Abstract

Purpose – The purpose of this paper is to examine the impact of business group characteristics on firm-operating performance in Chile.

Design/methodology/approach – Using a multiple regression model, this study examines the effect of business group characteristics (interlocking of directors, management concentration, and business group specialization) on operating performance (ROA growth) in a sample of 104 publicly traded Chilean firms.

Findings – It is documented that, except for interlocking of directors, the two other business group characteristics (management concentration and business group specialization) are significantly related to the operating performance of firms belonging to Chilean business groups. These findings suggest that Chilean business groups would improve or deteriorate the performance of their affiliated firms modifying its characteristics.

Originality/value – Too little is known about the effect of business group characteristics on firm-operating performance in Latin American countries such as Chile because there is no research that analyses its impact on firm-operating performance in the region.

Keywords Corporate governance, Business group specialization, Business groups, Interlocking of directors, Management concentration

Paper type Research paper

Introduction

In both Chile and Latin America, an important proportion (60-70 percent in Chile) of the largest firms are controlled by business groups (Lefort and Walker, 2000). These, in turn, are some of the most important actors in the development of economies in Latin America. The definition of a “business group” varies extensively across researchers and countries (see Khanna and Yafeh, 2005). In Chile, business groups are defined by law (Law 18045, Article 96, Title XV) as a collection of legal entities which share ownership, administration, or credit responsibility ties of such a nature that there are grounds to believe that their economic and financial behavior is guided by common interests, or that their financial risks of debt and equity are interconnected.

Latin American countries such as Chile are typically characterized by low development of their capital markets and have weak regulatory and legal institutions (D’Souza and Megginson, 1999; Khanna and Palepu, 2000). In incomplete or imperfect markets (e.g. labor, product, and capital markets), business groups could act as intermediaries between firms and markets, generating an internal capital market and avoiding information asymmetries (Cainelli and Iacobucci, 2011; Leff, 1978; Williamson, 1975; Yaprak and Karademir, 2010), generating economies of scope and scale, and greater negotiating power compared to other agents (e.g. government). In contrast, business groups could extract value from the firm at the expense of...
minority shareholders, create overinvestment, and crosswise subsidies between affiliate firms (Berger and Ofek, 1995; Lins and Servaes, 1999, 2002), and they could encourage sub-optimal decisions (Khanna and Palepu, 2000). Consequently, the net effect of business groups is theoretically and empirically ambiguous. For example, some studies indicate that business groups help to improve the performance of their affiliated firms (e.g. Chang and Choi, 1988; Keister, 1998; Khanna and Palepu, 1999; Perotti and Gelfer, 2001; White et al., 2008). In contrast, other studies have found negative (Carney et al., 2011) or null effects (e.g. Khanna and Palepu, 2000).

Business groups are also sensitive to countries’ economic and political contexts (Bamiatzi et al., 2013; Kono et al., 1998; Sapelli, 2002). For example, over the last few decades, Chile has experienced four important events which have enabled the rise and fall of business groups: (1) financial repression and credit rationing (1940-1973), which stimulated the creation of business groups around banks, (2) the first privatization round (1973-1981), which facilitated the origin and growth of a series of business groups around banks (e.g. Cruzat-Larrain, BHC, Claro), (3) the debt crisis (1982-1983), which meant the end (e.g. BHC) and reduction (e.g. Cruzat-Larrain, Vial) of several business groups based on banks, and (4) the second privatization round (1984-1990), which enabled the development of new business groups (e.g. Sigdo Koppers, Carozzi, Abumohor, Enersis, Errázuriz, CAP, Del Rio, Boher), as well as the development of the Chilean capital market (Lefort and Walker, 1999). Consequently, in Chile, current business groups differ greatly from those existing in the 1970s (Lagos, 1960), of which only three still exist: Angelini, Luksic, and Matte (Lefort and Walker, 1999). In Chile, business groups, by modifying their characteristics, were able to improve or deteriorate the performance of their affiliated firms (interlocking of directors, management concentration, and business group specialization). However, too little is known about the effect of business groups characteristics on firm-operating performance in Chile because no research has been undertaken to analyze its impact on firm-operating performance in Latin America. Consequently, the objective of this article is to examine the impact of business group characteristics on operating performance in a sample of publicly traded Chilean firms.

Second section provides the conceptual framework, third section presents the method, fourth section shows the results of the study, and fifth section provides a discussion of the study findings and insights for future research in this field.

Conceptual framework
This study links business group characteristics (interlocking of directors, management concentration, and business group specialization) to firm-operating performance. Figure 1 presents an overview of the resulting conceptual framework, which includes firm characteristics as control variables.

Interlocking of directors
Having a business group that includes among its members the directors of the firms in the group, facilitates the transfer of information, entails high cohesion, and reduces the possibility of opportunistic behavior (Koenig and Gogel, 1981; Mizruchi, 1996; Ornstein, 1984). By interlocking directors, companies can obtain any of the following benefits: horizontal coordination, vertical coordination, expertise, and enhanced reputation (Schoorman et al., 1981). In contrast, the effect of interlocking of directors may be negative if it is used to extract value from the firm at the expense of minority shareholders (Silva et al., 2006). In Chile, Silva et al. (2006) indicate that the interlocking
of directors enhances Tobin's (1969) Q (a ratio comparing the market value of a company’s stock with the value of a company's equity book value) in only 26 percent of all cases. In Brazil, Santos et al. (2012) show that firm value is, on average, negatively impacted by interlocking directorships. Consequently, in order to analyze the effect of the interlocking of directors on firm-operating performance, the following hypothesis is proposed:

**H1.** Interlocking of directors improves operating performance.

**Management concentration**

Fama and Jensen (1983) predict that failure to separate ownership and control tends to penalize the organization in the competition for survival. In other words, concentration of ownership and control in the hands of business groups may be bad for the value of firms. However, close control of the business group is beneficial for the company if this reduces incentives to gain personal benefit for controlling shareholders (Jensen and Meckling, 1976), if it reduces agency problems caused by short-term strategies as opposed to long-term strategies (Monsen et al., 1968; Shyu, 2013), or if it increases incentives to invest in specific human capital (Burkart et al., 1997; Chung and Chan, 2012).

Therefore, management concentration may be good, bad, or irrelevant for firm-operating performance. Demsetz and Lehn (1985) found no significant relationship between management concentration and return on equity. Similarly, using 744 publicly listed large firms in eight Asian countries, Jiang and Peng (2011) support the “irrelevant” position. In contrast, Mork et al. (1988) show a positive relationship between management concentration and market valuation of the firm. Similarly, using archival data on the top 500 Indian and Chinese firms, Singh and Gaur (2009) found that management concentration had a positive effect on firm performance. La Porta et al. (1999) show that countries in which investor protection is weak (e.g. Latin American countries), corporate ownership is concentrated. Lefort and Walker (2000) indicate that in Chile, business groups maintain more equity than what is strictly necessary to control affiliated firms. Consequently, in order to analyze the effect of management concentration on firm-operating performance, a second hypothesis is proposed:

**H2.** Management concentration improves operating performance.
Business group specialization
Highly diversified business groups are a prominent feature of the industrial landscape of most emerging economies. Their competitiveness has been the topic of much debate in the international business literature (Herzog et al., 2013). The level of diversification may facilitate the reallocation of resources (e.g., technology, consultants, physical assets, financial assets) to divisions with better opportunities, and defer payment of taxes (divisions with debt and/or losses) (George and Kabir, 2012; Hsieha et al., 2010). Notwithstanding, this may also create overinvestment and crosswise subsidies between business group firms (Berger and Ofek, 1995; Lins and Servaes, 1999, 2002) and encourage sub-optimal decisions in business groups which do not have the necessary expertise for a variety of industries (Khanna and Palepu, 2000). Upon analyzing business groups, Khanna and Palepu (2000) determined that over time it is more difficult to make diversification more extensive, there is a loss of economic benefits and the more non-related diversification a group has, the more it requires a range of specialized professionals, reaching a point in time when transaction costs are lower in the market. Additionally, Lins and Servaes (2002) state that the greatest information asymmetries and market imperfections in emerging economies do not produce an increase in the net benefits of diversified business groups; moreover, they conclude that in this manner opportunities arise for expropriating minority shareholders, implying a reduction in the firm value.

In Chile, business groups differ in terms of their level of specialization (Majluf et al., 1998). There are highly specialized business groups (e.g., CGE), as well as highly diversified business groups (e.g., Angelini, Matte, Luksic). Tarziján (1999) suggests that the two most important reasons for diversification in emerging markets are: first, the creation of internal capital markets and second, the gaining of market power. Chile, with an incomplete capital market and a small market size, could make the rise of diversified business groups profitable at the expense of specialized business groups (Santalo and Becerra, 2006; Stigler, 1951). However, it is necessary to say that several Chilean companies, such as LAN, Falabella, Ripley, Cencosud, and CorpBanca are completing and enhancing their markets with sizeable acquisitions and alliances in several Latin American countries. Consequently, in order to analyze the effect of business group specialization on firm-operating performance, a third hypothesis is proposed:


Methodology
Data
SVS (the Chilean SEC), using the aforementioned Chilean definition of a business group, established, in 2004, the existence of one hundred business groups in Chile. The 20 largest business groups from that list were selected (e.g., Angelini, Matte, Luksic, Claro, Cap, Yarur, Sigdo Koppers). From there, SVS proceeded to collect companies from those business groups throughout the entire study period, reaching a total sample of 104 firms belonging to these 20 business groups. In order to test the proposed hypotheses, information was pooled from different sources about the 104 firms (e.g., annual reports, SVS, the Santiago Stock Exchange, Economatica) for the 2004-2009 period.

Variables
Table I describes how dependent, independent, and control variables are measured. To ensure the reliability and validity of each of these variables, all of the measurements
were collected from previous studies, which were, however, incomplete insofar as some information about operating performance. Previous studies have used Tobin’s Q to measure the performance of firms affiliated to business groups (e.g. Khanna and Palepu, 1999, 2000; Silva et al., 2006). Nevertheless, Tobin’s Q makes the problematic assumption – given the illiquidity and untimely disclosure problems of the incomplete capital markets – that stock prices appropriately reflect the benefits and costs of belonging to a business group (Khanna and Palepu, 2000). Consequently, the EBITDA/total assets ratio (ROA) growth was used as measure of operating performance (González and Parias, 2009; Loughran and Ritter, 1997; Lukose and Rao, 2003). Descriptive statistics for the dependent, independent, and control variables are reported in Table II. Mean interlocking of directors and management concentration amounted to 52 and 55 percent, respectively, for the 2004-2009 period, which was very similar to the averages found by Silva et al. (2006) for Chile (56 and 49 percent, respectively).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Measurement</th>
<th>Relevant literature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interlocking of directors</td>
<td>Fraction of board members of a given firm who are also directors or CEOs in other firms of the business group</td>
<td>Santos et al. (2012), Silva et al. (2006)</td>
</tr>
<tr>
<td>Management concentration</td>
<td>All forms of direct and indirect ownership of that firm’s shares by the business group. Indirect ownership refers to shares of firm that belong to other firms managed by the business group.</td>
<td>Jiang and Peng (2011), Singh and Gaur (2009)</td>
</tr>
<tr>
<td>Size</td>
<td>Natural logarithm of firm sales (in millions of US dollars; The rate of exchange used is CH$468.37 for US$1 (observed on December 30, 2010)</td>
<td>Prencipe (2004)</td>
</tr>
</tbody>
</table>

### Table I.
Measurement of variables

| Finance industry              | Firms in the finance industry                                              | Street et al. (2000)                     |

<table>
<thead>
<tr>
<th>Variable</th>
<th>Measurement</th>
<th>Relevant literature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
<td>Measurement</td>
<td>Relevant literature</td>
</tr>
<tr>
<td>Interlocking of directors in t=0</td>
<td>0.52</td>
<td>0.13</td>
</tr>
<tr>
<td>Management concentration in t=0</td>
<td>0.55</td>
<td>0.23</td>
</tr>
<tr>
<td>Business group specialization in t=0</td>
<td>0.61</td>
<td>0.26</td>
</tr>
<tr>
<td>Operating performance from t=0 to t=5</td>
<td>0.42</td>
<td>0.49</td>
</tr>
<tr>
<td>ROA in t=0</td>
<td>0.06</td>
<td>0.14</td>
</tr>
<tr>
<td>Size in t=0</td>
<td>3.92</td>
<td>1.29</td>
</tr>
<tr>
<td>Finance industry in t=0</td>
<td>0.13</td>
<td>0.34</td>
</tr>
</tbody>
</table>

### Table II.
Sample firm descriptive statistics

...
In addition, during the 2004-2009 period, 46 percent of the companies that belonged to business groups were present in four or more industries.

Method
A multivariate least squares regression model was used to test the hypotheses. Multicollinearity among the independent and control variables was tested via variance inflation factor (VIF). The VIF values for each regression coefficient ranged from a low of 1.050 to a high of 1.808, suggesting that the VIF values were at acceptable levels (Hair et al., 2006). Since no particularly strong collinearity among the independent and control variables was found, all of them were included in the final model. There was heteroscedasticity according to the White (1980) test ($p < 0.05$). Therefore, the $t$-values and standard errors were based on White’s (1980) heteroskedasticity consistent variance matrix.

Results
Table III reports the cross-section regression results for the full sample using the EBITDA/total assets ratio (ROA) growth over five years (2004-2009) as the dependent variable. The model has a significant explanatory power. The adjusted-$R^2$ is approximately 35 percent. $H1$ about interlocking of directors is not statistically validated. In contrast, the results confirm the validity of $H2$ and $H3$ related to the management concentration and business group specialization (both significant at the 0.10 level), proving that they are significant determinants of firm-operating performance. Among the control variables, only size shows an insignificant coefficient. ROA and finance industry confirm to be related to the firm-operating performance, with coefficients that are significant at the 0.01 level.

Discussion of results
Summary
This study examined the effect of business group characteristics (interlocking of directors, management concentration, and business group specialization) on operating performance in a sample of publicly traded Chilean firms. Using a multiple regression model, it is documented that, except for interlocking of directors, the two other

<table>
<thead>
<tr>
<th>Coefficient</th>
<th>$t$-value</th>
<th>VIF value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.015</td>
<td>0.068</td>
</tr>
<tr>
<td>$H1$: Interlocking of directors</td>
<td>0.107</td>
<td>0.324</td>
</tr>
<tr>
<td>$H2$: Management concentration</td>
<td>0.482</td>
<td>2.791***</td>
</tr>
<tr>
<td>$H3$: Business group specialization</td>
<td>0.342</td>
<td>1.742*</td>
</tr>
<tr>
<td>ROA</td>
<td>-1.542</td>
<td>-5.313***</td>
</tr>
<tr>
<td>Size</td>
<td>-0.023</td>
<td>-0.608</td>
</tr>
<tr>
<td>Finance industry</td>
<td>0.443</td>
<td>3.556***</td>
</tr>
<tr>
<td>Adjusted-$R^2$</td>
<td>0.354</td>
<td></td>
</tr>
<tr>
<td>$F$-value</td>
<td>10.397***</td>
<td></td>
</tr>
</tbody>
</table>

Notes: $t$-values are based on White (1980)’s heteroskedasticity consistent variance matrix. *, **, ***Significant at 10, 5, and 1 percent, respectively

Table III. Multivariate least squares regression results
business group characteristics are significantly related to the operating performance of firms belonging to Chilean business groups.

The finding that interlocking of directors is not related to the operating performance is not consistent with prior research carried out in Brazil on firm value (Santos et al., 2012). A null net effect of interlocking of directors does not imply that no effects are produced on the firm. Therefore, research which establishes a link between interlocking of directors, the effect on firm (e.g. horizontal coordination, vertical coordination, expertise, enhanced reputation) and operating performance are highly essential in the light of the results of this research.

The finding that management concentration improves operating performance is consistent with prior research carried out in the USA (Mork et al., 1988), China, and India (Singh and Gaur, 2009). The finding that business group specialization improves operating performance is consistent with prior research carried out in the UK, Japan (Lins and Servaes, 1999), Hong Kong, India, Indonesia, Malaysia, Singapore, South Korea, and Thailand (Lins and Servaes, 2002). Both results are consistent with the idea that business groups, by modifying their characteristics, are able to improve or deteriorate the performance of their affiliated firms.

**Implications**

The study findings are important to managers who have to make decisions in a competitive environment. These findings suggest that, in Chile, business groups, by modifying their characteristics, can improve or deteriorate the performance of their affiliated firms. This study contributes toward the investigation of possible antecedents of a better or worse operating performance of firms belonging to business groups. The results shown in this paper suggest that management concentration and the degree of business group specialization produce effects on the operating performance of affiliated firms.

**Limitations**

A number of factors that are probably important determinants of firm-operating performance were not included in the study. This study clearly only examined a small subset of the relevant firm-operating performance drivers. Therefore, future research should focus on analyzing other business group characteristics. Additionally, possible differences between countries make it essential to develop studies that measure, compare, and analyze the different levels of business group characteristics and their impact on firm-operating performance in Latin America (Manzur et al., 2012). This paper attempts to encourage similar research in Latin America that confirms or refutes the results presented in this work.

**References**


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Dr Pablo Farias is a Full Professor of the Department of Administration at the University of Chile. He has authored over 30 articles in peer-reviewed journals including Journal of Business Research, International Marketing Review, and Academia. His research has won 9 Awards in France, Spain, Colombia, and Chile. Dr Pablo Farias can be contacted at: pfarias@unegocios.cl

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