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Returns to Micro-Entrepreneurship in an Emerging Economy: A Quantile Study of Entrepreneurial Indonesian Households' Welfare

VIRGINIE VIAL [a,b] and JULIEN HANOTEAU [a,c,*]

[a] *Kedge Business School, France*
[b] *Institut d'Asie Orientale (IAO, UMR CNRS 5062), France*
[c] *GREQAM (Aix Marseille School of Economics), France*

Summary. — Presenting low individual returns, but providing households with livelihoods and means to cope with economic vulnerability, micro-entrepreneurship's evaluation should include both context and heterogeneity. Using a four-wave panel of 9,157 Indonesian households, this study proposes a quantile estimation of micro-entrepreneurship's effects on four household-level complementary measures of welfare – income, consumption, household, and total assets. It evidences substantial positive but decreasing effects on the four measures, with the highest relative returns for the poorest. For this category, micro-entrepreneurship primarily provides returns in the form of income, translating into higher relative consumption, but more importantly, into a greater relative assets accumulation.

Key words — micro-entrepreneurship, self-employment, economic welfare, Indonesia, quantile regression

1. INTRODUCTION

Micro-entrepreneurship and self-employment [1] have developed continuously during the last decades, and today, they provide a large majority of jobs in low-income countries (Gindling & Newhouse, 2014; Mead & Liedholm, 1998). They are important for employment, growth, and the overall development process (de Soto, 1989; Henley, 2005; Schumpeter, 1943). International institutions, NGOs, and private banks thereby justify their increasing efforts devoted to Business Development Programs (BDPs) targeting micro-entrepreneurship, such as micro-credit initiatives (Verrest, 2013).

This view is however challenged, as micro-entrepreneurship only grants little or no productivity (Banerjee, Duflo, Glennerster, & Kinnan, 2015), and could actually signal economic distress (Harris & Todaro, 1970; Vijverberg, 1991). It has been observed in both developed and developing countries, that entrepreneurs earn less than salaried workers (Hamilton, 2000; Mandelman & Montes-Rojas, 2009; Parker, 1997; Vijverberg, 1991). In addition, BDPs, and micro-finance initiatives in particular, show mixed results (Banerjee, Banerjee, & Duflo, 2011; Banerjee *et al.*, 2015; Hermes & Lensink, 2011).

Micro-enterprises do not appear as lucrative, this paper argues, because most studies fail to account for both micro-entrepreneurs' contexts and heterogeneity. In terms of contexts first, further research is needed to assess micro-enterprises' overall impact for individuals, markets, and communities (Banerjee *et al.*, 2015), and in terms of their provision of livelihoods to billions of poor individuals (La Porta & Shleifer, 2008) and their families. Indeed, one of the primary objectives of micro-entrepreneurship is to diversify the sources of household income, and augment consumption and savings (Banerjee & Duflo, 2007; Banerjee *et al.*, 2011). For a household with poor access to the employment sector and a binding constraint on the amount of its salaried working hours, self-employment may be the only solution for household members to increase their labor supply and revenues.

Households and micro-businesses are inextricably intertwined, in terms of ownership, management and decisions, saving and financing, production and consumption (Tipple, 2005). Micro-entrepreneurship is used as a livelihood strategy. It acts as a complement to salaried employment, and raises household's labor utilization and income (Fields, 2012; Moser, 1998); and as a source of nonmarket transactions, it supplements consumption and the acquisition of durable goods (Floro & Swain, 2013; Verrest, 2013). It is also used as a mean to diversify household's professional activities, and reduces risk (Ferreira & Lanjouw, 2001; Verrest, 2013). Providing livelihood and addressing economic vulnerability (Verrest, 2013), micro-entrepreneurship is therefore likely to increase households' economic welfare. This option is however only available to households with access to the necessary financial, human, and social capital (Nichter & Goldmark, 2009).

In order to further the understanding and estimation of micro-entrepreneurship's objectives and returns, a household economic welfare approach is needed (Carter, 2011; Verrest, 2013). Because income alone is insufficient to account for economic welfare, this paper uses three additional measures- consumption, household, and total assets. They cover different perimeters, respectively including short-term market-based components of economic welfare, short-term market- and nonmarket-based components, and long-term market- and nonmarket-based components for the last two. They also reflect different dimensions of economic welfare, respectively: providing means, fulfilling basic needs, and coping with risks. Finally, they appear as core arguments on which households make tradeoffs and decisions with the purpose to maximize their expected utility.

Second, entrepreneurial households' heterogeneity matters, because micro-entrepreneurs with different characteristics pursue different sets of objectives (Grimm, Knorringa, & Lay, 2012; Moser, 1998; Verrest, 2013). These characteristics

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-vulnerability, risk aversion, as well as social and demographic household attributes, vary along the welfare distribution (Ogundari & Aromolaran, 2014), and condition the micro-enterprise's objectives to supplement income and consumption, reduce vulnerability, escape poverty, raise social status, and/or acquire other nonpecuniary benefits (Hamilton, 2000; Maloney, 2004). They will therefore shape the nature and magnitude of the expected returns to micro-entrepreneurship participation, conditional upon the position of the household in the welfare distribution (Hamilton, 2000; Tamvada, 2010).

This paper aims at taking micro-entrepreneurship's contexts and heterogeneity into account through the assessment of households' economic welfare returns to micro-entrepreneurship, and estimation of their variation along the welfare distribution.

To this end, this study models and estimates economic welfare as a function of micro-entrepreneurship participation and households' characteristics using Indonesian household survey data for 1993, 1997, 2000, and 2007, thanks to instrumental panel and quantile regression techniques. Results show that, on average, micro-entrepreneurship improves households' economic welfare for each of the four measures chosen. This impact is relatively strong for the poorest quantiles, and declines along the welfare distribution. In addition, entrepreneurial households tend to allocate the resulting income surplus to assets rather than consumption, with a stronger effect for the poorest. This suggests that policies supporting micro-business development programs, especially for the poorest, are likely to bring substantial long-lasting economic welfare benefits.

This article is structured as follows. The next section presents the theoretical underpinning of the measurements of economic welfare, as well as the relationship between micro-entrepreneurship and welfare. The second section presents the data and empirical methodology, and the third section exposes the results. The last section concludes and presents policy implications.

2. MICRO-ENTREPRENEURSHIP, HOUSEHOLDS, AND WELFARE

(a) *Measurements of economic welfare*

Following international standards, we define micro-entrepreneurship as firms with fewer than five employees and self-employed individuals (Munoz, 2010). In developing countries, micro-businesses account for the large majority of the workforce (Gindling & Newhouse, 2014), belong for a majority to the informal sector (Charmes, 2012; Maloney, 2004), while a minority is part of the formal sector (Henley, Arabsheibani, & Carneiro, 2009).[2] Households' micro-entrepreneurship represents a complementary source of livelihood, which embeds "assets, activities and access to these that together determine the living gained by individuals or households" (Verrest, 2013, p. 59), in order to increase or maintain their economic welfare. The latter is defined as the utility obtained from the use of goods and services that can be secured through either market transactions, such as purchases and leases, or nonmarket transactions, such as self-production, gifts, or access to public services and services rendered by consumer durables (Montgommery, Gragnolati, Burke, & Paredes, 2000). The previous literature on the returns to micro-entrepreneurship, considers income only, and solely at the level of the individual entrepreneur (see for examples Hamilton, 2000; Mandelman & Montes-Rojas, 2009; Vijverberg, 1991; and for a review, Carter, 2011). A main contribution of this paper is to analyze the returns to micro-entrepreneurship from the entrepreneurial household perspective, applied to three economic welfare measures, among which is income.

Income, the current flow of monetary means available to the household, accounts for the immediate market-based resources (i.e., declared earnings) (Meyer & Sullivan, 2003). It is necessary because it accounts for some of the immediate resources that are saved, and which would not be captured by another measure of current welfare such as consumption. Numerous studies in development economics propose to complement income with consumption and assets, as a way to include other perimeters of resources and reflect different dimensions of economic welfare. Consumption covers a larger perimeter than income, in that it encompasses both market and nonmarket resources. It also compensates for the shortcomings of underreported income (Meyer & Sullivan, 2003), which is quite pronounced among entrepreneurial households, with the purpose of minimizing income tax payments (Hamilton, 2000).[3] Above all, consumption accounts for the immediate fulfillment of basic needs such as food, shelter, education, and health, making it an important measure of short-term welfare (Bauman, 1999; Meyer & Sullivan, 2003).

However, market-based and nonmarket-based resources are allocated between consumption and savings. Therefore, consumption alone cannot account for all the means available to the household, and must be complemented by assets, as they also better capture the long-term ability to sustain a current level of economic welfare (Filmer & Pritchett, 1999).

This is a standard feature in the analysis of households' inter-temporal choices. This paper assumes that a household allocates its total time endowment N_t between leisure l_t, and two working activities.[4] Household members can work h_t^w hours outside the family, in the formal or informal employment sectors, for a wage rate $w_t(Z_t)$ that is exogenous but depending on a vector Z_t of some household characteristics (e.g., education improves the access to better paid jobs in the formal sector). Household members can also start and run a micro-business and receive a profit $\pi_t(A_t^b, h_t^b, Z_t)$ that is a function of the household's holding A_t^b of business assets at the beginning of period t, time h_t^b devoted to the business, and some characteristics Z_t that condition its ability to run a business. The household's total income at period t is:

$$Y_t = \pi_t(A_t^b, h_t^b, Z_t) + \tau_t w_t(Z_t) h_t^w, \tag{1}$$

with τ_t an exogenous random shock (e.g., job loss, health problems, accidents) on wage earnings. In the presence of uncertainty on income, households with consumption c_t and utility $u_t(c_t, l_t, Z_t)$ implement risk-coping strategies.[5] They may save in domestic and productive assets, in particular if they face limited borrowing possibilities, and this choice proceeds from a tradeoff between, on the one hand, immediate consumption, and on the other hand, future income and consumption. As a result from a tradeoff between leisure and income, they can also adjust and extend their labor supply, by reducing leisure time, so as to increase their income and eventually save part of it (Berloffa & Modena, 2013; Rosenzweig & Wolpin, 1993). Assuming T decision periods, these tradeoffs are accounted for in a program in which the household maximizes its expected utility over this period under its budget constraint[6]: