

## INFORMAL INVESTORS IN CHILE: AN EXPLORATORY STUDY FROM A GENDER PERSPECTIVE

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*Received 27 January 2011; accepted 25 July 2011*

**Abstract.** Informal investment represents one of the main sources to finance early-stage new ventures. Despite the progressive participation of women in informal investment, little is known about the characteristics of female informal investors, especially in developing countries. This study examines the gender differences of a sample of 613 informal investors in Chile. To this end we used the database from the Global Entrepreneurship Monitor Chile 2007–2008 and applied tests of differences in proportions and means for independent samples. The results show that there are significant gender differences in some socio-demographic variables, like education and work status, and also in the perception of good opportunities and the fear to failure. Additionally, women invest smaller amounts and expect lower returns than men do. Finally, women invest more than men in close family. Policy implications of these results are discussed.

**Keywords:** informal investors, Chile, gender, financing, Global Entrepreneurship Monitor.

**Reference** to this paper should be made as follows: Romani, G.; Atienza, M.; Amorós, J. E. 2012. Informal investors in Chile: an exploratory study from a gender perspective, *Journal of Business Economics and Management* 13(1): 111–131.

**JEL Classification:** L26, G24, O16, O54.

### 1. Introduction

Funding is critical during the creation of new firms (Freear, Wetzel 1990; Sohl 1999; Harrison, Mason 2000). The main sources of funding in the early stages of entrepreneurial ventures are informal and formal investors. Informal investors are called the 4F's (Bygrave, Quill 2007) that means founders, family, friends and foolhardy strangers, also known as "business angels". The formal investors are represented by venture capitalists. While both sources of financing are key to innovative entrepreneurship, the institutional venture capital market invests primarily in later stages in the development of firms (Timmons, Bygrave 1997). One of the most remarkable discoveries of the Global Entrepreneurship Monitor, GEM research project is the size of informal investment.

Bygrave and Quill (2007) estimated that in 2006 there were 208 million active informal investors in the 42 countries and that they invested USD \$600 billions (1.5 percent of the combined GDP of these economies) in entrepreneurial ventures, with an average amount invested of approximately USD \$3.000. Although this amount may seem low, in less developed countries or regions it can contribute to the creation of more firms and also to help high growth potential business.

Studies on informal investors have been basically focused on the sub-segment, of business angels, and it is particularly relevant that few scholars have adopted a gender perspective in this field (Sohl, Hill 2007; Harrison, Mason 2007; Zimmerman, Scott 2006; O’Gorman, Terjesen 2006; Blake 2006; Green *et al.* 1999). The relative lack of research on female informal investments contrast with the fact that women are gaining increasing space within the labor market, as well as in the creation of business with strong growth potential (e.g. Brush *et al.* 2004), even though the percentage of women angel investors still remains very low (Mason, Harrison 1994; Becker-Blease, Sohl 2007; Harrison, Mason 2007). Nevertheless, progress of women investors’ phenomena is occurring not only in developed countries (Harrison, Mason 2007; Sohl 2009), but also in emerging economies. Furthermore the empirical evidence shows divergent results. Harrison and Mason (2007) suggest that gender is not a major issue in determining the supply of business angel financing and that the “informal venture capital market” is not differentiated from a gender perspective. O’Gorman and Terjesen (2006), based on a sample of informal investors in Ireland, did not find differences in the investments made by men and women investors. Sohl and Hill (2007), however, conclude that women angel investor groups are similar to their male dominated counterpart, but there are significant differences in some aspects such as the fact that women angel groups are attracting more women-owned firms than male angel groups. Becker-Blease and Sohl (2008) found that women angels have lower levels of confidence than men.

Is important to highlight that the core research on informal investment is based on the experiences of the European countries or the USA<sup>1</sup>. In contrast, there are few studies based on the Latin American experience, such as Pereiro (2001), O’Halloran, Rodriguez and Vergara (Eds.) (2005), Amorós, Romani and Atienza (2008), Romani, Atienza and Amorós (2009). In this respect, in Latin America and specifically in Chile, research that incorporate all the segments of informal investment from a gender perspective practically does not exist.

This article aims to fill this gap. Consequently, the main objective of this work is to explore gender differences between informal investors with respect to social factors (education, employment status, amount of investment among others), to perceptions related to entrepreneurship (good opportunities, skills, fear of failure and social capital), to the relationship between the informal investors and the entrepreneur (family, relatives,

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<sup>1</sup> For Europe see Mason and Harrison (1993, 1996, 1999, 2000, and 2002); Mason (2006); Szerb, Rappai, Makra and Terjesen (2007b); Szerb, Terjesen and Rappai (2007a). USA based research are for example Wetzel (1981, 1983, and 1987); Sohl (1999); Wetzel and Freear (1994); Van Osnabrugge and Robinson (2000); Bygrave and Hunt (2005); Bygrave and Quill (2007).

friends or neighbors, stranger, other) and to the expected returns. To do this, we consider the contribution of the role investment theory as well as altruism and agency theory. The research question that we aim to analyze in this article is: *Are there gender differences between men and women informal investors in Chile?* To answer this question we use a sample of 613 informal investors in Chile from the Global Entrepreneurship Monitor Chile 2007–2008 dataset and applied the statistical tests chi square and t-test to explore whether there are significant gender differences.

According to our results, women informal investors face several constraints regarding their level of education and work status together with lower expectations than men about business opportunities and returns. Furthermore, women investors have less social capital than men and mainly support close family. To deepen the understanding of gender differences in informal investment has relevant practical implications regarding the design of gender focused policies oriented towards the increase in the quantity and quality of female investment, as a mean to develop an entrepreneurial culture and to foster high growth potential business.

The rest of the article consists of three parts: the first reviews the literature on informal investment and the main works focused on gender; the second part describes the methodology; followed by the presentation of the main results, and finally, the main conclusions and implications are offered.

## **2. Literature review**

### **2.1. Informal investment across countries**

According to Bygrave and Hunt (2007), studies on informal investments began around the eighties with the works of Wetzel (1981). Wetzel's studies were subsequently replicated in California by Tynes and Krasner (1983) and, toward the end of the 1980s, Mason and Harrison began to study the theme in the United Kingdom. These pioneering works show that in the United States, as in Great Britain, the angel investor market was the main source of risk financing for enterprises in the initial stages, surpassing the institutional risk capital industry (Van Osnabrugge 2000). Concurring to these works, angel investment was between twice to five times as much as risk capital investment, and the former financed between thirty to forty times as many enterprises as the latter (Wetzel 1987; Wetzel, Freear 1994; Freear *et al.* 1997; Mason, Harrison 1993, 1996). Informal investment not only includes angel investors. Generally, the first stages of a venture are financed by the 4F's that is to say, family, friends, financing from the founders themselves and from strangers, known also as angel investors (Bygrave, Hunt 2007). In this paper, we consider an informal investor to be anyone who invests even a dollar in the business of another or others (Reynolds *et al.* 2005), without making a distinction between family, friends and angel investors.

GEM methodology<sup>2</sup> allows for calculating the percentage of adults aged 18 to 64 who were active informal investors. In 2008, the prevalence rate of informal investors ranges

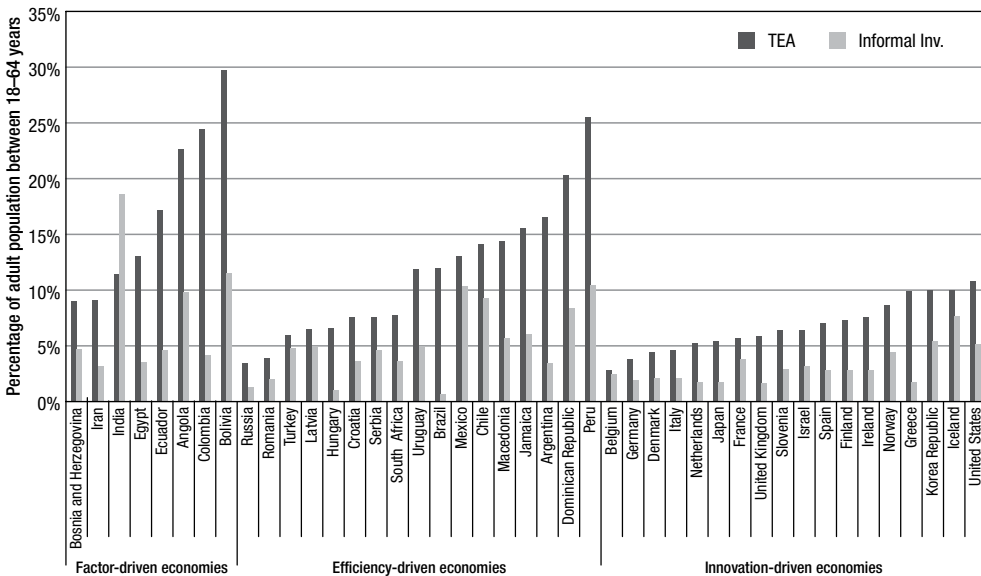
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<sup>2</sup> See Reynolds *et al.* (2005) and Bosma *et al.* (2009) for a detailed overview of the GEM methodology and approach.

from slightly more than 0.68 in Brazil to almost 18.63 percent in India (Fig. 1). As might be expected, most countries with high rates of entrepreneurial activity (TEA) also have high informal investor prevalence rates (for example India, Bolivia, and Peru) and vice versa (for example Hungary, Russia, and Japan). There are, however, notable exceptions, such as Brazil, which has a comparatively high rate of entrepreneurial activity but the lowest informal investor prevalence rates. In the context of Latin America, Bolivia is one of the countries with the highest rate of informal investors (11.6 percent), followed by Peru, Mexico and Chile with 10.5 percent, 10.4 percent and 9.3 percent, respectively (GEM 2008).

Since Wetzel's pioneering studies, many academics have analyzed diverse aspects of informal investments, such as characteristics and determinants (Mason, Harrison 2000; Szerb *et al.* 2007a, 2007b; Maula, Autio, Arenius 2005; Moen, Sorheim, Erikson 2008; Wong, Ho 2007), the role of fiscal incentives (Carpentier, Suret 2007; Riding 2008), the barriers to investment (Mason, Harrison 2002), public policies (Mason, Harrison 1999), and the returns of investment (Bygrave, Hunt 2007; Mason, Harrison 2002). The studies concentrate on specific segments of angel investors and most of those that have employed a gender focus have looked from the perspective of the demand for informal investment (Becker-Blease, Sohl 2007; Arenius, Autio 2006; Verhuel, Thurik 2001; Marlow, Patton 2005, 2007). However, there are few studies that have considered gender differences from the perspective of the supply of financing (Becker-Blake, Sohl 2007, 2008; Sohl, Hill 2007; Harrison, Mason 2007; O'Gorman, Terjesen 2006).

Studies on informal investors in Latin America are scarce. Among the few existing works are notably the book edited by O'Halloran, Rodriguez and Vergara (2005), which



**Fig. 1.** TEA and rate of active informal investors  
 Source: GEM data 2008

brings together the contributions of 48 individuals (practitioners, academics, researchers and policy makers) about the situation of financing the first stages of enterprises in their respective countries. Amorós, Romaní and Atienza (2008) and Romaní, Atienza and Amorós (2009) described formal and informal risk capital activity and venture financing in Chile from the supply perspective. Pereiro (2001) analyzes venture financing and risk capital in Argentina and Ribeiro (2007) examines risk capital and private equity in Brazil. Apart from these studies, we know no other publications on informal investors with a gender perspective in Latin America. Considering that the informal risk capital market in Chile is in the process of developing, we consider it interesting to address the theme of informal investment with a supply perspective and a gender focus.

## **2.2. Informal investment in Chile**

Based on the information obtained by GEM Chile, Romaní, Atienza and Amorós (2009) estimate that informal investment in Chile is equivalent to 1.56 percent of Chilean GDP in 2006, which represents more than 15 times the budget that INNOVA program of CORFO<sup>3</sup> has dedicated to finance innovative enterprises since 2005. Some 7.6 percent of the adult Chilean population (720.690 persons according to the 2002 Census) invested money in a business initiated by another person and contributed on average USD 5.537, while half of them invested less than USD 2.000 (Table 1).

**Table 1.** Money provided by informal investors (in USD)

Mean	5.537
Mode	1.957
Standard Deviation	15.184
Minimum	20
Maximum	195.687
Quartile 1	587
Quartile 2 (Median)	1.957
Quartile 3	3.914

*Source:* Authors based on GEM data 2008

According to the GEM Chile information, informal investors are on average 37.9 years old, 57.7 percent is male, 33 percent has higher education, 45.4 percent work fulltime, and 8.6 percent belongs to the medium-high socio-economic segments (equal to or greater than USD 3.520 monthly family income). Above all, they invest in close family (50 percent) and friends (31 percent) but only a minimum percentage invests in strangers (one percent), because of which we can say that the number of active angel investors in Chile is very low. Also, the expected return of these investors is very low. Only 20 percent expect to recover the amount invested, while more than a third (34 percent)

<sup>3</sup> CORFO, through INNOVA Chile, is the main public agency that encourages innovation in all types of enterprises, both existing businesses and new ones (enterprises).

does not expect anything from their investment. This brief description of the profile of Chilean informal investors shows that the majority of them falls under what is termed “love money”, that is, they give their resources to support close family and relatives, and their expected return is very low.

On the other hand, it is important to note that since the 1990s there has been a major concern on the part of the Chilean government to encourage the development of formal venture capital (Romani *et al.* 2009). In this context, the government created Law 18.815 to promote the formal venture capital activity in the country, while informal activity in Chile, above all the segment of angel investors, is very incipient and precarious. From 2003, when the first angel investor network was created in Chile, up to 2006, a few networks of angel investors have been formed by private initiatives in which universities have played a predominant role (Amorós *et al.* 2008). Since 2006, when the government decided to also promote the financing for the first stages of enterprises, as consequence of the experience obtained with the formal venture capital, financing for innovative enterprises in Chile is promoted fundamentally by the State and currently six networks have been formed. According to the interviews carried out by the authors, Chile is a country with only recent and precarious informal venture capital activity but has almost 200 active angel investors formally registered as members of one of the six angel investor networks, and at least six of these members are women (Table 2). This number, while it is very low (3.3 percent), remains interesting as a symptom of the advance of gender into this area.

**Table 2.** Summary of the main characteristics of Angel investor networks in Chile (2009)

Business Angels Networks	Location	Investment Average (000 USD)	Number of Members	Number of Women Investors	Women/Members
Southern Angels	Santiago de Chile	50 to 200	70	1	0.01
Angels UC	Santiago de Chile	100	30	2	0.07
Incured	Santiago de Chile	200 a 500	25	0	0.00
Angeles de Chile	Santiago de Chile	20 to 500	30	1	0.03
Chile Global Angels	Santiago de Chile	500 to 2.000	13	2	0.15
Angeles del Sur	Bío- Bío Region	25 to 200	13	0	0.00

Source: Authors

### 2.3. Theoretical grounding and hypothesis development

As this paper adopts a gender perspective in the analysis of informal investment, we will use some concepts developed by feminist economic thought, specifically by the role investment theory, in order to base our hypothesis. Self-interest, altruism and agency theory are also important in supporting the theoretical reasoning behind empirical observations.

*Role Investment Theory.* According to D. D. Bielby and W. T. Bielby (1988), England (1984) and Lobel (1991), role investment theory is based on the idea that family decision-making has traditionally implied some “trade off” in the roles played by each member of the marital couple. This leads to differences in role specification and specialization. Orser, Riding and Manley (2006) point out that in the context of small businesses, this implies differences in the investment in commercial activities (and, consequently, in managerial experience and styles), in social networks (as a consequence of business relationships) and in the time dedicated to developing businesses. In relation to financing, the same authors point out that gender roles are manifested through different levels of tolerance to risk. Traditionally, men specialize in financial roles, because of which it would be expected that there are proportionally more male informal investors than female.

With respect to levels of risk, Beyer and Bowden (1997) show empirically that men present lower levels of risk aversion and a greater tendency for over-confidence than women, but only in tasks that are considered of a masculine nature. Women have been more specialized in social and domestic roles, which are evident in education and in the careers that women and men follow, and, consequently, the social networks that they develop. Barsky, Juster, Kimbal and Shapiro (1997) also found that men have a greater tolerance to risk than women.

With regard to confidence, some studies, such as that of Barber and Odean (2001) and Becker-Blease and Sohl (2008), found that men and women investors, based on their trading behavior, are both overconfident. Nevertheless, on average, women investors are less so than men. One of the implications of this result is that women investors invest less than men do, which was evidenced by the same authors and suggested by Harrison and Mason (2007). This result is related, among other factors, to the earning gap between men and women, as shown by Grybaitė (2006) in an empirical study for Lithuania and other countries of the European Union.

With regards to the social networks, there is some empirical evidence about women entrepreneurs. Aldrich (1989) and Brush (1992, 1997) suggest that women entrepreneurs have more restricted networks than men and that those networks are usually composed of women. Harrison and Mason (2007), in a study about male and female angel investors in the United Kingdom, also conclude that women angel investors differ from their male counterparts in very limited aspects, one of them being that men have wider social networks than women do. This also supports the view that a greater proportion of women informal investors than men invest in their close family rather than in friends or strangers. This hypothesis was suggested and empirically verified by O’Gorman and Terjesen (2006), using a sample of informal investors in Ireland.

In the context of informal investment, this theory would imply the existence of gender differences in socio-economic aspects such as education levels and employment status among others; in the perceptions related to entrepreneurship such as good opportunities, developed skills and fear of failure; and in the relationship between the informal investor and the entrepreneur. Therefore, the set of hypothesis raised is:

- H1:** There are gender differences among informal investors with regard to socio-economic factors:
- H1a:** There are significant differences in the proportion of women to men as informal investors.
  - H1b:** There are significant differences in the education levels of women and men informal investors.
  - H1c:** There are significant differences in the employment situation of women and men informal investors.
  - H1d:** Since education level and employment situation are positively related to income (Blundell *et al.* 2005; Card 1999; García, Granados 2005; Hirsch 2005), it is also expected that women informal investors invest significantly smaller amounts than men do.
- H2:** There are gender differences in the perceptions related to entrepreneurship of the investors:
- H2a:** The perception about the good business opportunities among women investors is proportionally lower than among men.
  - H2b:** The perception of the women informal investors about their skills and knowledge to undertake a new business is lower proportionally to men.
  - H2c:** A greater proportion of women investors fear failure more than men do.
  - H2d:** Women investors know less entrepreneurs than men do.
- H3:** There are gender differences in terms of the relationship between the informal investors and the entrepreneur:
- H3a:** The proportion of women investors that invest in close family is greater than the proportion of men investors.
  - H3b:** Woman informal investors invest less in friends than men do.
  - H3c:** Woman informal investors invest less in strangers than men do.

*Self Interest, Altruism and Agency Theory.* According to Jensen (1994), selfishness (self interest), which is understood as the concern for self and not for the others, does not exclude altruistic behavior. The latter is present when one wishes to sacrifice time, energy and resources for the benefit of others. The term altruism applied to the informal investors implies a sacrifice of resources made by an investor in order to benefit an entrepreneur. On the other hand, agency theory argues that because people are selfish, they will experience conflict of interest in at least some aspects when they commit themselves to cooperating. This cooperation includes not only the business through a partnership, but also interaction in families and other social organizations (Jensen, Meckling 1976). Using these concepts, Bygrave and Hunt (2007) developed the conceptual framework to explain expected returns for informal investors in 35 countries that participated in the GEM in 2004 and 2005. Their main conclusion is that altruism affects the expected return of the informal investors. According to these authors, expected return increases when the distance of the relationship between the investor and the entrepreneur increases and that men expect greater returns than women.



Bygrave and Hunt (2007) refer to Bubna (2006) to explain that relationship distance affects several aspects of contractual agreements. Some characteristics, such as kinship, personal appearance, background, lifestyle and similarity of views, among others, affect people when deciding to invest in an entrepreneurial project. Consequently, this decision is not determined solely by rational self-interest, altruism may also moderate the expected financial return. Thus, the expected return of the investors could be higher if the “relationship distance” between investor and entrepreneur increases. Keeping hypothesis 3 in mind, the following final hypothesis arises:

**H4:** There are gender differences in the expected return of the investment

**H4a:** Women informal investors expect less return than men do.

### **3. Methodology and data**

We test the previous hypothesis using the statistical tests chi square and t-test in order to analyze gender differences in proportions and means. These differences will be considered significant if  $p < 0.05$ . The chi square test is used to analyze whether there are significant differences between women and men in the distribution of the analyzed variables, while the t-test is used to explore in which categories of these variables the gender differences are significant.

#### **3.1. Sample**

The analysis is based on a representative sample of the Chilean adult population between 18 and 64 years old, using data from the GEM Chile from the years 2007 and 2008. The GEM measures rates of entrepreneurial activity and of informal investors based on telephone surveys to adult population. The GEM survey gathers a large quantity of information related to individual and the stage of the entrepreneurial process, as well as about persons who have invested from up to a dollar in a business of an entrepreneur. This information incorporates demographic data, as well as perceptions and attitudes about entrepreneurial activity. In 2007 and 2008, 8.523 persons were surveyed, of whom 7.730 were between 18 and 64 years of age; 3.481 were men (45 percent) and 4.249 were women (55 percent).

#### **3.2. Variables**

The survey allowed for identifying persons who recently made investments in the businesses of others. To be considered as an informal investor, the individual had to respond positively to the question: “In the past three years, have you personally provided funds for a new business started by someone else, excluding any purchase of stocks or mutual funds?”

A series of variables were considered to measure some characteristics of the investors: education level (categorical variable based on the education level of the respondent, which could be: no education, some secondary education, secondary degree, post-secondary education and post-secondary degree); and the employment situation (categorical variable according to current employment: full time, part time, retired or disabled, homemaker, student and other). The amount invested by informal investors was ob-

tained from the following question: “How much, in total, have you provided in the last three years?” Investments over USD 20.000 were excluded following the recommendation of Bygrave *et al.* (2003) in order to eliminate outliers.

The following dichotomous variables (yes/no) were used to evaluate perceptions related to entrepreneurship:

- “In the next six months, will there be good opportunities for starting a business in the area where you live?”
- “Do you have the knowledge, skill and experience required to start a new business?”
- “Would fear of failure prevent you from starting a new business?”
- Additionally, related to the networks that are the origin of the relationships between investors and entrepreneurs, we use a question to contrast with the entire sample not only the investors:
  - “Do you know someone personally who started a business in the past two years?”

The relationship between the informal investor and the entrepreneur was obtained from the question: “What was your relationship with the person that received your most recent personal investment?” that include the following categories: close family member, some other relative, work colleague, friend or neighbor, or a stranger with a good business idea? Finally, information was gathered about investor’s expected return using the question: “In the next 10 years, what payback do you expect to get on the money you put into the start-up?” The answer is a categorical variable: none, half, about as much, one and half, twice, five times, ten times, twenty times.

#### 4. Results

From the sample of 7.730 Chilean adults, 613 informal investors were identified, representing 7.9 percent of the total. Of the total sample, 42.4 percent is female. As expected, the rate of male informal investors (10 percent) is higher than the female rate (6 percent). According to the t-test, there are significant differences in the proportion of men and women investors in relation to the population ( $p < 0.001$ ), which confirms hypothesis 1a. There are no studies from other Latin American countries that allow for determining whether the rate of women informal investors is high or low. It should be mentioned, however, that the rate exceeds that of Ireland, 0.7 percent (O’Gorman, Terjesen 2006).

The chi square test shows that there are significant differences in the expected distribution of the education level and the work status of men and women informal investors (Appendix Table A1). Regarding the education level, significant differences ( $p < 0.001$ ) are found using the t-test in the category of university graduates (Table 3). Some 42 percent of men informal investors have completed to university education compared to 26.9 percent of women investors, consequently hypothesis 1b is accepted. Likewise, the t-test shows significant gender differences in the employment status of female and male informal investors, in the categories of full time work ( $p < 0.001$ ) and in home-making ( $p < 0.001$ ). Some 54.4 percent of men informal investors have full time work, compared to 33.7 percent of women investors; and some 26 percent of women informal

investors work as homemakers, compared to 0.9 percent of men investors. Accordingly, hypothesis 1c is not rejected.

Unlike other studies (O’Gorman, Terjesen 2006; Harrison, Mason 2007), the t-test show the existence of significant gender differences in the average amounts contributed by the investors ( $p < 0.01$ ), which leads to accept hypothesis 1d. In Chile women informal investors contribute on average USD 2.515, while men contribute USD 3.527 (Table 4).

**Table 3.** Gender differences in social factors

	Women investors	Men investors	t-test Significance
<i>Highest education completed</i>	(number = 260)	(number = 352)	
None	5.8%	2.0%	
Some secondary	10.0%	4.0%	
Secondary degree	28.1%	27.3%	
Post secondary	27.7%	22.4%	
University graduate	26.9%	42.3%	***
Post-graduate	1.5%	2.0%	
<i>Work status</i>	(number = 258)	(number = 351)	
Full time work	33.7%	54.4%	***
Part time work	19.4%	16.8%	
Unemployed	6.2%	6.3%	
Retired or disabled	2.7%	2.6%	
Student	3.5%	8.8%	
Homemaker	26.0%	0.9%	***
Self-Employed	7.0%	9.4%	
Other	1.6%	0.9%	

**Notes:** \*\*\* $p < 0.001$ ; \*\* $p < 0.01$ ; \* $p < 0.05$ . *Source:* Authors

**Table 4.** Gender differences in the size of the investment

	Women investors	Men investors	t-test Significance
<i>Total Investments</i>	(number = 190)	(number = 278)	
Range: Up to USD 20.000			
Mean	USD 2.515	USD 3.527	**
Mode	1.957	1.957	
Standard deviation	2.947	4.532	
Minimum	20	39	
Maximum	19.569	19.569	
Quartile 1	489	587	
Quartile 2 (median)	1.419	1.957	
Quartile 3	3.914	3.914	

**Notes:** \*\*\* $p < 0.001$ ; \*\* $p < 0.01$ ; \* $p < 0.05$ . *Source:* Authors

Table 5 summarizes gender differences in the perceptions related to entrepreneurship of the informal investors and the level of significance of the t-test. In this respect, 55.8 percent of men informal investors perceive good business opportunities compared to 46.6 percent of women, a significant difference ( $p < 0.05$ ), which confirms hypothesis 2a. There are also gender significant differences ( $p < 0.05$ ) in the fear of failure. Some 26.9 percent of men informal investors recognize that the fear of failure can impede them from initiating a new business, compared to 37.4 percent of women. Accordingly, we can not reject hypothesis 2c. We also find significant differences in the percentage of female and male investors that know an entrepreneur ( $p < 0.05$ ). Some 82% of male investors know an entrepreneur, while 71% of female do. In contrast, we reject hypothesis 2b since no significant differences were found in the proportion of men and women who affirm having the knowledge, skills and experience to initiate a new business. Comparing the same variable for the entire adult population (Table 6), the significant differences between men and women persist in relation to the perception of good business opportunities ( $p < 0.001$ ), fear of failure ( $p < 0.001$ ) and include having the knowledge, skills and experience to initiate a business ( $p < 0.001$ ). In other words, the group of women informal investors has a more positive perception of their knowledge, abilities and experience than women as a whole.

**Table 5.** Gender differences in the perceptions related to entrepreneurship of informal investors

	Women investors	Men investors	t-test Significance
<i>Perceptions related to Entrepreneurship (% yes)</i>			
Good opportunities	46.6% (number = 232)	55.8% (number = 326)	*
Perceived skills	77.2% (number = 254)	83.1% (number = 349)	
Fear of failure	37.4% (number = 257)	26.9% (number = 350)	**
Know an entrepreneur	71% (number = 259)	81.9% (number = 351)	**

**Notes:** \*\*\* $p < 0.001$ ; \*\* $p < 0.01$ ; \* $p < 0.05$ . *Source:* Authors

**Table 6.** Gender differences in the perceptions related to entrepreneurship of Chilean adult population

	Women	Men	t-test Significance
<i>Perceptions related to Entrepreneurship (% yes)</i>			
Good opportunities	36.4% (number = 2.615)	46.1% (number = 2.564)	***
Perceived skills	60.1% (number = 2.983)	73.5% (number = 2.753)	***
Fear of failure	40.3% (number = 3.003)	27.1% (number = 2.772)	***
Know an entrepreneur	43.1% (number = 3.035)	57.1% (number = 2.802)	***

**Notes:** \*\*\* $p < 0.001$ ; \*\* $p < 0.01$ ; \* $p < 0.05$ . *Source:* Authors

With regard to the relationship between the investor and the entrepreneur, the chi-square test shows that there are significant differences in the distribution of men and women investors (see Appendix). In both distributions the highest percentage of investors is concentrated in close family and friends, with 59.2 percent and 22.8 percent respectively in the case of women, and 43.6 percent and 39.4 percent respectively, in the case of men (Table 7). However, the t-test shows that gender differences emerge precisely in such categories ( $p < 0.001$  in both cases). The proportion of women investors investing in close family significantly exceeds the proportion of men, while the proportion of men who invest in friends and neighbors significantly exceeds the proportion of women. Consequently, hypothesis 3a and 3b can not be rejected. A different result is observed in relation to strangers, where only 1.6 percent of women and 0.45 of men invest and no significant difference is found. Accordingly, hypothesis 3c is rejected. This result can be related to the Chilean culture. There is empirical evidence regarding the Chilean high degree of inter-personal distrust (Latinobarómetro 2009), which can influence the relationship between investor and entrepreneur.

**Table 7.** Gender differences in the relationships of informal Chilean investors to entrepreneurs

	Women investors	Men investors	t-test Significance
<i>Investee relationship</i>	(number = 184)	(number = 273)	
Close family	59.2%	43.6%	***
Other relatives	10.9%	10.3%	
Work colleagues	4.9%	5.1%	
Friend, neighbor	22.8%	39.9%	***
Stranger	1.6%	0.4%	
Other	0.5%	0.7%	

**Notes:** \*\*\* $p < 0.001$ ; \*\* $p < 0.01$ ; \* $p < 0.05$ . *Source:* Authors

The chi square test shows that there are significant differences in the expected return distribution of men and women informal investors (see Appendix). According to the t-test for independent samples this difference is significant ( $p < 0.01$ ) in the category of low returns where the expected return is nothing, half or equal to what is invested. More than 50 percent of male informal investors expect low returns, while 67 percent women informal investors have these expectations. Applying the same test, no significant differences were found between men and women investors in the categories of expected returns of twice or more what was invested (Table 8).

In relation to the expected return and the relationship distance between the investor and the entrepreneur, we did not find gender differences given that there are very few cases of investment in strangers. For information, Table 9 shows the expected return of the investors according to the relationship they have with the entrepreneur. The table shows that the expected return of Chilean investors, independent of gender, is very low when there is a family or friendship relationship, in these cases the investors expect to recover the investment made, and this increases slightly in the case of co-workers and strangers.

**Table 8.** Gender differences of Chilean informal investors on expected returns

	Women investors (number = 179)	Men investors (number = 263)	t-test Significance
<i>Expected return</i>			
None, half, about as much	67.0%	53.2%	**
One and half	1.7%	4.9%	
Twice	9.5%	14.4%	
Five times	9.5%	9.5%	
Ten times	5.6%	10.6%	
Twenty times	6.7%	7.2%	

**Notes:** \*\*\*p < 0.001; \*\*p < 0.01; \*p < 0.05. *Source:* Authors

**Table 9.** Expected returns of Chilean informal investors and their relationships to entrepreneurs

Relationship to entrepreneur	Expected return (median)
Close Family (number = 222)	1x
Other relatives (number = 44)	1x
Work colleague (number = 22)	1.5x
Friend, neighbor (number = 143)	1x
Stranger (number = 4)	1.5x

*Source:* Authors

## 5. Conclusions and implications

This study has explored the informal investment from a gender perspective using a sample of adult population in Chile, which contributes to the emergent work on the supply of informal financing conducted by other researchers (Harrison, Mason 2007; O’Gorman, Terjesen 2006; Becker-Blease, Sohl 2007, 2008; Sohl, Hill 2007; among others). There are several contributions to existing knowledge. Firstly, it provides a description of men and women informal investors in Chile. In this sense, the study is pioneering in incorporating the gender perspective. Secondly, we have found some significant differences in the proportion of men and women investors, in the educational level of the investors (proportionally there are more men investors than women with a university level education), and in the working situation (proportionally there are more men investors than women who are working full time and more women investors than men who are homemakers). These differences are related to cultural characteristics regarding female participation in the Chilean labor market, that despite its increase through the past decade, it is still very low in the case of Chile (Contreras, Plaza 2007). As in Harrison and Mason (2007) and O’Gorman and Terjesen (2006), in Chile significant differences have been identified in terms of networks of men and women. Proportionally, women have less social capital than men and know fewer entrepreneurs

than men do. These results can be complementary to the findings by Coleman and Robb (2009) who state that women face also supply and demand financial constraints that represent forms of “discrimination that exclude women from networks that could provide them access to capital” (p. 409). Likewise, men perceive more good business opportunities than women, while fear to failure is significantly higher among women. In contrast, no significant differences were found in perceptions about the knowledge, abilities and experience that the investors have to initiate a new business. Unfortunately, a limitation of this study is that we were not able to explore whether or not these investors had previous business experience.

Other interest result is that, in contrast to the study of O’Gorman and Terjesen (2006), where no differences were found between men and women investors in relation to the amount of investment, in Chile, there are significant differences in the amount invested by men and women investors. Women invest a lower amount than men do. The level of income of the two groups has not been analyzed. Taking into consideration the differences in the working status of the two groups of investors and the Chilean culture, it could be expected that women would invest lower amounts than men do.

Both men and women investors in Chile are oriented to financing their family members, relatives, friends and co-workers. Investment in strangers is almost non-existent. In this sense, significant differences were found between men and women investors in the investments made in close family and friends. The lack of investment in strangers could be related to Chilean culture, which is characterized by distrust, and to a certain degree can contribute to explaining the difficulty in creating angel investor networks, above all in the regions. Finally, the results confirm that, independently of the gender, expected returns of informal investors are very low. Men, however, have significantly higher return expectations than women. This could be related to the fact that men, on average, invest more money than women do and also to the higher level of investment of women in close family ventures, where altruistic behavior is more common.

According to the results of the study, it is possible to state that gender differences are affecting negatively the size of informal investment in Chile and, consequently, reducing the formation of new business in the country. Despite these results are still preliminary, they have some relevant policy implications. It seems necessary to increase the range of public programs that include a gender approach, particularly related to the investment process and the identification of good business opportunities by means of training workshops for women in order to improve the investment decision making and the “investment readiness” of their projects. Furthermore, programs oriented to conciliate family and business lives could be useful not only to foster new business creation but also to allow more women to help other women (and men) with some financial resources.

Another relevant fact is that in Chile the traditional financial system and equity funding mechanisms for new ventures are extremely centralized, and available funds do not tend to flow to profitable peripheral ventures (Amorós *et al.* 2011; Romani *et al.* 2009). Accordingly, the promotion of women informal investment may be a relevant instrument to foster entrepreneurship in regions that do not have complete access to formal

mechanisms. In this respect, it is interesting to promote the creation of women angel investor networks. Currently, there is a CORFO's program oriented towards the creation of angel investor networks that could include a gender perspective.

Taking into account that more than 50 percent of informal investors, both men and women, have low return expectations of their investments (nil, half or just the amount invested), another public policy that could increase the number of informal investors and the size of the amount invested by them could be based on the creation of fiscal deductions on the taxes paid by people investing in other people new ventures. Currently, according to the Chilean endowment law, firms that donate funds to educational organizations are allowed to deduct up to 50 percent of the amount donated. A similar measure could be established for informal investors that do not expect any return. Smaller fiscal deductions could be also allowed for investors with higher return expectations in order to avoid the perverse effect of people investing in business without growth potential (Riding 2008). These fiscal measures could also have a gender perspective.

Policies oriented towards the reduction of gender differences in informal investment may have a positive impact in entrepreneurial activity and contribute, by this means, to national growth. Furthermore, it is plausible to expect that, as gender differences diminish, women informal investment will be oriented towards business with higher returns and growth potential. In this respect, it is worth mentioning the work by Harrison and Mason (2007) where it is found that, in UK, gender differences are very limited in the case of angel investors.

Finally, this study is a first approximation to know about informal investors in Chile from a gender perspective and many outstanding aspects remain to be explored and deepened in the future, such as knowing the sex of the persons in whom investments were made, the sectors in which investments were made, and also, at the same time, studying the demand side of financing to see whether there are gender differences between men and women entrepreneurs.

## Acknowledgements

The authors would like to thank three anonymous reviewers for their helpful comments. This publication would not have been possible without the efforts made by GEM Chile team at Universidad del Desarrollo and the persons and institutions across the world that have helped GEM project. The authors also acknowledge the support of Vicerrectoría de Investigación y Desarrollo Tecnológico of the Universidad Católica del Norte and the Iniciativa Científica Milenio "Ciencia Regional y Políticas Públicas".

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## APPENDIX

**Table A1.** Chi square test results

GENDER		Education	Work status	Relationship with entrepreneur	Expected returns
MALE	Chi-square	0.0	0.0	0.0	0.0
	Degrees of freedom	5	7	5	5
	Significance	1	1	1	1
FEMALE	Chi-square	60.0	1835.8	30.5	17.6
	Degrees of freedom	5	7	5	5
	Significance	0.000***	0.000***	0.000***	0.004**

**Notes:** \*\*\*p < 0.001; \*\*p < 0.01. *Source:* Authors

## **NEFORMALIŲ INVESTUOTOJŲ (PAGAL LYTĮ) TYRIMAS ČILĖJE**

**G. Romání, M. Atienza, J. E. Amorós**

### **Santrauka**

Neformalios investicijos – vienas pagrindinių šaltinių, iš kurių finansuojamos naujai besikuriančios arba tik pradėjusios savo veiklą įmonės. Nepaisant to, kad neformalioje investicijų veikloje palaipsniui daugėja moterų, gana mažai žinoma apie jas kaip neformalias investuotojas, ypač besivystančiose šalyse. Autoriai atliko tyrimą Čilėje, kuriame dalyvavo 613 skirtingų lyčių investuotojų, kurie buvo paimti iš duomenų bazės „Global Entrepreneurship Monitor Chile 2007–2008 m“. Autorių atliktų tyrimų rezultatai rodo, kad vis dėlto kai kuriuose socialiniuose demografiniuose kintamuosiuose esama reikšmingų lyčių skirtumų, pavyzdžiui, išsilavinimas ir užimamos pareigos, perspektyvų darbovietėje suvokimas, karjera ir nesėkmės baimė. Atlikę tyrimą autoriai nustatė, kad moterys labiau linkusios investuoti mažesnes sumas nei vyrai.

**Reikšminiai žodžiai:** neformalūs investitoriai, Čilė, lytis, finansavimas, veikla.

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