

Empowered Entrepreneurs? Some Evidence from Chile

Rodrigo Castro*
Juan Pablo Couyoumdjian
Universidad del Desarrollo
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Abstract

In this paper we have used a new cross-section data on Chile to examine the relationship between human development and entrepreneurship. Our main focus has been on empowerment and its relationship with entrepreneurship focusing on poor agents. We have found that entrepreneurship has important effects on empowerment as an additional dimension of human development. The specific proxy of empowerment that yields the expected results is the perception of individual autonomy; this is also the variable that, we believe, better captures the concept of empowerment.

The policy implications of our exercise may be important. Our results provide evidence in the sense that there are non-traditional social policies that can empower the poor; conversely, one can conjecture that standard social policies may be inconsistent with such empowerment, although this is an issue that may require further analysis. This does not mean that all social policy is worthless, as policies focused on the development of the cognitive and non-cognitive abilities of children, which may lie at the source of poverty, may be very effective. This is a problem that, we believe, is related both to the design of the policies as well as to their unintended consequences. While here we have not considered the issue explicitly, social dependence is an evil that must be addressed. On the other hand, civil society has an important role in combating poverty; this is where microfinance can play an important role. The crucial point here is that we value micro-entrepreneurship not because its effects on the process of creative destruction and aggregate economic growth, but because of its wider effects on economic development. Previous contributions had called attention to these issues, but the mechanisms at work were somewhat vague; we believe that our analysis is significant in this respect.

*correspondence author: rcastro@udd.cl

1 Motivation

Undertaking an entrepreneurial activity leads to the empowerment of the economic agent qua-entrepreneur involved in this activity. This is related to the very nature of entrepreneurial activities, whereby individuals exercise their creativity and ingenuity in the pursuit of their desired goals and objectives (Mises 1949/1996; see, also, Yunus 1999). And this is, of course, also consistent with an understanding of empowerment as the expansion of freedom of choice and action (Narayan 2002).

In this paper we propose to evaluate the relationship between entrepreneurship and empowerment controlling for whether the agents undertaking entrepreneurial activities are poor. As Muhammad Yunus has argued, the poor also have an entrepreneurial spirit (Yunus 1999), and the advancement of their entrepreneurial activities constitutes an important source of human development. Empowering the poor, that is, giving them the possibility of expanding their assets and capabilities is, quite rightly, a key element of social policy (on these issues, see, also, Narayan 2002). While multifaceted and multidimensional, poverty is a problem that involves different types of vulnerabilities, including some form of social exclusion (consider, for example, Sen 1999). Interestingly, informal micro-entrepreneurial activities have also been claimed to reflect some underlying exclusion, in this case from the formal labor market (Tokman 2007). In this sense, according to this view these types of basic entrepreneurial activities would lead to a persistence of low levels of human development.

Contrary to this argument, in this paper we will argue that entrepreneurship is important from the perspective of economic development considered in its broadest sense; that is, considering its effects not only on economic growth as an aggregate indicator of economic well-being, but also on the generation of a sense of empowerment on the part of those agents undertaking these types of activities. The promotion of entrepreneurial activities can thus set up an important instrument in the tool-kit of policy-makers focused on reducing poverty and improving human development in their communities.

In this work we will address these issues taking advantage of a new data-set on the multidimensional nature of poverty in Chile developed by the Oxford Poverty and Human Development Initiative (OPHI). In this sense, our work should be viewed both as a contribution to the literature on the relationship between entrepreneurship and poverty in general, as well as to the literature on the nature of poverty in Chile.

2 Theoretical Framework

2.1 Multidimensional poverty

Poverty is a problem of human development and, as such, involves many faces. Usually we focus on hunger and physical deprivation as the most important faces of poverty, but poverty also involves different types of vulnerabilities which affect an individual's psychological and subjective well-being. These include job insecurity, lack of adequate education, and vulnerability to ill health, among many others (Sen 1980, 1985, 1999; Anand and Sen 1997). In this sense poverty entails a sense of social exclusion, as an agent who lives in poverty faces a reduced set of choices and is unable to participate in many organizations and institutions including, in many occasions, the marketplace or the political arena.

These are important points, as they force us to remember that one cannot and should not view poverty solely as an income or earnings problem. The World Bank project on the "voices of the poor" (Narayan et al 2000) addresses exactly these issues. This initiative was supposed to represent background material for the World Bank's World Development Report 2000/2001 (World Bank 2000) but it has, in effect, ended up representing much more than that, as it has offered a new perspective on the nature of poverty.

In a parallel fashion, the work by the United Nations Development Program (UNDP), especially on the Human Development Report originally launched in 1990 represented another significant event in the sense of going beyond income or GDP levels as proxies of development (United Nations Development Program 1990; Anand and Sen 1997).

The research undertaken in these organizations is based on important methodological work on the new faces of poverty, which has brought a renewed urgency to the goal of eradicating poverty (for example, see Sen 1980, 1985, 1999). Recent reformulations of the Human Development Index, incorporating some of the "missing dimensions of poverty" as proposed by OPHI (Alkire 2007), provides evidence on the productive cross-fertilization existing between academia and public policy. Given the interdisciplinary nature of the problem as defined by the multidimensional approach, poverty has been extensively studied from many different viewpoints and methods. Let it be said, in any case, that despite their differences, these studies tend to agree on the fact that the indignity associated to different types of poverty and deprivation is, as has been said in many forums, an urgent call to action.

In the battle against poverty some types of policies place a larger focus on the alleviation of poverty, while others lay a larger stress on achieving a reduction in poverty levels. This is an important discussion, which has crucial policy implications, and which we will return to below. For the time being it is important to note that these different types of policies may also have different effects in terms of effectively addressing or combating the different faces of poverty.

The sense of social exclusion associated to poverty is a key example in this sense, as well as in terms of illustrating the analytical broadness associated to

multidimensional poverty. While the term itself, social exclusion, may be used in quite different senses (for a review, see Sen 2000), essentially it suggests a sense of being left out, which is exactly what poverty involves. The shame and humiliation associated to poverty are important elements of the social exclusion associated to poverty. Shame and humiliation are consequences of the prejudices and discrimination the poor face (Zabaleta 2007). The point we wish to make here is that there may be many different ways to combat social exclusion and the types of associated effects we have just mentioned. In this context, under the framework of a multidimensional approach to poverty standard social policies may not be enough, and fresh perspectives may be required.

In all, the capabilities approach to poverty (Sen 1999) is a valuable methodological perspective as it offers a deeper understanding of the problem of poverty, destitution and privation. However, when the idea of capability deprivation is viewed in such a way that one ends defining liberty in a positive sense, the issue becomes much more complicated. This is not the place to get sidetracked in philosophical discussions, but let it be said that we do take Isaiah Berlin's (1969) distinction between the different "concepts of liberty" very seriously.

2.2 Entrepreneurship and Economic Growth

In this section we will briefly review the main arguments in the sense that entrepreneurship is conducive to economic growth as well as is an engine for the creation of new jobs. This will serve as a building-block to our ensuing discussion of the importance of entrepreneurship to economic development considered in a wider sense. In this sense, our discussion here will be brief and to the point. This said, it is important to emphasize that in no way does this brevity reflect on the overall significance of the issues analyzed or on the depth or lack thereof of the arguments advanced here.

Entrepreneurship involves the exercise of human ingenuity and creativity, and it is precisely in this sense that it is related to economic growth. The specific mechanism through which entrepreneurship influences economic growth has been most thoroughly (and one could even say, convincingly) explained by Joseph Schumpeter (1934, 1950). In this framework entrepreneurs act by undertaking innovative activities, which Schumpeter defines as carrying out new "combinations" or new ways to use existing resources¹. This innovative behavior influences economic growth through the well known process of "creative destruction"; that is, new innovations lead to a situation where the marketplace is continually changing, and where competition affects the very foundations of existing firms.

The marketplace is therefore characterized by a continuous process of entry and exit of business firms which, in turn, leads to high efficiency in terms of what modern economists call total factor productivity, and thus to high rates of economic growth. Naturally, such activities take place under an institutional setup

¹Therein lies the crucial difference between entrepreneurship and innovation, on the one hand, and entrepreneurship and invention on the other; on these issues see Schumpeter (1934)

that is conducive to the development of (productive) entrepreneurial activities. As the structure of incentives in the economy, institutions are key in terms of the allocation of entrepreneurial talent. The fact that this talent is scarce, and can be allocated not only to productive, but also to unproductive or destructive activities underscores the relevance of this point (Baumol et al 2007). Economic growth, entrepreneurship and institutions therefore go hand-in-hand (Baumol et al 2007; Larroulet and Couyoumdjian 2009).

All of the above said, empirically much work needs to be done in terms of analyzing the relationship between entrepreneurship and economic growth. The difficulty involved with issues of double causation as well as problems with the quality of aggregate data on entrepreneurship are critical points here. To the extent that economic history studies the effects of different institutional environments on the long-run development process of an economy, this may be a useful avenue in order to improve our knowledge on these subjects. At the same time it may also be helpful in examining the influence entrepreneurship may have in this process. On these issues, there exists significant evidence pointing to what William Baumol (2002) has referred to as the “growth miracle of capitalism”.

What we would like to stress at this point is that this is, of course, no miracle at all once one recognizes the distinctive incentive structure of an (entrepreneurial) capitalist economy. From a different perspective, Deirdre McCloskey (2010) has recently emphasized the importance of a social (ideological) change as to the importance of markets and innovation in the economy as the main determinant of the industrial revolution and modern economic growth. McCloskey argues that good institutions have existed at many times throughout history, without an accompanying process of high growth; institutions are, thus, not enough in terms of the problem of economic growth. At any rate, whatever the differences between these arguments, in the context of our analysis it is sufficient to point out that both these types of analysis point to innovation and markets as the main sources of economic growth.

Entrepreneurial activities also have an effect both on job creation and job destruction; this is, after all, the logic of the process of creative destruction referred to above, which is inextricably related to a process of creation and destruction of jobs (Cox and Alm 1992). As Cox and Alm (1992) clearly explain, the history of industrial evolution is indeed a history of creative destruction, whereby new firms, which come about as the result of the activities of innovative entrepreneurs, have fundamentally changed existing industries thereby creating new jobs as well as destroying many others as they changed the ways things were done in the economy. This process is, certainly, not without costs, as in the short-run it involves important relocations of workers, which may be hard to achieve given the existence of different mismatches between the demand and supply of labor. It has happened once and again, however, that the natural rate of unemployment does not seem to be negatively affected by this process of creative destruction which continues to take place in the economy.

From a somewhat different perspective, at this point it is important to add that small and medium sized enterprises (SME's) are, in general, the most im-

portant employers in the economy (for evidence on the Chilean economy, see Benavente 2008). To the extent that entrepreneurship involves the creation of SME's as the basic unit of entrepreneurial activities, we can directly observe a process of job creation in the economy. The flipside of this, on the other hand, is that most new business startups fail after few years of existence (the evidence for the U.S. appears in Timmons 1999). But then one could argue that this is another face of the process of creative destruction, or at least of the freedom associated to entrepreneurship. As we shall examine in the following section, entrepreneurs are continually exercising their right to speculate in the marketplace; this speculation may turn out be a good venture, and the entrepreneur may thus be successful; alternatively it may turn out to be wrong and the entrepreneur will fail in his new undertaking.

2.3 Entrepreneurship and Empowerment

Entrepreneurship involves the act of undertaking; this is etymological origin of the word entrepreneur. Not surprisingly, this is consistent with the modern view in the sense that entrepreneurship is "human action" (Mises 1949/1996), which suggests that agents purposefully employ their intelligence and creativity in terms of undertaking new tasks or enterprises. This is a rational calculus given an agent's subjective beliefs and motivations.

The purposeful nature of entrepreneurial activities is important to stress. While an agent may observe entrepreneurial opportunities almost serendipitously, the fact that he or she decides to follow-up on them and actually carry-out a new business venture involves some purposeful behavior. Whether these decisions turn out to be correct or incorrect is besides the point here, as we are solely concerned with an examination of the criteria guiding an agent's (rational) behavior. In this context, we view irrationality as presupposing some inconsistency in terms of an agent's means-ends framework. Informational problems related to the decision to engage in entrepreneurial activities, or even the whole question as to how the opportunity recognition process works, are quite different issues from the key assumption that agents are rational in the sense that they maximize their expected utility.

In this sense, entrepreneurship involves the exercise of a "right to choose"; in this case, of choosing, or deciding to undertake or to take advantage of what seems to be, to the agent himself, a potentially profitable opportunity.

Poverty, on the other hand, is not usually a voluntary state according to the standard meaning of this term (on these issues see Sen 1999 and the references cited therein). The deprivation associated to poverty is a result of unexpected external shocks which are, in turn, connected to deep individual vulnerabilities. These vulnerabilities depend on both individual and family characteristics; in this sense, these may well be hereditary in a social and/or genetic connotation of the individual/family terms. While some forms of exclusion have a deep-seated cultural or religious basis this does not mean that the associated poverty is any significant way voluntary.

At any rate, what we are really concerned with here is the relationship

between entrepreneurship and empowerment (focusing on the peculiarities of this relationship among poor agents). As a starting point in this discussion let us consider the term empowerment somewhat more carefully.

Empowerment is related to a richer understanding of human development, that goes beyond a narrow focus on economic growth as an indicator of human welfare. Of course, the fact that the concept may be vague, as it entails several different meanings and, moreover, is a subjective variable, may be conceptually and empirically problematic for any exercise that attempts to examine the joint behavior of empowerment with other variables².

However, important efforts are being recently undertaken to deal with these problems (on these issues see Narayan 2005, and Ibrahim and Alkire 2007). Here we will follow this literature and recent developments undertaken by OPHI, where significant research is under way in order to uncover the “missing dimensions” of poverty, and where empowerment plays a key role.

Let us consider as our working definition of empowerment the fact that it reflects an expansion of freedom of choice and action, which includes an expansion of the assets and capabilities of the poor (Narayan 2005). Using a somewhat different terminology, although in keeping with the same meaning, we could refer to this term as involving an expansion of “agency” (Sen 1985), which implies that an agent will be able to act in terms of his or her goals and ambitions with respect to different domains of his or her life. In this sense, and as we shall examine below, in this context one can argue that empowerment has an inherent social value. It is important to note, at any rate, that empowerment may also have instrumental value as it involves greater participation and thus more accountability across a polity as well as larger levels or organizational capacity (Narayan 2002; Ibrahim and Alkire 2007).

In all, when we talk about empowerment we are taking for granted that there exist barriers that limit an agent from making choices and taking action in terms of improving his or her wellbeing. It is the fact that these barriers can be removed as agents are empowered that constitutes the value of empowerment; agents are also less afraid to act and more confident when they are empowered. In other words, here we are dealing with problems related to an important degree of social exclusion and empowerment is an answer to these problems³; it is thus that empowerment may be key in terms of addressing the problem of multidimensional poverty.

This is the specific issue we propose to examine here. We are thus not overly concerned with how empowerment manifests itself in Chile. Instead, and taking as a given the relationship between entrepreneurship and economic growth, we want to undercover the broader effects entrepreneurship has on economic development; therein lies our interest in the relationship between entrepreneurship and empowerment. This question is, in turn, related to the somewhat different issue as to whether it is possible to be poor and entrepreneurial. Defeating poverty implies that it is possible to develop one’s own natural capabilities and

²This said, we would agree with Narayan (2002) in the sense that an exploration of local terms associated with empowerment around the world always leads to lively discussion.

³On these issues see World Bank (2000), Narayan et al. (2000) and Narayan (2002).

potential. Entrepreneurship involves the same thing while acting in the marketplace. The critical problem is, of course, that entrepreneurs may be financially constrained; i.e. they may face some sort of “exclusion”.

The bridge between the two worlds or dimensions we are examining can be found on the empowerment associated or brought about by entrepreneurial activities, in particular by micro-entrepreneurship. Following Muhammad Yunus (1999) the concept of entrepreneurship has had a remarkable resurgence in the last decade or so. The idea of micro-credit is, however, much older, and can be traced back at least to the 18th and 19th century (Hollis and Sweetman 1998).

Several points must be raised as we deal with these issues. On the one hand, and as a starting point, we wish to argue that poor agents are talented and, thus, can be entrepreneurial. We do not believe that it can be seriously claimed that poor agents are, for some unexplained reason, “unfit” for entrepreneurial activities. In principle almost all agents are purposeful and can exercise their ingenuity in their regular activities in the labor market. Indeed, the evidence presented by Collins et al (2009) is especially noteworthy to consider in this context⁴.

On the other hand, it is interesting to observe that one can construe some important parallels between the literature on entrepreneurship as human action (Mises 1949/1996) and the literature on poverty as a lack of agency, which are, essentially, our working definitions of these respective terms. In this sense, recall that according to Amartya Sen (1999) an agent is “someone who acts and brings about change”, which seems consistent with a view of an homo agens. Moreover, note that the subjective nature of action in both these frameworks is also evident; only individual agents know what ends (or “freedoms” in Sen’s terminology) they really value (Sen 1985, Mises 1949/1996).

Although we are proposing that one of the most important effects of entrepreneurship on the economic development of poor agents comes about through the fact that they become empowered, we should note that the relationship under examination can come about through an inverse route, such that empowerment brings about entrepreneurship. While this is an issue we will examine more carefully below, it is important to mention that other studies have addressed this two-sided relation before. For example, Abbasian and Bildt (2009) have studied the relation between entrepreneurship and empowerment in the context of immigrant women in Sweden and concluded that entrepreneurship is indeed effective in this sense. The role of microcredit in this context has been recognized in other studies that focus on female micro-entrepreneurs (Oxaal and Baden 1997; Parveen and Leonhäuser 2004; for a more extensive review of this literature, see Samman and Santos 2009)⁵.

In the next section we will explain how, precisely, we propose to examine these questions in this paper. This includes a discussion as to how we propose to make the concepts of entrepreneurship, empowerment and poverty operational. Before we proceed to that issue, however, a further word is in order regarding the

⁴See, also, the volume edited by Vargas Llosa (2008).

⁵This contrasts with the view that stress on the role the welfare state has on entrepreneurship (Henrekson 2005).

concrete promises of micro-entrepreneurship and micro-finance in the context under examination. The whole logic of the concept of micro-entrepreneurship is that of allowing, and even encouraging, agents to exercise their ingenuity and pursue their dreams, thus finding a way out of poverty through an avenue that involves undertaking some small-scale low-capital productive activity. This would involve generating economic and social development from the bottom-up, directly from purposeful individual actions (Yunus 1999). Therein, lies the value of micro-entrepreneurship as a tool for social development⁶.

By its very nature micro-entrepreneurship, may of course, be related to informality; at the same time these types of entrepreneurial activities may come about because of a sense of economic necessity that is related, in turn, to some sort of exclusion from the labor market. This has led some authors to consider these activities as actually harmful, or at least as highly imperfect responses to deep social fractures that should be addressed directly (Tokman 2007). Indirectly, we have already offered several reasons as to why we believe this type of argument is misguided. It is important, however, to address the issue straight on.

We are convinced that micro-entrepreneurial activities do not only provide material resources to the agents that undertake them, but also represent a source of personal development. The mechanism through which this effect takes place lies in the fact that entrepreneurial activities are a source of empowerment. As suggested above, this is related to the very nature of entrepreneurial activities and of our understanding of empowerment. In this sense, one could argue that entrepreneurship has an inherent value. At least, entrepreneurship can be said to constitute a source of human (and economic) development. This is, of course, in addition to its effects on economic growth and overall employment.

At any rate, in this paper we want to go beyond these analytical arguments and examine these relationships more formally. This is what we propose to do in the next section.

⁶It is important to note, in any case, that further studies are required on the effects of micro-finance in the sense that careful attention should be paid to the problems of selection bias; these issues are currently being addressed in studies based on randomized natural experiments; on this see, for example, Banerjee et al (2009).

3 Methodology, Data, and Econometric Results

There exists significant research on poverty in Chile using cross-section and even panel data (for example, see Neilson et al 2008, and Castro and Cheyre 2006). In this sense, through different kinds of econometric studies we have learned much about the causes and consequences of material poverty in Chile. Given data constraints, however, statistical work on the multidimensional faces of poverty is much sparser, although this is an area where we will probably find much new research in the coming years⁷. In this paper we will take advantage of a survey administered by OPHI in Chile in 2008 on the basis of the CASEN survey⁸. It is with this cross-section data that, following our previous discussion, we will consider the relationship between entrepreneurship and empowerment among poor agents. This will also allow us to examine the value of several variables proposed in the multidimensional approach to poverty

In order to consider if undertaking entrepreneurial activities has an effect on an agent's sense of empowerment we estimate a Probit model (Greene 2003), where the dependent variable is being empowered, and the independent variable is being an entrepreneur. Formally, we estimate a model of the following form:

$$y_i^* = x_i\beta + \varepsilon_i$$

where we assume that $\varepsilon_i \sim N(0, \sigma^2)$.

Here y_i is a binary variable such that it takes 1 if empowered, 0 otherwise. And being empowered is defined below. On the other hand, indicates whether the agent is an entrepreneur or not. Considering the difficulties (and arbitrariness) involved in estimating a model on empowerment, as a first approximation we do not include other control variables.

Before we go on to review our results, a brief comment is in order regarding the data and the classification of empowerment and entrepreneurship we are using for our analysis. As to the first point, the OPHI survey includes a sample of 2,058 households that had been interviewed for the 2006 CASEN survey. This represents 7,985 individuals who re-took the income, employment, healthcare, education, and housing modules of the CASEN survey, as well as answered the new questions devised by OPHI on the missing dimensions of poverty⁹. From this full sample we will work with a sub-sample of 1,003 observations (corresponding to 673 households), which correspond to the observations where there is no missing data.

As to the second point, here we will consider different criteria to measure poverty, entrepreneurship and empowerment. Regarding poverty, we use two

⁷It is important to note, in any case, that different types of qualitative studies have shed light as to the faces of poverty in Chile (see, for example, Fundacion Superacion de la Pobreza, n.d.).

⁸The CASEN survey, Encuesta de Caracterizacion Socioeconomica Nacional, is a cross-section survey that provides information regarding the socioeconomic conditions of the national population in Chile. The survey has been carried out over a representative sample of households throughout the country since 1985, on a bi and tri-annual basis.

⁹The questionnaire in English is available at the OPHI web-page

Table 1: Poverty and Indigence

Methodology	Poverty Level	% subsample
Mideplan	NIP	10.4%
	I	4.4%
	TP	14.8%
Larraín	NIP	20.0%
	I	7.8%
	TP	27.8%
Selfreported		8.5%

Note: NIP: Non indigent poor; I: Indigent; TP: Total Poor

alternative criteria to class an individual as poor: the official methodology used by Mideplan, and the poverty line proposed by Felipe Larraín (2008). These different classifications yield the results portrayed in Table 1, where we also include a classification based on the self-assessment of the interviewees surveyed. In this sense, and as it was to be expected, when we use different definitions of poverty we find that the number of poor individuals are different. Since this is not the place for a comprehensive discussion as to the advantages and disadvantages of these various criteria here we simply present our results using these different classifications with no further discussion in this sense¹⁰.

On entrepreneurship we consider two proxies¹¹: self-employment according to the response in the OPHI-CASEN survey, and a variable that filters the records on self-employment, such that we only consider agents who have psychological attributes typical of entrepreneurs (namely who exhibit a tendency to work hard and who value flexibility and autonomy in their work). This classification is based on anecdotic evidence that suggests that entrepreneurs are, indeed, hard working and value autonomy (for a review of these issues, see Shane and Venkataraman 2000). The classification of these variables produces the results presented in Table 2.

The construction of the variables that are supposed to capture empowerment follow the indicators designed by Ibrahim and Alkire (2007), that are included in the OPHI survey applied in Chile. We have already referred to the fact that empowerment is a subjective variable. The efforts at dealing with this issue have involved constructing different variables that reflect the different meanings of this term. Recognizing the importance of these methodological issues we have considered four different variables that capture different features of what we understand as empowerment. The variables we have used seek to capture the fundamentals of the concept under examination in the sense of assessing whether agents have control over their personal decisions, whether they have

¹⁰For a discussion of these issues, see, for example, Larrain (2008) and references cited therein.

¹¹In this sense, since here we are using cross-section data, we will not be employing the more-or-less standard series on entrepreneurship built by the World Bank or the Global Entrepreneurship Monitor consortium.

Table 2: Entrepreneurship

Classification	% sample	% subsample
Entrepreneur (selfemployed)	26.9%	27.9%
Entrepreneur (psicological)	24.1%	23.4%

individual autonomy, and whether they feel they are changing aspects in their lives. Specifically, the four questions from the OPHI survey deal with: (i) financial independence from the state when retiring from the job-market (IFJV); (ii) the agent’s perceptions as having some control on his or her daily decision-making (GCD); (iii) the agent’s perception about his or her ability to make a difference in society (CC) and; (iv) the agent’s perception about his or her individual autonomy (PLI).

A couple of comments are in order regarding these variables. In the first place it is important to note that the first question, regarding an agent’s financial independence is especially complicated to interpret in the Chilean case given the nature of the existing pensions system which is based on individual savings accounts. Family relations may be important as additional mechanisms for old age retirement. Basic pensions guaranteed by the state are, however, very low, which provides an additional motivation for individual savings. The three other variables are much more straightforward to interpret and we feel that the question about perceptions of individual autonomy (PLI) is the most important variable in this sense, although we do acknowledge that it can be construed to refer to a very wide and heterogeneous type of “freedoms”¹². As to operational issues, it is important to keep in mind that the variables are recorded along a scale, which is 4-point in the case of an agent’s control on daily decisions (GCD) and perception on individual autonomy (PLI), and five-point in the case of perception on making a difference in society (CC).

To the extent that in our econometric analysis we use different variables that capture different issues related to entrepreneurship and empowerment (as well as define poverty in different ways), we should expect to obtain somewhat different results. We are ready to argue that the robustness of our analysis is based on a comparison of the results using different variables on poverty; the variables on entrepreneurship and empowerment we are using do reflect significantly different things. In this sense, our results in this respect should be interpreted as pointing to significant findings in terms of assessing the meaning and significance of separate proxies of entrepreneurship and, especially, empowerment.

All of the above said, let us now proceed to present our econometric results. In the first place we present the results of a Probit model of the probability of being empowered for the full sample of agents, that is, including poor and non-poor agents. In order to interpret these results we calculate marginal ef-

¹²Specifically, the interviewee is asked to evaluate the following statement: I feel free to decide for myself how to lead my life according to a scale where he can answer that this is Not at all true, Somewhat true, Fairly true, and Completely true.

fects of the different variables under consideration (Bartus 2005); these results are presented in Tables 3 and 4, where in Table 3 entrepreneurship is measured in terms of self-employment, while in Table 4 it is measured in terms of psychological variables. Different rows indicate the estimations as we consider the different variables used to measure empowerment as defined above (IFJV, GCD, CC and PLI).

These results indicate to what degree an agent is more or less empowered when he is an entrepreneur as opposed to when he is not an entrepreneur. The financial independence from the state when retiring from the job-market has the wrong sign whatever definition of entrepreneurship we use. On the other hand, when we use the perceptions of individual autonomy we find that an entrepreneur is 6.2% - 8.5% more empowered than a non-entrepreneur (depending on the criteria of entrepreneurship we use). The only other statistically significant variable is having control over one's decision-making, such that an entrepreneur (according to the psychological criteria) is 5% more empowered in this sense than a non-entrepreneur. Note that as mentioned previously these results deal with the full sample of agents in the OPHI/CASEN survey. The question that must be addressed next is whether there are differences when we consider only poor agents. These results are presented in Tables 5-8, which differ in terms of the criteria of poverty used.

As we can see, the results suggest that the marginal effects for PLI (perceptions of individual autonomy) are only statistically significant (and with the expected sign) for poor agents (whatever the definition of poverty we consider). Furthermore, these marginal effects are larger than when we consider the full data sample. On the other hand, we once again find that financial independence from the state when retiring from the job-market (IFJV) has the wrong sign, although here there is no difference between the population of poor agents and the population of non-poor agents when we consider poverty in terms of Larraín's classification.

As a further elaboration of our analysis in Tables 9-12 we repeat the previous exercise while including two control variables in our econometric model. These are sex (r2k) and age (r3k); one can easily imagine that these are important variables to consider in a model explaining empowerment. As can be seen, the marginal effect of IFJV (independence from the state when retiring from the job-market) continues having the wrong sign in the equation for poor agents when Larraín's classification is used. On the other hand, PLI (perceptions of individual autonomy) is significant among poor agents when we consider Mideplan's classification; the calculated marginal effect suggests that a poor entrepreneur is 10,6% more empowered than a poor non-entrepreneur. Interestingly, in this specification the control variables are also statistically significant.

One further issue must be addressed before we make too much of our results. This refers to the specification used in the model. Does entrepreneurship cause empowerment, or does the causation go the opposite way, such that it is empowered agents that are entrepreneurs? In our previous discussion we have offered several reasons as to why we believe the relationship goes from entrepreneurship to empowerment. To repeat, this is related to the nature of empowerment

as human action. When we consider poor agents, and it is on this result that we wish to focus now, micro-entrepreneurship may constitute the key vehicle of empowerment, although at this point it is important to acknowledge that endogeneity may be an important issue to consider. Econometric tests allow us to assess this question, at least in the context of the data-set we are using here. Specifically, here we are performing a correlation test, in which the null hypothesis is that the correlation between both variables is zero. Therefore, when the null hypothesis is rejected we can confirm that there is a relationship between both variables.

Once again, when we consider different definitions of empowerment we obtain different results. As we can see, the results are only consistent with our framework when we consider empowerment as the perception on individual autonomy; in this case it can indeed be said that being an entrepreneur makes an agent more empowered in this sense. This is an important result which brings us back to our previous discussion on the nature of empowerment and on the different indicators used to measure it. To make our point in a straightforward manner, we believe that the econometric results we have presented confirm our intuition in the sense that the perception on individual autonomy is the best indicator of empowerment.

4 Final Remarks

In this paper we have used new cross-section data on Chile to examine the relationship between human development and entrepreneurship. Our main focus has been on empowerment and its relationship with entrepreneurship focusing on poor agents. We have found that entrepreneurship has important effects on empowerment as an additional dimension of human development. The specific proxy of empowerment that yields the expected results is the perception of individual autonomy; this is also the variable that, we believe, better captures the concept of empowerment.

The policy implications of our exercise may be important. Our results provide evidence in the sense that there are non-traditional social policies that can empower the poor; conversely, one can conjecture that standard social policies may be inconsistent with such empowerment, although this is an issue that may require further analysis¹³. This is a problem that, we believe, is related both to the design of the policies as well as to their unintended consequences. While here we have not considered the issue explicitly, social dependence is an evil that must be addressed. On the other hand, civil society has an important role in combating poverty; this is where microfinance can play an important role. The crucial point here is that we value micro-entrepreneurship not because its effects on the process of creative destruction and aggregate economic growth, but because of its wider effects on economic development. Previous contributions had called attention to these issues (Cotter 1996; Grosh and Somolekae 1996), but the mechanisms at work were somewhat vague; we believe that our analysis is significant in this respect.

¹³This does not mean that all social policy is worthless, as policies focused on the development of the cognitive and non-cognitive abilities of children, which may lie at the source of poverty, may be very effective (Heckman and Carneiro 2003).

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Table 3: Independent variable: selfemployed

	dF/dx	SE	z	P>z	\bar{x}	95% CI	
IFJV	-0.14	0.026	-5.85	0.000	0.29	-0.19	-0.088
GCD	0.026	0.021	1.17	0.241	0.33	-0.16	-0.069
CC	-0.008	0.025	-0.32	0.752	0.33	-0.058	0.042
PLI	0.062	0.020	2.91	0.004	0.33	0.022	0.102

Table 4: Independent variable: entrepreneur

	dF/dx	SE	z	P>z	\bar{x}	95% CI	
IFJV	-0.090	0.027	-3.62	0.000	0.24	-0.140	-0.037
GCD	0.050	0.022	2.13	0.033	0.27	0.006	0.094
CC	0.038	0.026	1.40	0.161	0.26	-0.014	0.090
PLI	0.084	0.020	3.74	0.000	0.27	0.044	0.124

Table 5: Poverty (Larrain), non poor, independent variable: entrepreneur

	dF/dx	SE	z	P>z	\bar{x}	95% CI	
IFJV	-0.130	0.094	-1.68	0.093	0.0605	-0.316	0.054
GCD	0.096	0.067	1.13	0.260	0.0608	-0.036	0.228
CC	-0.060	0.083	-0.66	0.508	0.0600	-0.223	0.102
PLI	0.084	0.075	1.15	0.250	0.0536	-0.063	0.232

Table 6: Poverty (Mideplan), non poor, independent variable: entrepreneur

	dF/dx	SE	z	P>z	\bar{x}	95% CI	
IFJV	-0.0766	0.068	-1.26	0.207	0.0736	-0.209	0.056
GCD	0.1231	0.052	1.84	0.066	0.0760	0.020	0.225
CC	-0.0015	0.068	-0.02	0.982	0.0734	-0.136	0.132
PLI	0.0574	0.054	1.08	0.282	0.0714	-0.049	0.164

Table 7: Poverty (Larrain), poor, independent variable: entrepreneur

	dF/dx	SE	z	P>z	\bar{x}	95% CI	
IFJV	-0.211	0.061	-3.67	0.000	0.1789	-0.331	-0.091
GCD	0.060	0.048	1.17	0.244	0.1880	-0.035	0.155
CC	0.053	0.055	1.02	0.308	0.1893	-0.053	0.161
PLI	0.108	0.042	2.64	0.008	0.1636	0.026	0.190

Table 8: Poverty (Mideplan), poor, independent variable: entrepreneur

	dF/dx	SE	z	P>z	\bar{x}	95% CI	
IFJV	-0.265	0.072	-3.76	0.000	0.232	-0.407	-0.123
GCD	-0.008	0.058	-0.14	0.887	0.242	-0.122	0.106
CC	0.026	0.064	0.41	0.679	0.246	-0.100	0.153
PLI	0.149	0.049	3.08	0.002	0.195	0.052	0.246

Table 9: Poverty (Larrain), non-poor, independent variable: entrepreneur, control: sex and age

		dF/dx	SE	z	P>z	\bar{x}	95% CI	
IFJV	entrepreneur	-0.131	0.094	-1.70	0.088	0.060	-0.317	0.053
	sex	0.709	0.033	-2.09	0.037	1.383	-0.136	-0.005
	age	0.001	0.001	0.70	0.484	43.66	-0.002	0.004
GCD	entrepreneur	0.064	0.075	0.71	0.479	0.060	-0.083	0.211
	sex	0.253	0.044	5.09	0.000	1.388	0.166	0.341
	age	-0.000	0.001	-0.46	0.648	43.64	-0.004	0.002
CC	entrepreneur	-0.062	0.082	-0.69	0.492	0.060	-0.224	0.098
	sex	0.018	0.045	0.40	0.686	1.387	-0.070	0.107
	age	0.000	0.002	0.11	0.912	43.63	-0.003	0.004
PLI	entrepreneur	0.015	0.074	0.21	0.830	0.053	-0.130	0.162
	sex	0.059	0.034	1.70	0.089	1.370	-0.008	0.126
	age	0.009	0.001	7.01	0.000	39.61	0.006	0.011

Table 10: Poverty (Mideplan), non-poor, independent variable: entrepreneur, control: sex and age

		dF/dx	SE	z	P>z	\bar{x}	95% CI	
IFJV	entrepreneur	-0.069	0.066	-1.17	0.241	0.073	-0.200	0.060
	sex	-0.082	0.030	-2.17	0.007	1.379	-0.141	-0.023
	age	0.001	0.001	1.24	0.214	43.41	-0.001	0.004
GCD	entrepreneur	0.093	0.055	1.35	0.178	0.076	-0.016	0.202
	sex	0.273	0.039	6.42	0.000	1.384	0.195	0.350
	age	-0.001	0.001	-0.93	0.354	43.37	-0.004	0.001
CC	entrepreneur	-0.001	0.068	-0.02	0.983	0.073	-0.135	0.132
	sex	0.004	0.037	0.13	0.896	1.383	-0.067	0.077
	age	-0.001	0.001	-0.74	0.460	43.44	-0.004	0.002
PLI	entrepreneur	-0.002	0.054	-0.05	0.964	0.071	-0.109	0.104
	sex	0.068	0.028	2.36	0.019	1.365	0.011	0.124
	age	0.009	0.001	8.44	0.000	39.63	0.007	0.011

Table 11: Poverty (Larrain), poor, independent variable: entrepreneur, control: sex and age

		dF/dx	SE	z	P>z	\bar{x}	95% CI	
IFJV	entrepreneur	-0.235	0.063	-3.98	0.000	0.178	-0.360	-0.111
	sex	-0.095	0.043	-2.19	0.029	1.429	-0.181	-0.009
	age	0.002	0.002	1.43	0.153	44.24	-0.001	0.006
GCD	entrepreneur	0.075	0.045	1.53	0.127	0.188	-0.013	0.163
	sex	0.252	0.041	5.89	0.000	1.430	0.170	0.334
	age	0.000	0.001	0.24	0.808	44.25	-0.003	0.004
CC	entrepreneur	0.055	0.055	1.04	0.299	0.189	-0.053	0.164
	sex	-0.017	0.042	-0.40	0.687	1.429	-0.101	0.066
	age	-0.001	0.002	-0.56	0.575	44.18	-0.005	0.002
PLI	entrepreneur	0.059	0.042	1.40	0.162	0.163	-0.025	0.143
	sex	0.083	0.031	2.65	1.381	1.381	0.021	0.145
	age	0.009	0.001	7.59	40.25	40.25	0.006	0.011

Table 12: Poverty (Mideplan), poor, independent variable: entrepreneur, control: sex and age

		dF/dx	SE	z	P>z	\bar{x}	95% CI	
IFJV	entrepreneur	-0.308	0.075	-4.15	0.000	0.232	-0.456	-0.160
	sex	-0.087	0.061	-1.43	0.154	1.468	-0.207	0.032
	age	0.004	0.002	1.43	0.154	45.14	-0.001	0.009
GCD	entrepreneur	0.018	0.054	0.33	0.741	0.242	-0.088	0.125
	sex	0.203	0.049	4.01	0.000	1.468	0.106	0.301
	age	0.002	0.002	1.08	0.278	45.22	-0.002	0.007
CC	entrepreneur	0.017	0.066	0.26	0.797	0.246	-0.114	0.148
	sex	-0.028	0.057	-0.49	0.622	1.464	-0.140	0.084
	age	0.000	0.002	0.19	0.853	44.93	-0.005	0.006
PLI	entrepreneur	0.105	0.050	2.13	0.003	0.195	0.005	0.205
	sex	0.088	0.039	2.25	0.024	1.398	0.011	0.166
	age	0.008	0.001	6.04	0.000	40.59	0.005	0.011