is a meaningful association between information asymmetry and the categories: AFP and foundations (significant at the 0.05 level).There is a non-existing relationship between information asymmetry and the minority shareholders categories of sole proprietors and others.

Regarding the results of the methodological analysis presented, it is possible to note that there is a certain relationship between minority shareholders in 2013 and information asymmetry for the same term, presenting an inverse relationship; that is, the more minority shareholders are found in each of the companies in the sample, the lower the information asymmetry that exists in the market. However, when the analysis is conducted for each of the minority shareholder types identified in the 42 sampled companies, there is an inverse relationship between information asymmetry as measured through the spread and the different types of minority shareholders identified, especially with the institutional investors of the sample.

IV. Conclusions

In this paper, minority shareholders in the Chilean stock exchange during the 2013 and 2015 terms have been characterized. For that end, this study adopts a sample of 42 companies, those with a continued presence in the Stock's Selective Price Index between 2007 and 2013. A model has been proposed to support the study of the existing relations among such investors and the level of information asymmetry, as measured by the spread of the Santiago Stock Exchange with intraday data for the 2013 term. This study is descriptive and explanatory in nature and combines primary and secondary information sources.

In this research, we have managed to establish that the evidence found is consistent with our hypotheses because it is confirmed that, provided that there are more minority shareholders sharing the company's ownership, the spread diminishes, which is in accord with Hypothesis 1. That is, the more minority shareholders there are involved in the Chilean company's ownership, the less information asymmetry there is in capital markets.

On the other hand, although we have established that there is a negative relationship between the number of minority shareholders who are legal persons and the behavior of the spread, this relationship is not proven to be significant, and therefore, we reject the second hypothesis (Hypothesis 2).

The evidence from our data show that, the greater the number of legal persons as minority shareholders sharing the company's ownership, the lower the information asymmetry in capital markets, albeit with such a weak bearing effect that it does not reach the level of significance (at 1% or at 5%).

In contrast, it is proven that, when minority shareholders are institutional, a spread decrease is detected, and consequently, we deduct their significant influence in the improvement of the information's quality of the capital markets. This analysis can be extended including the invested amounts made by the different types of minority shareholders, but nevertheless, these data can only be gathered in the case of the Pension Funds Management (AFP).

References

[1] Amihud, Y., 2002. Illiquidity and stock returns: cross-section and time-series effects. Journal of Financial Markets 5, 31–56.

[2] Amihud, Y. & Mendelson, H. (1986). Asset Pricing and The Bid-Ask Spread", 17, 223-249.

[3] Bollen, Nicolas P. B., Smith, Tom, Whaley, Robert E. (2004). Modeling the bid/ask spread: measuring the inventory-holding Premium", Journal of Financial Economics, 72, 97–141.

[4] Botosan, C. & Plumlee, M. (2002) A re-examination of disclosure level and the expectedcost of equity capital. Journal of Accounting Research, 40 (1), 21- 40.

[5] Buchuk, D., Larrain B.,Muñoz F. Urzúa F. (2014). "The internal capital markets of business groups: Evidence from intra-group loans." Journal of Finance Economics, 112: 190-212.

[6] Cao, Charles, Petrasek Lubomir. (2014). ¨ Liquidity risk and institutional ownership¨, Journal of Financial Markets, 21, 76-97.

[7] Dennis, P. & Weston, J. (2001). Who's Informed? An Analysis of Stock Ownership and Informed Trading (June 4, 2001). AFA 2002 Atlanta Meetings. Available at SSRN: http://ssrn.com/abstract=267350 or ttp://dx.doi.org/10.2139/ssrn.267350

[8] Francis, J., LaFond, R., Olsson, P. & Schipper, K. (2004). Costs of Equity and Earnings Attributes. The Accounting Review, 79 (4), 967-1010.

[9] Gjerde, T., Mahenthiran, S and Cademartori, D. (2013). Effect of ownership, governance, and transparency on liquidity – Chilean evidence, Journal of Contemporary Accounting & Economics, 9, 183-202.

[10] Glosten, L., Milgrom, P., 1985. Bid, ask, and transaction prices in a specialist market with heterogeneously informed traders. Journal of Financial Economics 13, 71–100.

[11] Hail, L., Leuz, C. & Wysocki, P. (2010). Global Accounting Convergence and the Potential Adoption of IFRS by the U.S. (Part II): Political Factors and FutureScenarios for U.S. Accounting Standards, Accounting Horizons, 24 (4), 567-588.

[12] Hernández, L., Parro, F., 2004. Central Bank of Chile, Working Paper Number 291.

[13] Lachmann, M., Worhrmann, A. & Wormpener, A. (2011). Acquisition and integration of fair value information on liabilities into investors' judgments. Review of Accounting and Finance, 10(4), 385-410.

[14] Lefort, F. (2008). Hacia un mejor gobierno corporativo en Chile. Dirección de Asuntos Públicos, 2(23), 1-11.

[15] Leuz, C. & Verrecchia, R. (2000). The Economic Consequences of Increased Disclosure. Journal of Accounting Research Vol. 38, Supplement: Studies on Accounting Information and the Economics of the Firm (2000), 91-124.

[16] Sarin, A., Shastri, K. & Shastri, K. (1996). Ownership structure and stock market liquidity. Disponible en SSRN: http://ssrn.com/abstract=2652

[17] Sharma, DS. 2006. "Effects of professional and non-professional investors' perceptions of board effectiveness on their judgments: An experimental study", Journal of Accounting and Public Policy, 25 (1), 91–115.

[18] Tannous, G., Wang J., Craig W (2013). The Intraday Pattern of Information Asymmetry, Spread, and Depth: Evidence from the NYSE¨, International Review of Finance, 13, 2, pp. 215-240.

[19] Autor (2014)

About Author (s): Berta Silva-Palavecinos

Berta Silva received the tittle of Certify Public Accountant CPA, Pontificia Universidad Católica de Valparaíso in 1980, and the Ph.D. in Business Sciences from Universidad Autónoma de Madrid in 2015. Since 1984, she has been with the School of Commerce at Pontificia Universidad Católica de Valparaíso (PUCV). Her current research interests include study of Theory and Accounting Standards (IFRS). The development of a methodology for learning the accounting discipline. The study of corporate governance and information asymmetry in emerging markets.

About Author (s): David Cademartori-Rosso

Certify Public Accountant CPA, Pontificia Universidad Católica de Valparaíso, 1969 Bachelor in Finance, Pontificia Universidad Católica de Valparaíso, 1971; Master in Business Administration, Tulane University, 1977. Director School of Commerce, Pontificia Universidad Católica de Valparaíso, 1971-1973, 1984-1988 Vice-President for Development, Pontificia Universidad Católica de Valparaíso, 1995-1988. Dean of "Facultad de Ciencias Económicas y Administrativas, Pontificia Universidad Católica de Vaparaíso, 1999-2005. Emeritus Professor Pontificia Universidad Católica de Valparaíso. Research interest in Corporate Governance and Information Asymmetry.

About Author (s): Ricardo Campos-Espinoza

Ricardo Campos received the degree in Commerce and Economic Sciences at Universidad Católica de Valparaíso (Chile) in 2000, and the Ph.D. in Management Sciences from ESADE Business School in 2012. Since 2001, he has been with the School of Commerce at Pontificia Universidad Católica de Valparaíso (PUCV). His current research interests include asymmetric information in capital markets, corporate finance and corporate governance in emerging markets and ethics in business.

About Author (s): Hanns de la Fuente-Mella

Hanns de la Fuente, received the degree in Industrial Engineer at Pontificia Universidad Católica de Valparaíso (PUCV) Chile in 2000, and the Ph.D. in Economics and Organization Management from the Zaragoza University in 2009. Since 2011, he has been with the School of Commerce at Pontificia Universidad Católica de Valparaiso (PUCV). His current research interests include, econometric modelling, productivity analysis with stochastic frontier and transportation economics analysis.