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A logit analysis of norm compliance by micro-enterprises in Chile

Sang Hyup Lee
Southeastern Louisiana University

Luis Gutiérrez
Universidad del Rosario

Abstract

Using a survey data from more than 6,000 micro-enterprises in Chile, this study attempts to identify potential determinants of formality and micro-entrepreneurs' motivations for the norm compliance. Our logit estimation results suggest that the motivations of micro-entrepreneurs for norm compliance is attributable not only to their individual and entrepreneurial characteristics such as education and managerial capital but also to other imputable business and financial characteristics of micro-enterprises like asset ownership and firm size. Our empirical findings also confirm that the sample Chilean micro-entrepreneurs' motivations to get formal appear to be largely in line with the exit-driven view.

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Contact: Sang Hyup Lee - slee@selu.edu, Luis Gutiérrez - luis.gutierrez@urosario.edu.co.
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1. Introduction

A commonly perceived view of the informal economy, especially micro-enterprises, is that they are relatively small and less productive in contrast with ones in the formal sector and that they are making up a relatively large portion of less-developed or developing economies. One salient observation about the informal economy is that informality occurring outside of formal institutional boundaries is illegal *per se* but has remained acceptable to a large part of a society (Webb et al., 2009). While informal businesses are just about everywhere and account for a nontrivial share in economic activity, they are often omitted from official records or business statistics (World Bank, 2024). Therefore, a multidimensional understanding of the informal sector of an economy - its size, business characteristics, and the patterns of and motives for non-compliance with formal business norms - is of central importance to a policy initiative that aims to help informal micro-enterprises to transition from the informal to the formal economy.

There have been steady efforts in the literature to explain different patterns of non-compliance with the formality requirements among micro-enterprises in a region or country (Bruhn and McKenzie, 2014; de Mel eta al., 2008; de Soto, 1989; La Porta and Shleifer, 2014; Maloney, 2004; Perry et al., 2007; Williams, 2009; Williams et al., 2016). Micro-enterprises often comply with some required norms but not others such as registration with a tax authority and the acquisition of municipal permits. For instance, Williams et al. (2016) attempted to explain why micro-enterprises exhibit different patterns of non-compliance with the formal business rules or regulations. From a sample of small businesses in the city of Lahore in Pakistan, they found that the extent of informality is more attributed to the characteristics such as an entrepreneur's gender, age, and education than institutional and governance environments. Various institutional efforts have also been made to lure informal small businesses into the formal sector of the economy. The governments of developing countries as well as multilateral organizations like the World Bank and the Inter-American Development Bank have developed several policy initiatives to draw micro-enterprises into the formal sector. Those initiatives included lowering taxes and offering public educational programs as well as disincentives to work in the shadow economy such as the reinforcement of laws against tax evasions.

A noticeable aspect of the literature on informal economy or micro-enterprises is that most empirical studies of informality have focused on a small village or regional sample of a low-income country where less-productive agriculture is often a predominant share of the country's labor force and employment; hence, their empirical findings may not necessarily be applicable to the country as a whole. Furthermore, few studies have so far sought to explain what drives micro-enterprises to remain informal in a country of a less-polarized dynamic labor market with relatively well-established labor laws and regulations. In this regard, the study of micro-enterprises in Chile is well placed to provide a broader and deeper perspective on the issue of informality. This study utilizes a rich data set from the fourth Survey of Micro-enterprises undertaken in 2015 across Chile by the Ministry of Economy, Development and Tourism (MEDT hereinafter).[1] The 2015 MEDT survey covered more than 6,000 micro-enterprises in Chile, and some of the survey questions in the 2015 MEDT survey collected the pertinent information about the informality status of the micro-enterprises in Chile, ranging

[1] For further information about the survey methodology, refer to Instituto Nacional de Estadísticas INE (2015) INFORME FINAL Resultados Finales Levantamiento Cuarta Encuesta de Microemprendimiento at https://www.economia.gob.cl/2016/02/12/cuarta-encuesta-de-microemprendimiento-eme4.htm

from reasons for non-compliance with the formality requirements to their entrepreneurial attitudes towards or motives for being informal.

The rest of this paper is organized as follows. Section 2 provides an overview of both theoretical and empirical literature on informal economy. In Section 3, we explore the multidimensional characteristics of the Chilean economy and its micro-enterprises that are pertinent to an empirical investigation of different theoretical perspectives on informal economy. Section 4 introduces our econometric strategy and discusses the estimation results, followed by the conclusion remarks in Section 5.

2. Literature Review and Conceptual Framework

Since the notion of informal income opportunities was conceptualized by Hart (1973) in his study of Ghana, a significant effort has been made for a better understanding of the characteristics of informal businesses and its prevalence across countries (Bruhn and McKenzie, 2014; Charmes, 2012; de Soto, 1989; de Mel et al., 2008; La Porta and Shleifer, 2014; Maloney, 2004; Marx et al., 2013; Perry et al., 2007; Williams, 2009; Williams et al., 2016). Regarding what motivates small businesses to operate in the informal sector, multiple perspectives have emerged in the literature, and entrepreneurship in the informal sector has primarily been explained by two contrasting views: "exclusion" and "exit." The exclusion-driven view regards informal entrepreneurship not only as a survival means of small businesses repressed by excessive government regulations (Perry et al., 2007; Williams et al., 2016) but also as an untapped reserve of economic development potential (de Soto, 1989). On the other hand, the exit-driven view sees informal entrepreneurship as a voluntary choice by businesses that opted out of the formal sector based on cost-benefit calculations (Perry et al., 2007). Although the two contrasting views provide the conceptual and analytical framework of informal businesses, neither perspective provides a comprehensive account of the existing heterogeneity in the structure of the informal sectors across countries. Fields (1990) proposed a multidimensional view that exclusion and exit views are complementary rather than competing and that there are different segments even within the same informal sector. Perry et al. (2007) defined informality as a multidimensional phenomenon where informal enterprises interact with the state along some dimensions and not others. In line with Perry et al. (2007), Williams (2009) tried to incorporate both views in examining informal businesses by measuring the ratio of voluntary exit-driven to exclusion-driven informal businesses. Williams, et al. (2016) supported a dual view that informality is a multidimensional continuum of informality with a large grey area between the extremes of full compliance and noncompliance, accounting for different legal and institutional environments under which informal businesses operate. This dual view has expanded the scope of the study of informality to explanations for the varying degree of informality in a region or country.

On the other hand, regarding the structural causes for the variability in the prevalence of informal economy across countries, four competing theories have evolved: modernization perspective, neo-liberal perspective, political economy perspective, and institutional theory. In seeking explanations for the determinants of the extent of informality of micro-enterprises, modernization theory views informal economy as a pre-modern developing country phenomenon that will shrink as countries develop (Geertz, 1963; Gilbert, 1998; Lewis, 1959; Packard, 2007). According to this modernization perspective, "countries at the front of the development queue having smaller informal economies and being advanced, modern, and progressive, and countries nearer the back having larger informal economies and being backward, traditional, and under-developed" (Williams, 2023, pp. 25-26). Contrary to the view

of de Soto (1989) that informal enterprises are reservoirs of entrepreneurial potential constrained by government regulations, high prevalence of informal economy is simply viewed as swamps of backwardness observed in under-developed countries (La Porta and Shleifer, 2008, 2014).

On another hand, through the lens of neo-liberal perspective, the presence of or the participation in the informal economy is considered as a rational economic decision made by small enterprises in response to the so-called exit drivers such as high tax rates, corruption, and other burdensome regulations (Becker, 2004; de Soto, 1989, 2001; Nwabuzor, 2005; Perry et al., 2007; Sauvy, 1984; Williams, 2015). From the neo-liberal perspective, it is suggested that the transition of informal enterprises to the formal economy is incentivized by less intrusive state interventions.

As an antipodal view to the neo-liberal perspective, the political economy perspective views that the informal economy has become integrated into capitalism as increasingly de-regulated and open world economy is resulting in diminishing government intervention and inadequate social protection (Ahmad, 2008; Davis, 2006; Gallin, 2001; Slavnic, 2010; Taiwo, 2013). In the political economy view, the informal economy has become a means to reduce the cost of production and facilitate profit accumulation for the formal economy through subcontracting and outsourcing (Davis, 2006; Goel and Rehman, 2020; Meagher, 2010; Slack et al., 2017; Slavnic, 2010; Taiwo, 2013; Williams, 2023).

Lastly, the institutional perspective views that economic activity in the informal economy is not in compliance with the formal requirements but takes place within informal values and standards that are generally viewed as acceptable (Kistruck et al., 2015; Siqueira et al., 2016; Welter et al., 2015; Williams and Gurtoo, 2017). In the lens of the institutional theory, the prevalence of informal economic activity is viewed as the consequence of the asymmetry between the formal institution, like laws and regulations, and the informal institution such as generally accepted social norms and values (Williams, 2023).

In recent years, a relatively small but growing number of empirical studies have incorporated these different theoretical perspectives into investigating informal economy at a regional or country level. For instance, de Andrade, Bruhn, and McKenzie (2014) conducted a field experiment in the city of Belo Horizonte in Brazil to evaluate government actions to incentivize informal firms to register. The study found that, despite the efforts to help informal firms to register by waiving the initial registration fees along with offering free accounting services, the majority of firms remained informal, suggesting that most informal firms may not join the formal sector unless they are forced to do so. Williams et al. (2016) attempted to evaluate determinants of different degrees of informality for 300 small informal enterprises surveyed in 2012 in the city of Lahore in Pakistan. Their finding is quite remarkable in terms of policy implications: varying levels of informality is strongly associated with the characteristics of businesses or business owners, rather than a formal or informal institutional compliance climate, supporting a need for a different policy approach to the phenomenon of informality. The study by Bruhn and McKenzie (2014) is a detailed literature survey of the empirical contributions on the institutional efforts to promote firm formalization. According to the survey, many empirical studies in the literature show mixed results on the determinants of informality, and institutional formalization initiatives witnessed only a relatively small increase in the number of micro-enterprises transitioning to the formal economy across several developing economies in Latin America and South Asia.

The theoretical and empirical findings in the literature warrant a caution that a policy rationale to formalize informal businesses should not just rely on the premises that doing so will benefit all informal businesses. Further, such findings reinforce the need for a fine-grained approach that encompasses all theoretical perspectives for a better understanding of informality. This study presumes that a micro-entrepreneur's decision to be informal or formal is beyond a matter of a means of survival or a mere cost-saving strategy.

3. An Overview of the Informal Economy in Chile

Chile is considered as a developing country, but it is one of the most prosperous countries in Latin America. With a per capita income of more than $29,000 in 2022 when adjusted by purchasing power parity and a literacy rate of 95.7% of the population 15 years or older, Chile has been classified as an upper middle-income country according to the most recent World Bank's classifications of economies. Since General Pinochet handed his political power over in 1990 to a democratically elected government, Chile has achieved sustained economic growth with a significantly small portion of its population considered poor (16.1%) compared with a Latin America's average of 19.4% (OECD, 2018). Over the sample period of the 2015 MEDT survey (May 2014 to April 2015), female employees in Chile accounted for 40.9% of the total employees along with a female unemployment rate of 6 percent compared to 5.8 percent for the male. The fact that the overall unemployment rate in Chile averaged 7.3 percent between 2006 and 2015 alludes to quite a dynamic aspect of the Chilean labor market and thus may lead to the presumption that varying degrees of informality in Chile may be associated with some factors that are less pertinent to the level of informality in less-developed and low-income countries.

In addition, Chile has a well-established legislative foundation for the promotion of formalization of informal small businesses. The Chilean government has implemented a multi-faceted policy mix which provides incentives and information to develop more favorable environments for private business sector as well as to reduce regulatory burden on micro- and small enterprises, offering a wide range of financial and non-financial instruments for business development (ILO, 2019). Among those policy initiatives are the *Act on Family Micro-enterprises*, the creation of the *State Bank Filial for Micro-enterprises* (a branch of the state bank specializing in micro-enterprises), the *Enterprise in a Day* platform to facilitate and simplify formal constitution of new enterprises, special tax regimes for micro-, small and medium-sized enterprises (MSMEs) to reduce compliance costs, and gradual incorporation of own-account workers as health and pension contributors (ILO, 2019)[2].

The 2015 MEDT Survey shows that there were 6,062 micro-enterprises in Chile with fewer than 10 employees. Following a common practice in the literature, this study defines a micro-enterprise to be a business with fewer than 10 employees.[3] Table 1 shows the size distribution of the Chilean micro-enterprises covered in the 2015 MEDT survey. Micro-

[2] The *Act on Family Micro-enterprises* (Act No. 19749) was adopted in 2002. In 2004, a branch of the State Bank specializing in micro-enterprises started operating and offering financial services to these firms. The *Enterprise in a Day* platform was created in 2013 by Act No 20659. A *Simplified Tax Regime for SMEs* (small and medium-sized enterprises) was undertaken in 2014. In 2012, the *Act on Compulsory Contributions for Self-employed Workers* was enacted to ensure that they are entitled to the same benefits as dependent workers. (ILO, 2019)

[3] Informal enterprises are commonly defined as small or unregistered private unincorporated enterprises (Hussmanns, 2005). The 2015 MEDT survey in Chile, however, does not specify a threshold number of employees for a business to be qualified as being small.

enterprises with no employees are about 73% of the sample micro-enterprises and micro-enterprises with 5 to 9 employees account for less than 3 percent of the sample.

Table 1. The Size Distribution of the Sample Micro-enterprises in Chile

Number of employees	Number of micro-enterprises	%
0	4,392	72.5%
1	882	14.5%
2	327	5.4%
3	160	2.6%
4	125	2.1%
5 – 9	176	2.9%
	6,062	100%

Source: The 2015 MEDT survey. Own calculations.

Table 2 summarizes the status of formality compliance with the two most common formality requirements: tax registration and a municipal permit. Two prominent findings emerge from the table. First, the sample Chilean micro-enterprises have a higher level of compliance with tax registration than municipal permits. Second, micro-enterprises with at least one employee have a higher level of compliance with tax registration and municipal permits, respectively, compared with micro-enterprises with no employees.

Table 2. Micro-entrepreneurs in Compliance with Tax Registration and Municipal Permits

	Tax registration			Municipal permits		
	All micro-enterprises	Micro-enterprises with no employees	Micro-enterprises with employees	All micro-enterprises	Micro-enterprises with no employees	Micro-enterprises with employees
Yes	46.8%	37.5%	71.4%	30.2%	23.4%	48.0%
No	53.2%	62.5%	28.6%	69.8%	76.6%	52.0%

Source: The 2015 MEDT survey. Own tabulation.

The 2015 MEDT survey also collected the information about various aspects of the micro-entrepreneurship in Chile that could help us to identify potential formality determinants. For instance, as shown in Table 3, some of the survey questions are relevant for the two prominent theoretical perspectives on informality: the exclusion-driven view and the exit-driven view. It is apparent in the table that either perspective alone would not fully capture the diverse backgrounds and the motives for informality of the sample Chilean micro-enterprises.

Table 3. Reasons to be Informal

Exclusion-driven motives	
unable to find a job	6.0%
needed more income	26.8%
jobless since the layoff	3.8%
other costly reasons	9.2%
Exit-driven motives	
want to be my own boss	13.0%

want to own a micro-enterprise	7.0%
a passed-down family business	12.5%
want to exploit a market opportunity	13.8%
greater flexibility	4.4%
About the non-compliance with tax registration	
too costly and time-consuming	5.5%
too small to register	16.2%
peer businesses not registered	7.6%
deemed unnecessary	20.4%
other reasons	2.7%
About the non-compliance with municipal permits	
too costly and time-consuming	12.1%
deemed unnecessary	43.3%
peer businesses do not have one	14.4%

Source: The 2015 MEDT survey. Own calculations.

Table 4 summarizes both individual and business characteristics of the Chilean micro-enterprises from the 2015 MEDT survey. As for the individual characteristics of micro-entrepreneurship in Chile, the survey gathered information such as (i) if they were previously a wage worker or an employer; (ii) if they have taken a management training related to their businesses; (iii) what type of the training it was if they did; (iv) how beneficial they thought the training course was; (v) how the training course was funded; and (vi) what were the reasons if no training course was taken. It is worth noting that the survey collected individual characteristics pertinent to the entrepreneurial traits of micro-entrepreneurship such as past labor experiences and managerial capital. Regarding the business characteristics of the micro-enterprises, the survey sheds light on (i) the year of business establishment (the firm age), (ii) asset ownership, (iii) access to the financial system, (iv) access and usage of information and communications technologies (ICTs), (v) attributes of business environments, and the like.

Table 4. The Business Characteristics of the Chilean Micro-enterprises

Individual characteristics	
gender (female)	37.0%
entrepreneur age (years)	51
education (years)	13
entrepreneur income (pesos):	
< $112,500	14.6%
$112,501 – $250,000	11.5%
$250,001 – $450,000	15.3%
$450,001 – $1,000,000	15.9%
> $1,000,000	38.9%
no reported incomes	24.1%
Business characteristics	
firm size (number of employees):	
0 (own-account workers)	72.5%
1 – 4	24.6%

5 – 9	2.9%
fixed business premises	79.9%
firm age (years)	14
use of internet	34.5%
Financial characteristics	
bank loans	24.5%
a dominant buyer	22.1%
asset ownership:	
motor vehicles	32.5%
machinery	31.1%
ICT equipment	31.6%
non-specified assets	15.9%
Entrepreneurial characteristics	
a former employee	68.5%
a former owner	18.8%
managerial capital	19.5%

Source: The 2015 MEDT survey.

4. Econometric Strategy

Building upon the preliminary evidence in Tables 3 and 4 that both the exclusion-driven motives and exit-driven motives are relevant to the sample Chilean micro-enterprises, a binary response logit model is fitted in this study for each of the two norms of compliance as a binary dependent variable: tax registration and municipal permits.

$$P(y_i = 1|\boldsymbol{x\beta}) = \frac{\exp(\boldsymbol{x\beta})}{1 + \exp(\boldsymbol{x\beta})}, \qquad i = 1, 2$$

where the binary response y_i is equal to 1 if a micro-enterprise complied with one of the two legal requirements, respectively. The vector $\boldsymbol{x}$ includes the wide-ranging characteristics of the sample micro-enterprises, as will be discussed in the following section.[4]

4.1 Data and Variables

The fourth Survey of Micro-enterprises in 2015 is of particular pertinence to the study of informality in two aspects. First, as shown in Tables 3 and 4, the 2015 MEDT survey collected various aspects of the micro-entrepreneurship in Chile that could help us to identify potential informality drivers. Second, the survey data shows an extensive measure of the prevalence of micro-entrepreneurship in Chile. Out of 6,488 potential micro-enterprises interviewed over the 2014-2015 period, 6,184 of them identified themselves either as an employer or as an own-account worker (an entrepreneur with no employees). Since the 2015

[4] It is plausible that the two compliance norms, tax registration and acquisition of municipal permits, are correlated. To explore such possible joint distributions, it would be ideal to estimate simultaneous equation models such as a generalized structural equation model along with the standardization of some explanatory variables that are susceptible to multicollinearity (Anderson and Rutkowski, 2008). Such possibilities are not explored in this study due to the difficulties in cross-checking the identity of micro-enterprises for the compliance of each norm.

MEDT survey does not specify a legal threshold number of employees for a business to be qualified as being small or a micro-enterprise, we followed the common practice in the literature and included in our study 6,062 micro-enterprises with less than 10 employees, including micro-entrepreneurs with no employees.

Drawing on the previous empirical findings and theoretical perspectives in the literature of informality as well as both quantitative and qualitative information from the 2015 MEDT survey, we consider several factors that could potentially affect a micro-enterprise's informality status as follows.

Individual Characteristics of Micro-entrepreneurs

A binary variable for a micro-entrepreneur's gender is considered with a value of 1 for female and 0 otherwise. Following Simoes, Crespo, and Moreira (2016), we presume that women are more risk averse and less self-employment prone than men. Table 4 shows that the female micro-entrepreneurs account for only 37% of the surveyed micro-entrepreneurs. The age of a micro-entrepreneur is often considered as a potential determinant of informality in the literature, and we include a categorical variable with four different age intervals: 15-24, 25-39, 40-64, and 65 or above. The sample Chilean micro-entrepreneurs are on average in their early 50s. The level of a micro-entrepreneur's education measured by the schooling years is also examined. To examine the effect of a micro-entrepreneur's income on the norm compliance, a categorical variable is included with six different ranges of incomes measured in Chilean pesos (CLP): \$0-\$112,500, \$112,501-\$250,000, \$250,000-\$450,000, \$450,001-\$1,000,000, above \$1,000,000, and no reported incomes.

Business Characteristics of Micro-enterprises

Firm size has long been recognized as a fundamental business characteristic of a micro-enterprise in the literature, and we include a categorical variable: own-account workers, micro-enterprises with one employee, 2-4 employees, and 5-9 employees, respectively. To see the effect of a fixed business premises on the norm compliance, a binary variable is created with a value of 1 if a micro-entrepreneur operates on a fixed business premises and 0 otherwise. To account for the history of a micro-enterprise, a firm's age measured by the number of years since its start is considered. Lastly, we examine how the access to and the use of ICTs affect the informality status of micro-enterprises. It is presumed that the access to the internet and use of ICTs may reduce the cost of communications not only along the supply chain but also between micro-enterprises and government agencies, promoting compliance with required formal business norms.

Financial Characteristics of Micro-enterprises

Empirical findings in the literature suggest that financial resources help individuals with entrepreneurship in the form of self-employment (Straub, 2005; Simoes et al., 2016). Accordingly, we use a binary variable with a value of 1 if a micro-enterprise has a bank loan or is in the process of acquiring one. We also consider if a micro-enterprise has a dominant buyer who accounts for more than 50 percent of its business sales (Perry et al., 2007). A dominant buyer being more likely to be in the formal sector, it is reasonable to presume that business transactions with a dominant buyer is likely to be executed formally.

The 2015 MEDT survey inquires micro-enterprises about their asset ownership as well as the type of assets they own: ICT equipment, motor vehicles, machines and equipment, and other non-specified assets. Such information is deemed relevant to the determination of the level of informality of a micro-enterprise in that such assets can serve as collaterals for bank

loans or other financial services. From this perspective, we construct a binary variable for asset ownership that is equal to one if a micro-enterprise owns more units of a given type of assets than the average of its peer micro-enterprises.

Entrepreneurial Characteristics of Micro-entrepreneurs

Several studies in the literature explored trends in labor informality in Latin American countries. Maloney (2004) reported a pattern of high mobility into and out of informal self-employment in many Latin American countries. de Mel et al. (2010) confirmed a high rate of mobility between formal wage work and informal self-employment in Latin American countries. Besides, de Mel, McKenzie and Woodruff (2013) studied a small sample of micro-businesses in Sri Lanka and found that two-thirds of the sample micro-entrepreneurs exhibited more of the characteristics of wage workers rather than those of micro-entrepreneurs, lacking in entrepreneurial cognitive ability, entrepreneurial motivation, and competitive attitudes. Drawing on those studies that examined a micro-entrepreneur's past labor experience as a potential informality driver, we consider two binary variables about whether they were previously a wage worker or a business owner, respectively. Former business owners are presumed to be better prepared than former wage workers to apply their entrepreneurial cognitive resources to entrepreneurial opportunities in the formal sector, especially in a dynamic upper middle-income country like Chile because more business opportunities are created in the formal sector than the informal sector.

In addition to a micro-entrepreneur's past labor experience, we consider a micro-entrepreneur's managerial capital (or acquired entrepreneurial skills) as a potential determinant of the norm compliance. While the size of a firm's physical capital has long been recognized and is often proxied by a firm's sales in the literature, much less attention has been paid to a micro-entrepreneur's managerial capital in the context of norm compliance (Bruhn et al., 2010). Bruhn et al. (2010) and ensuing studies argue that managerial capital is a key form of capital missing in many developing countries, especially from a viewpoint of firm growth. Drawing on this emerging literature, this study utilizes the information from the 2015 MEDT survey that specifically inquired the sample Chilean micro-entrepreneurs if they had received management training or related courses. We presume that individuals with formal management training are more likely to run business or participate in the formal sector than otherwise as it is deemed an important element of an individual's entrepreneurial cognitive skills.

Entrepreneurs' Exclusion- and Exit-driven Motives

The 2015 MEDT survey contained a large set of questions to collect the information about a micro-entrepreneur's motives to operate its business informally. To incorporate potential exclusion-driven motives into our study, we use the following three inquiries from the survey: (i) unable to find a job in the formal sector; (ii) needed more income; and (iii) jobless since the last layoff. For each of the potential exclusion-driven motives, we create a dummy variable equal to 1 if the response is yes. With regard to potential exit-driven motives, we construct four dummy variables using the following four questions from the survey: (i) want to be an own-account (independent) worker; (ii) want to own a micro-firm (a micro-enterprise with fewer than 10 employees), (iii) it is a passed-down family business; and (iv) want to exploit a market opportunity.

4.2 Estimation Results: Determinants of the Norm Compliance

The estimation results are reported in Table 5, and the estimated coefficients in the table represent the marginal effect of a respective variable. The estimates from the two respective

norms of compliance, tax registration and the acquisition of municipal permits, tell largely the same story. Between the two dependent variables, the signs and magnitude of the statistically significant estimated coefficients are generally consistent. First, among the individual characteristics, a micro-entrepreneur's age, education, and income are predicted to have a positive impact on the compliance with each respective formality norm. For the two categorical variables: age and income, the size of the estimated coefficients is increasing with the level of income and age, respectively, suggesting that the probability of a micro-enterprise's compliance with either norm increases with higher age and more income, respectively. A micro-entrepreneur's education measured by schooling years is also estimated to be a positive predictor of the compliance with each respective norm. One noticeable difference in the estimation results between the two norms of compliance is that the binary gender variable (female) is a statistically significant predictor of the compliance with municipal permits only.

Among the variables for a micro-enterprise's business characteristics, the size of a micro-enterprise, measured by the number of employees, appears to increase the likelihood of its norm-compliance, especially with a greater impact on the tax registration. The estimation results also show a similar finding that the age of a micro-enterprise has a larger positive marginal impact on the compliance with tax registration than with the acquisition of municipal permits. It's interesting that the variable, fixed business premises, is estimated to be a positive predictor of the norm compliance with tax registration only. It is a highly plausible finding that a micro-enterprise with a fixed place of business which regularly stays open for business is more likely than one with no fixed location to comply with the tax registration requirement. There is a mixed finding on the role of internet access. The estimation results show that a micro-enterprise's use of internet has opposite impacts between tax registration and the acquisition of municipal permits. One conceivable explanation to this could be that the use of internet allows some micro-enterprises to run their businesses with no physical location; hence they have less incentive to comply with the acquisition of municipal permits than with tax registration.

Table 5. Logit Regressions: Determinants of the Norm Compliance (Marginal Effects)

Variables	Tax registration	Municipal permits
Individual characteristics		
gender (female)	0.0125	0.108***
	(0.0122)	(0.0113)
entrepreneur age (years):		
25 - 40	0.168***	0.145***
	(0.0370)	(0.0460)
41 - 65	0.228***	0.195***
	(0.0364)	(0.0454)
> 65	0.302***	0.255***
	(0.0385)	(0.0471)
education (log)	0.304***	0.154***
	(0.0272)	(0.0274)
entrepreneur income (pesos):		
$112,500 - $250,000	0.0681***	0.0932***
	(0.0198)	(0.0223)
$250,001 - $450,000	0.132***	0.155***
	(0.0177)	(0.0198)
$450,001 - $1,000,000	0.190***	0.194***

	(0.0176)	(0.0194)
> $1,000,000	0.343***	0.272***
	(0.0216)	(0.0203)
no reported incomes	-0.181***	-0.0657***
	(0.0201)	(0.0156)
Business characteristics		
firm size (number of employees):		
1-4 employees	0.121***	0.134***
	(0.0124)	(0.0116)
5-9 employees	0.417***	0.155***
	(0.0894)	(0.0272)
fixed business premises	0.160***	-0.0171
	(0.0135)	(0.0128)
firm age (log)	0.0233***	0.0147***
	(0.00518)	(0.00519)
use of internet	0.0956***	-0.0440***
	(0.0130)	(0.0130)
Financial characteristics		
bank loans	0.196***	0.110***
	(0.0121)	(0.0112)
a dominant buyer	0.0269**	-0.115***
	(0.0126)	(0.0133)
asset ownership	0.0380***	0.0211***
	(0.00517)	(0.00513)
Entrepreneurial characteristics		
a former employee	-0.0449***	-0.0373***
	(0.0114)	(0.0111)
a former owner	-0.0129	-0.00370
	(0.0131)	(0.0123)
managerial capital	0.0526***	0.0430***
	(0.0132)	(0.0126)
Exclusion-driven motives		
unable to find a job	-0.0124	0.00178
	(0.0245)	(0.0254)
needed more income	0.0157	0.0136
	(0.0155)	(0.0155)
jobless since the last layoff	0.0295	0.0651**
	(0.0286)	(0.0279)
Exit-driven motives		
want to be an own-account worker	0.0428**	0.0557***
	(0.0184)	(0.0178)
want to be a micro-firm owner	0.0970***	0.0686***
	(0.0234)	(0.0213)
a passed-down family business	0.0264	0.0369*
	(0.0200)	(0.0207)
want to exploit a market	0.0625***	0.0350**

opportunity	(0.0182)	(0.0177)
log likelihood	-2594.09	-3140.53
pseudo R^2	0.29	0.19
observations	5,952	5,952

***, ** and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

As for the financial characteristics of a micro-enterprise, two predictors, bank loans and asset ownership, appear to have statistically significant and positive impacts on tax registration and the acquisition of municipal permits, respectively. The empirical findings are consistent with the presumption that a micro-enterprise with more units of a given type of assets than the average of its peer micro-enterprises is more likely to comply with formality requirements. Similarly, the asset ownership of a micro-enterprise can serve as collaterals for bank loans or other financial services; hence a micro-business is more likely to be formal. We previously presumed that the presence of a dominant buyer is likely to be a positive predictor of formality in that business transactions with a dominant buyer is likely to be executed formally. However, our empirical finding is mixed with opposite impacts between the two norms of formality compliance.

Regarding a micro-entrepreneur's past labor experiences, we previously presumed that a micro-entrepreneur with previous business ownership experience would tend to be more compliant with formality requirements. The estimation results, however, show that previous business ownership experience is not a statistically reliable predictor of any norm compliance. In contrast, a micro-entrepreneur with managerial capital is more likely to run business formally than otherwise. This empirical finding may imply what actually counts with formality compliance is not just past business ownership experience of a micro-entrepreneur but rather managerial capital such as entrepreneurial cognitive skills acquired through formal management training or related courses. In addition, a micro-entrepreneur with the background of being a former wage worker is a statistically significant negative predictor of formality.

About the entrepreneurial motivation of a micro-entrepreneur, it is noteworthy that most exit-driven (or opportunity-driven) motives except a passed-down business appear to have a positive marginal effect on the likelihood that a micro-entrepreneur complies with the two norms of compliance, respectively. This finding is compatible with the exit view of Hirschman (1970) that informal businesses make implicit cost-benefit analysis and choose the right level of engagement with formality requirements. Furthermore, the statistical significance of the exit-motives could be explained by the overall economic characteristics of Chile which is an upper middle-income country with a dynamic labor market of a relatively high degree of labor or work mobility. Thus, this finding may suggest policy implications on how to incentivize formalization through a better understanding of the needs of micro-enterprises. On the other hand, most exclusion-driven motives of a micro-entrepreneur are estimated to be statistically insignificant.

4.3 What Motivates Micro-entrepreneurs to be Exit-driven?

Following up on the finding of a positive association between exit-driven motives and micro-firms' norm compliance, we further attempt to identify factors or conditions that are conducive to micro-entrepreneurs' exit-driven motives. We believe such effort is warranted because a deeper understanding of what motivates micro-entrepreneurs to be exit-driven is crucial to implementing a policy that promotes exit or opportunity-driven market environment.

To do so, we run regressions of the four exit-relevant questions on a number of characteristics of micro-entrepreneurs. The estimation results are reported in Table 6.

Table 6. Logit Regressions: Drivers of the Exit-driven Motives (Marginal Effects)

Variables	want to be an own-account worker	want to be a micro-firm owner	a passed-down family business	want to exploit a market opportunity
Individual characteristics				
gender (female)	-0.024**	-0.010	-0.055***	-0.018*
	(0.010)	(0.008)	(0.010)	(0.010)
entrepreneur age (years):				
25 - 40	-0.008	-0.024	-0.069**	0.002
	(0.028)	(0.019)	(0.028)	(0.029)
41 - 65	-0.037	-0.012	-0.056**	-0.005
	(0.028)	(0.019)	(0.027)	(0.028)
> 65	-0.074**	-0.035*	-0.047	0.019
	(0.031)	(0.021)	(0.029)	(0.031)
education (log)	0.039	0.038**	-0.108***	0.059**
	(0.025)	(0.019)	(0.022)	(0.026)
entrepreneur income (pesos):				
$112,500 - $250,000	0.045**	-0.004	-0.010	-0.018
	(0.021)	(0.018)	(0.016)	(0.021)
$250,001 - $450,000	0.066***	0.044***	-0.019	0.028
	(0.019)	(0.015)	(0.016)	(0.019)
$450,001 - $1,000,000	0.093***	0.041***	-0.008	0.030
	(0.019)	(0.015)	(0.016)	(0.019)
> $1,000,000	0.078***	0.055***	-0.001	0.043**
	(0.021)	(0.016)	(0.017)	(0.020)
no reported incomes	0.061***	0.022	0.016	0.045***
	(0.018)	(0.015)	(0.014)	(0.017)
Business characteristics				
firm size (number of employees):				
1-4 employees	0.002	0.016**	0.050***	0.013
	(0.011)	(0.008)	(0.010)	(0.011)
5-9 employees	0.038*	0.002	0.078***	0.027
	(0.023)	(0.017)	(0.026)	(0.024)
fixed business premises	-0.020*	0.021**	0.051***	-0.019*
	(0.011)	(0.009)	(0.011)	(0.011)
firm age (log)	0.024***	-0.008**	0.035***	-0.002
	(0.005)	(0.003)	(0.005)	(0.005)
use of internet	0.016	0.030***	-0.075***	0.032***
	(0.011)	(0.008)	(0.012)	(0.011)
Financial characteristics				
bank loans	-0.007	0.020***	-0.003	0.012
	(0.010)	(0.008)	(0.010)	(0.010)

a dominant buyer	-0.025**	0.020***	0.016	-0.010
	(0.011)	(0.007)	(0.010)	(0.011)
asset ownership	0.000	0.001	-0.001	0.001
	(0.001)	(0.000)	(0.001)	(0.001)
Entrepreneurial characteristics				
a former employee	0.024**	0.003	-0.084***	-0.005
	(0.010)	(0.007)	(0.009)	(0.010)
a former business owner	0.016	-0.000	-0.034***	0.026**
	(0.011)	(0.008)	(0.012)	(0.011)
managerial capital	0.008	0.004	0.009	0.003
	(0.011)	(0.008)	(0.011)	(0.011)
log likelihood	-2243.3096	-1,426	-1,968	-2,340
pseudo R^2	0.0303	0.0607	0.1133	0.022
observations	5952	5952	5952	5952

***, ** and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

The varying sign and statistical significance of the estimated coefficients makes it difficult to identify a consistent set of factors that motivate micro-entrepreneurs to be exit-driven. Among the individual characteristics of micro-entrepreneurs, however, the gender (male) is estimated to positively influence a micro-entrepreneur's exit-driven motives on three of the four exit-relevant questions. Micro-entrepreneurs' income also appears to positively influence the exit-driven motives of those who want to be an own-account worker or a micro-firm owner, respectively. In contrast with our previous findings that asset ownership and managerial capital are positively correlated with the norm compliance, they do not appear to be influencing micro-entrepreneurs in forming exit-driven motives for entry into the informal sector.

Following Hirschman (1970), it is conceivable that a micro-entrepreneur's exit-driven motives are shaped and influenced by multiple factors such as individual psychological traits as well as encompassing market conditions at the time of entrepreneurial decision-making. In this regard, we may attribute the above mixed estimation results to the limitations of the survey data used in this study. We presume that future research on the underlying drivers of the exit-driven motives is warranted, especially future studies on how inherent personal traits along with other environmental factors affect micro-entrepreneurs' exit-driven motives.

5. Conclusion

This study of the Chilean micro-enterprises is relevant to the literature with the following research implications. First, Chilean micro-enterprises appear to be well-suited for an empirical investigation of different theoretical perspectives on informal economy. In contrast to most of the existing empirical studies which investigated small low-income regions or countries, this study examined one of the most prosperous and dynamic upper middle-income economies in Latin America with a well-established legislative foundation to promote the formalization of informal businesses. Second, this study used an extensive survey data covering nearly 6,000 micro-enterprises in Chile, making its empirical findings and accompanying policy implications more robust.

Our main empirical findings are largely in line with the following three theoretical perspectives. First, a micro-entrepreneur's individual characteristics account much for its position along the informality-formality spectrum. Individual characteristics such as age, education, and income appear to have positive impacts on the likelihood of formalization. Second, in the case of Chile, micro-entrepreneurs' motivations to get formal or informal are better explained by the exit-driven view than the exclusion-driven view. Lastly, this study has discovered strong empirical implications that micro-entrepreneurs' formalization motivations are attributable to business, financial, and entrepreneurial characteristics such as the size and firm age of a micro-enterprise, asset ownership, and managerial capital.

References

Ahmad, A. N. (2008) "Dead Men Working: Time and Space in London's ('Illegal') Migrant Economy" *Work, Employment and Society* **22(2)**, 301-318

Anderson, C. J. and L. Rutkowski (2008) "Multinomial Logistic Regression" in *Best Practices in Quantitative Methods* by J. Osborne, Eds., Sage: Thousand Oaks, CA., 390-409

Becker, K. F. (2004) *The Informal Economy: Fact Finding Study*, Swedish International Development Agency: Stockholm.

Bruhn, M., Karlan, D., and A. Schoar (2010) "What Capital is Missing in Developing Countries?" *American Economic Review* **100(2)**, 629-633

Bruhn, M. and D. McKenzie (2014) "Entry Regulation and the Formalization of Microenterprises in Developing Countries" *The World Bank Research Observer* **29(2)**, 186-201

Charmes, C. (2012) "The Informal Economy Worldwide: Trends and Characteristics. Margin" *The Journal of Applied Economic Research* **6(2)**, 103-132

Davis, M. (2006) *Planet of Slums*, London: Verso.

de Andrade, G. H., M. Bruhn, and D. McKenzie (2014) "A Helping Hand or the Long Arm of the Law? Experimental Evidence on What Governments Can Do to Formalize Firms" *The World Bank Economic Review* **30(1)**, 24-54

de Mel, S., D. McKenzie, and C. Woodruff (2013) "The Demand for, and Consequences of Formalization among Informal Firms in Sri Lanka" *American Economic Journal: Applied Economics* **5(2)**, 122-150

de Mel, S., D. McKenzie, and C. Woodruff (2010) "Who Are the Microenterprise Owners? Evidence from Sri Lanka on Tokman versus De Soto" in *International Differences in Entrepreneurship* by J. Lerner and A. Schoar, Eds., University of Chicago Press: Chicago.

de Mel, S., D. McKenzie, and C. Woodruff (2008) "Returns to Capital in Microenterprises: Evidence from a Field Experiment" *Quarterly Journal of Economics* **123(4)**, 1329-1372

de Soto, H. (2001) *The Mystery of Capital: Why Capitalism Triumphs in the West and Fails Everywhere Else*, Black Swan: London.

de Soto, H. (1989) *The Other Path: The Invisible Revolution in the Third World*, Harper and Row: New York.

Fields, G. S. (1990) "Labour Market Modelling and the Urban Informal Sector: Theory and Evidence" in *The Informal Sector Revisited* by D. Turnham, B. Salomé, and A. Schwarz, Eds., 49-69

Gallin, D. (2001) "Propositions on Trade Unions and Informal Employment in Times of Globalisation" *Antipode* **33(3)**, 531-549

Geertz, C. (1963) *Old Societies and New States: The Quest for Modernity in Asia and Africa*, The Free Press of Glencoe: New York.

Gilbert, A. (1998) *The Latin American City*, Latin American Bureau.

Goel, R. K., and F. Rehman (2020) "What Induces Firms to Subcontract to the Informal Sector? Evidence from a Developing Country" *Applied Economics Letters* **27(3)**, 178-187

Hart, K. (1973) "Informal Income Opportunities and Urban Employment in Ghana" *Journal of Modern African Studies* **11(1)**, 61-89

Hirschman, A. O. (1970) *Exit, Voice, and Loyalty: Responses to Decline in Firms, Organizations, and States*, Harvard University Press: Cambridge, MA.

Hussmanns, R. (2005) "Measuring the Informal Economy: From Employment in the Informal Sector to Informal Employment" Geneva: Policy Integration Department Bureau of Statistics International Labor Office, Working paper number 53

ILO (2019) Formalization: The Case of Chile, https://www.ilo.org/sites/default/files/wcmsp5/groups/public/@ed_emp/@emp_ent/documents/publication/wcms_725018.pdf

Kistruck, G. M., J. W. Webb, C. J. Sutter, and A. V. G. Bailey, (2015) "The Double-edged Sword of Legitimacy in Base-of-the-Pyramid Markets" *Journal of Business Venturing* **30(3)**, 436-451

La Porta, R. and A. Shleifer (2014) "Informality and Development" *Journal of Economic Perspectives* **28(3)**, 109-126

La Porta, R. and A. Shleifer (2008) "The Unofficial Economy and Economic Development" *Brookings Papers on Economic Activity* **47(1)**, 123-135

Lewis, A. (1959) *The Theory of Economic Growth*, Allen and Unwin: London.

Maloney, W. (2004) "Informality Revisited" *World Development* **32(7)**, 1159-1178

Meagher, K. (2010) “Identity Economics: Social Networks and the Informal Economy in Nigeria” *African Issues* Series Volume Number **25**

Marx, B., T. Stoker, and T. Suri (2013) “The Economics of Slums in the Developing World” *Journal of Economic Perspectives* **27(4)**, 187-210

Nwabuzor, A. (2005) “Corruption and Development: New Initiatives in Economic Openness and Strengthened Rule of Law” *Journal of Business Ethics* **59(1-2)**, 121-138

OECD (2018) *OECD Economic Surveys: Chile 2018*, OECD Publishing: Paris.

Packard, T. (2007) “Do Workers in Chile Choose Informal Employment? A Dynamic Analysis of Sector Choice” World Bank Policy Research working paper number 4232

Perry, G. E., W. F. Maloney, O. S. Arias, P. Fajnzylber, A. D. Mason, and J. Saavedra-Chanduvi, (2007) *Informality: Exit or Exclusion*, World Bank: Washington, DC

Sauvy, A. (1984) *Le Travail Au Noir et L’économie de Demain*, Calmann-Levy: Paris.

Simoes, N., N. Crespo, and S. B. Moreira (2016) “Individual Determinants of Self-employment Entry: What Do We Really Know?” *Journal of Economic Surveys* **30(4)**, 783-806

Siqueira, A. C. O., J. W. Webb, and G. D. Bruton (2016) “Informal Entrepreneurship and Industry Conditions” *Entrepreneurship Theory and Practice* **40(1)**, 177-200

Slack, T., M. R. Cope, L. Jensen, and A. R. Tickamyer (2017) “Social Embeddedness, Formal Labor Supply, and Participation in Informal Work” *International Journal of Sociology and Social Policy* **37(3/4)**, 248-264

Slavnic, Z. (2010) “Political Economy of Informalization” *European Societies* **12(1)**, 3-23

Straub, S. (2005) “Informal Sector: The Credit Market Channel” *Journal of Development Economics* **78(2)**, 299-321

Taiwo, O. (2013) “Employment Choice and Mobility in Multi-sector Labor Markets: Theoretical Model and Evidence from Ghana” *International Labor Review* **152(3-4)**, 469-492

Webb, J. W., L. Tihanyi, R. D. Ireland, and D. G. Sirmon (2009) “You Say Illegal, I Say Legitimate: Entrepreneurship in the Informal Economy” *Academy of Management Review* **34(3)**, 492-510

Welter, F., D. Smallbone, and A. Pobol (2015) “Entrepreneurial Activity in the Informal Economy: A Missing Piece of the Jigsaw Puzzle” *Entrepreneurship and Regional Development* **27(5/6)**, 292-306

Williams, C. C. (2023) “A Modern Guide to the Informal Economy” Edward Elgar Publishing number 18668

Williams, C. C. (2015) "Explaining the Informal Economy: An Exploratory Evaluation of Competing Perspectives" *Industrial Relations* **70(4)**, 741-765

Williams, C. C. (2009) "The Motives of Off-the-Books Entrepreneurs: Necessity- or Opportunity-driven?" *International Entrepreneurship and Management Journal* **5(2)**, 203-217

Williams, C. C., and A. Gurtoo (Eds.) (2017) *Routledge Handbook of Entrepreneurship in Developing Economies*, Routledge: London.

Williams, C.C., M. Shahid, and A. Martínez (2016) "Determinants of the Level of Informality of Informal Micro-enterprises: Some Evidence from the City of Lahore, Pakistan" *World Development* **84(August)**, 312-325

World Bank (2024) *Informal Businesses*, www.enterprisesurveys.org/en/informal-businesses