



STEG PATHFINDING PAPER

# SELF EMPLOYMENT, MICRO- ENTREPRENEURSHIP, AND DEVELOPMENT

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# Self Employment, Micro-Entrepreneurship, and Development

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## Abstract

Firms in low and middle income countries tend to disproportionately be small in size compared to firms in high income countries, driven by high rates of self-employment. What explains this empirical fact? The paper discusses existing evidence and promising paths for future research. We begin by summarizing existing work investigating the role of capital constraints as a primary explanation. We then discuss theories beyond credit constraints, such as monitoring costs and demand structure, that could lead to small firm sizes. Finally, we suggest directions for future work that expands on the rich literature studying the effects of interventions that aim to reduce barriers to firm growth. We identify frictions in managerial labor markets as another interesting direction for research focused on barriers to growth among SMEs. However, we also suggest research directions that examine the possibility that micro-entrepreneurship may be an optimal response to frictions that may not directly affect SMEs, but make finding wage labor more difficult.

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# 1 Introduction

The vast gap in levels of self employment and own-account work is one of the most striking differences between high and low income countries. Among the poorest countries in the world, self employment is overwhelmingly the most common way that people earn a living. For example, the self employment rates of the Central African Republic, the Democratic Republic of Congo, and Niger – three of the poorest countries in the world – are 93 percent, 79 percent, and 95 percent respectively<sup>1</sup>. In contrast, the self employment rate in the United States is merely 6 percent with similar rates for other developed countries (e.g. Norway with 6 percent and Germany with 10 percent).

In addition to variation in the level of self-employment, the nature of self-employment and entrepreneurship also varies substantially with development. Somewhat by necessity given their large population shares, the self-employed in lower income countries are generally not business owners managing multiple employees and large amounts of capital. Instead, the vast majority of the self-employed operate small-scale enterprises often with minimal capital and no employees, outside of perhaps a household member or two who assist with operating the business. Often these businesses are referred to as "micro-enterprises" or "small and medium enterprises" (SMEs) although definitions differ and the latter can refer to businesses that are substantially larger (e.g. in Kenya, a business is considered an SME as long as it has fewer than 100 employees). Unlike in higher income countries, many micro-entrepreneurs are also substantially poorer than average, even for their country. In this sense, not only are the quantities of self employed different between higher and lower income countries, but the qualitative nature of self employment, including the industries in which they operate, also differs. Given the stark relationship between levels of self-employment and economic development, as well as the distinct qualitative difference between the nature of self-employment in higher and lower income countries, it is not surprising that there is a substantial amount of research interest in investigating and exploring their potential links.

In this paper, we aim to broadly summarize current research and understanding on these links between self employment, structural change, and development, with an eye towards highlighting gaps in knowledge and paths forward for future research. Rather than a comprehensive literature review, our goal is to provide an overarching view into some key questions posed in the literature,

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<sup>1</sup>Taken from the World Bank WDI database for the year 2018

the progress made in answering them, and what is still unknown. We hope that this proves useful for both young researchers and graduate students interested in the topic, as well as established researchers looking to see how their research agenda can inform questions of self-employment and economic growth.

We frame our discussion around two distinct views of self employment and view the literature through the lens of trying to distinguish between these views. The first is that high rates of self employment and micro-enterprise are the result of operating constraints (such as capital constraints) faced by entrepreneurs. In this view, micro-enterprises represent businesses that want to be larger (at least at current prices) but due to the presence of these frictions cannot expand. In such a situation, high levels of self employment and microenterprise could be considered a "proximate cause" (to use the language of Hsieh & Klenow, 2010) of low productivity in developing countries as these firms are operating at a sub-optimal scale.

The second view is that high levels of micro-entrepreneurship are an optimal response to structural differences between low and high income countries. In this view, although they may wish to be operating in a more favorable environment, micro-entrepreneurs are unconstrained (at least in their choice of size) and do not wish to be larger. In this view, the causality does not run from micro-enterprise to low productivity. Instead, the structural differences that cause low productivity also cause optimal firm size to be smaller.

While broad, this question is fundamentally important because, as discussed above, the two view imply different directions for the causality between micro-enterprise and structural change. In the case where micro-entrepreneurs represent otherwise productive firms that are unable to expand due to, for example, lack of access to capital markets, causality runs from micro-enterprise to economic growth. Policy interventions that effectively reduce constraints will allow micro-enterprise to grow into larger and more productive firms, boosting productivity at an aggregate level and inducing structural change. On the other hand, if micro-enterprise is simply the optimal choice for firm size, even absent any market frictions, interventions aimed at encouraging or expanding micro-entrepreneurship in low-income settings will have small (or perhaps even negative) effects on growth. Instead, rates micro-entrepreneurship will decline as the economy grows for reasons other than productivity growth and expansion of micro-enterprises.

These two possibilities lead to a fundamental tension for policymakers and researchers wishing

to provide policy advice. Because micro-entrepreneurs are often among the poorest individuals in a country, there is a strong humanitarian and political urge to provide them with resources, training, and support within their chosen form of livelihood. However, the aggregate consequences of such policies on economic growth are unclear from the existing literature. If it is the case that micro-enterprises account for a large portion of low productivity, policies aimed at encouraging and entrenching these businesses could carry long term consequences through low growth, as compared to a world in which labor is successfully reallocated to higher-productivity sectors and firms. On the other hand, if such policies help alleviate constraints, then they may funnel resources towards highly productive micro-entrepreneurs who then grow into larger successful businesses that can drive economic growth.

A natural approach to answering this question is to examine the effects of interventions aimed at loosening constraints for micro-entrepreneurs. If inability to overcome constraints to growth is the fundamental reason that entrepreneurs operate at a small scale, it follows that evaluations of such interventions should find positive effects on growth, profits, and scale. In the first part of Section 2, we examine the empirical and theoretical literature on the impacts and role of these constraints.

We begin by examining the role of capital constraints. The idea that the inability to access capital is a primary reason for the small scale of business in developing countries is not a new one, dating to at least Banerjee and Newman (1993). As a result, the past few decades of experimental development research have provided many trials evaluating the effects of providing loans and grants designed with the explicit goal of alleviating capital constraints for small-scale entrepreneurs. We briefly summarize the experimental literature and conclude that the evidence is mixed, with some large effects of relieving capital constraints for specific of firms in specific settings, but overall modest-to-small effect sizes (Meager, 2019, 2022). This suggests that capital market frictions may not be the primary driver of high levels of micro-enterprise.

We then turn to the macroeconomic literature on the impact of credit constraints. The core idea in much of this literature is that if capital markets do not function well and fail to allocate capital to the most productive entrepreneurs, access to capital rather than productivity can become the primary driver of occupational choice, leading to misallocation, low productivity, and holding back economic growth. Even if experimental studies estimate only modest effects, general equilibrium effects may amplify these small improvements in allocative efficiency through further capital

accumulation, upwards pressure on interest rates, or other channels. In short, small experimental effects do not necessarily imply small aggregate effects. Still, the conclusion of this literature is that although economic theories linking entrepreneur credit constraints, self employment, and productivity are convincing, the quantitative impact of improved capital markets, while significant, is far from transformative and likely insufficient to induce structural change.

Instead of alleviating capital constraints, a second set of studies evaluate interventions targeted at micro-enterprises and the self employed that attempt to increase entrepreneur productivity directly through training. Although these interventions generally do not directly evaluate the reasons for self employment and micro-enterprise, examining how the self employed respond to higher productivity is potentially informative about the fundamental nature of micro-enterprise. We briefly summarize this literature to emphasize that the training interventions that do find positive effects seem to only result in increases in profits. In response to higher productivity, entrepreneurs do not generally seem to increase input usage, capital utilization, or expand their firm size through employment. Intuitively, these results, combined with the small average effects from alleviating capital constraints, undermine the notion that micro-enterprises are potential large, highly productive firms "lying in wait" for the right business environment to grow.

Given these modest effect sizes, it is natural to wonder if the model of micro-enterprises as identical in nature to large firms but stuck at a small scale due to constraints is incomplete. Perhaps there are simply structural differences between low and high income countries that lead low income countries to have smaller optimal firm structures. In other words, it is possible that micro-entrepreneurs operate at a small scale by choice, rather than due to constraints.

The latter part of Section 2 focuses on research along these lines. Unlike the literature on capital constraints or improvements to entrepreneur productivity, this literature has very few experimental evaluations. This is not surprising, as the broad nature of the question makes designing a comprehensive experiment almost impossible. Instead, the majority of this work involves quantitative evaluation of macroeconomic models that capture and highlight key mechanisms that explain why entrepreneurs may optimally choose to stay small. These range from principle-agent problems to labor market frictions to highly differentiated demand.

After summarizing the state of the literature, Section 3 presents what we view as productive paths for future research to take.

First, we discuss research into management frictions and the inability to hire managerial services, which may be a particularly promising path forward. The core idea here is that micro-entrepreneurs may have a productive business idea but lack the management skills to expand the scope of their firm beyond themselves and a few household members. Further, structural barriers and frictions in the economy may prevent or make it difficult for them to hire outside managers who can expand their scope. These barriers may arise from things like expropriation concerns or the inability for entrepreneurs to monitor manager effort, pointing to quality of legal institutions as a potential reason to explain high rates of self-employment.

Next we turn to paths forward for research on structural features of developing economies that may drive entrepreneurs to choose to remain small. Among these, we emphasize research on labor market frictions and job finding risk as a particularly promising path. The core idea of this literature is that most micro-enterprise may arise from "subsistence self employment"; these entrepreneurs would prefer to work in wage jobs but cannot find them and turn to micro-enterprise out of necessity. In this view, it is unsurprisingly that many experimental evaluations find little effect on outcomes other than profits and consumption, as sustaining a baseline level of consumption is the primary purpose of many micro-enterprises. Relatedly, further work on barriers to migration and their relationship with self-employment may be helpful for assessing the degree to which self-employment is an optimal response to frictions that limit opportunities for wage labor.

Finally, we discuss how the literature examining the effects of loosening constraints and productivity training for micro-entrepreneurs could be expanded. We focus on the fact that while existing studies find small treatment effects on average, they find substantial effects for a narrow subset of firms. Future research on how these "high growth potential" micro-enterprises can be effectively identified ex ante and provided capital could be productive. We also highlight the need for evaluations of multi-faceted treatments that attempt to alleviate many constraints and improve productivity simultaneously. Relatedly, little work has explored the spillover effects of an intervention on one firm to others, which might happen via competitive effects in the market or may be mediated by input and output networks that the affected firm is part of. Future research that examines these effects would be important for effectively targeting interventions and assessing the net benefits of pursuing programs that support SMEs.

The remainder of the paper proceeds as follows: after a brief aside about measurement below,

Sections 2 and 3 summarize existing research into the relationship between self employment and structural change and discuss productive paths for future research respectively, as laid out above. Finally, Section 4 concludes

### **1.1 Who is an Entrepreneur? Who is Self Employed?**

Before diving in to the rest of the paper, it is worth taking a brief aside to discuss the definitions and measurement underlying the literature. So far we have used the terms “self employment”, “own-account work”, “entrepreneurship”, and “micro-enterprise” interchangeably. In doing so, we have remained in the spirit of the macroeconomic literature on these topics that models these concepts as more or less the same. In reality, these terms can refer to slightly different things. “Self employment” and “own-account work” are effectively interchangeable terms and can differ from “micro-enterprise” or “micro-entrepreneurship”; a subsistence farmer who consumes all their crops would certainly be self employed but would likely not be considered a micro-entrepreneur. However, if the same farmer sells excess crops at the market in order to purchase clothing, they may or may not be considered an entrepreneur with their entrepreneurial status depending on the specific definition of the study or database in which it is captured. Certainly, they are not running a micro-enterprise in the same way that a household who operates a stall selling food or a backyard foundry is.

Further complicating measurement of self-employment is the fact that many households in developing countries have multiple sources of income that can vary seasonally. If having ever engaged in own-account work classifies one as self employed, an individual that only occasionally engages in own-account work during the off season may be lumped in with an individual who spends all of their time operating a business. Conversely, if an individual’s primary reported activity is the only thing used to determine their employment status (as in, for example, the ILO modeled estimates used as the primary source for many databases, including the World Bank), individuals who engage in substantial entrepreneurship in addition to their main job will be missed. Similarly, an individual’s classification may change depending on when in the agricultural season they are interviewed (see Moneke & Walter, 2022).

As far as we know, while own-account work is measured fairly consistently, there is no established standardized definition for what exactly constitutes entrepreneurship (and, indeed, if it is distinct from own-account work at all). While more precise definitions and measurement would be useful,



we follow the macroeconomic literature on this topic and treat all of these concepts as more or less interchangeably. When necessary, we precisely define terms on a case-by-case basis. For example, many experiments on micro-entrepreneurs select their sample from all individuals who engage in non-agricultural own-account work, implicitly drawing the boundary for entrepreneurship there.

## 2 What is Known?

### 2.1 Lack of credit, capital, and other external constraints

As discussed above, capital constraints are a natural starting point in examining the drivers of high level of self-employment. Research along these lines find that some firms may have high returns to capital, suggestive of the fact that they face such constraints. For example de Mel, McKenzie, and Woodruff (2008) examine returns to capital by directly providing capital to randomly selected small firms in Sri Lanka. While the intervention provided grants rather than loans, the size the returns to capital is certainly suggestive that improved access to credit could be beneficial for firm output. Yet even such positive results – with average returns on the order of about 5 percent per year – seem to fall short of being transformative.<sup>2</sup> Average effects of approximately this magnitude seem to be confirmed by meta-analyses. Pooling evidence across different settings has found that average effects of expanding access to microcredit are generally quite modest (average effects around 5 percent) with only possibly a minority of household firms that may benefit substantially from improved access to credit (Meager, 2019, 2022).

Heterogeneity may mask some firms that can benefit greatly from improved access to credit, and within-study heterogeneity may be informative as to what kinds of firms those may be. de Mel, McKenzie, and Woodruff (2008) for instance finds substantially higher returns for some subgroups of firms. Higher returns to capital were seen for male entrepreneurs, high-ability entrepreneurs, and those with limited access to other sources of liquidity such as family members with wage jobs or own wealth. Crépon et al. (2015) notes that already-profitable firms tend to benefit more from improved access to credit. Relatedly, Meager (2019) examines microdata from multiple studies, and notes a pattern in which entrepreneurs who previously had business experience even prior to the expanded

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<sup>2</sup>Indeed, five years after the initial intervention, effects were sustained, but, across several measures of profits and labor income, the gap between treatment and control groups remained relatively constant (de Mel, McKenzie, & Woodruff, 2012).

access to credit were more likely to see increases in profit due to better access to credit.

Overall, the microeconomic literature on the average effects of improving credit access offers limited evidence that this channel alone is a primary reason for high rates of self-employment. Effects on firm revenue and profits tend to be of magnitudes that fall short of being transformative. As well, many studies on capital and credit constraints focus on firm revenue and profits. There is little evidence that relieving capital constraints increases firm employment. Nevertheless, evidence of heterogeneity leaves open the possibility that a small minority of firms may benefit greatly from relieving capital constraints.

This microeconomic literature on the effects of credit constraints on self employment and entrepreneurship is complemented by a macroeconomic literature quantifying the aggregate effects of such constraints, linking them to economic growth and structural transformation. Chief among these, Buera, Kaboski, and Shin (2011) builds a model in which the interaction between self employment and credit constraints plays a key role determining the sectoral composition of developing countries. The core idea is that entrepreneurs in manufacturing wish to operate at larger scales than those in agricultural and thus are disproportionately “kept small” by credit constraints. In such a theory, interventions aimed at helping entrepreneurs grow, particularly manufacturing sectors, are key to inducing structural change.

Moll (2014) develops a similar but distinct theory linking high levels of self employment to low productivity in developing economies. Here the role of credit constraints is not to shrink the scale of entrepreneurs in manufacturing, but instead to prevent the most productive entrepreneurs from expanding and out-competing less productive firms. The result is that credit constraints are directly responsible for the high levels of micro-enterprise in developing countries. In this case, micro-enterprises represent reductions in aggregate productivity — if the productive resources used by the self employed could be allocated instead to the most productive entrepreneurs, total output would increase. In the model, this is the core theoretical mechanism connecting high levels of self employment to the low productivity observed in poor countries.

Given the theoretical links connecting self employment and credit constraints to low productivity, one may wonder about the extent to which productivity can be increased by directly loosening these constraints. As discussed above, the experimental literature estimates only modest impacts of providing capital to micro-enterprises, but do these estimates necessarily imply small aggregate

effects from a universal improvement in capital markets? Or will general equilibrium serve as an amplification mechanism through, for example, movement out of self employment and upwards pressure on interest rates? Buera, Kaboski, and Shin (2021) address this question directly in a model of occupational choice featuring credit constraints. They conclude that the experimentally estimated effect sizes are sufficient to rule out transformational increases in productivity and output as a response to capital market improvements; however, general equilibrium effects are still important in shaping the overall impact of such improvements, as well as the distribution of the gains.

## 2.2 Management practices and skills training

High levels of micro-entrepreneurship may also stem from the fact that entrepreneurs in developing countries are constrained in their ability to acquire the skills and practices necessary to grow their businesses. Management practices appear to be an important source of variation in firm productivity. Bloom and Van Reenen (2010) summarize results from nearly 6,000 firm-level surveys on management practices and firm performance; higher average scores on 18 dimensions of management are strongly associated with measures of firm performance like sales per worker, employment, and survival. While these results were obtained for medium-sized firms primarily in high-income countries, McKenzie and Woodruff (2017) find similarly strong relationships between management practices and firm performance among small- and micro-enterprises in seven low-income economies. Experimental studies that succeed in changing management practices show meaningful improvements in firm performance (see, e.g. Bloom et al., 2013).

This observation has motivated substantial research and policy interest in various interventions targeting management practices and entrepreneurial skills. McKenzie (2021) estimates that, while comprehensive information is hard to come by, at least \$1 billion is spent to train 4-5 million entrepreneurs each year. These efforts are varied. One widespread approach is “traditional business skills” training, which focuses on practices related to marketing, costing, buying and stock control, record keeping, planning for your business, and people and productivity (see, e.g., Majurin, 2014). But there has been a proliferation of alternatives, including psychology-based mindset curricula, heuristics and rules of thumb, consulting, and mentoring, among others (see, e.g., Brooks, Donovan, and Johnson, 2018; Bruhn, Karlan, and Schoar, 2018; Campos et al., 2017; Drexler, Fischer, and Schoar, 2014).

While individual studies are often under-powered, aggregating evidence on traditional business skills training suggests modest effects on firm performance. In their 2013 review, McKenzie and Woodruff note that “few studies find significant impacts on profits or sales,” although “many evaluations suffer from small sample sizes.” More recent meta-analyses find that, across studies, traditional business skills training increases profits by about 5-6 percent and sales by about 10-12 percent on average (McKenzie, 2021; McKenzie et al., 2021).

Psychology-based training curricula have gained traction in recent years, with slightly larger average effects as compared to traditional business skills training. “Mindset” or “personal initiative” training attracted attention from researchers and policymakers following an early wave of research including Campos et al. (2017) and Glaub et al. (2014). Rather than specific management practices, these curricula emphasize proactive behavior, experimentation, and learning from feedback and setbacks. The evidence on these training curricula is a bit thinner and more variable, but McKenzie et al. (2021) find average effects of 14 percent of profits and 10 percent on sales. In studies like Campos et al. (2017) that directly compare personal initiative training to traditional business skills training, personal initiative training has larger effects on firm performance.

Other interventions that target management practices, including consulting and mentoring, have shown qualified success in a relatively small set of studies. Bruhn, Karlan, and Schoar (2018) find that subsidized consulting improves measures of firm productivity for a sample of micro, small, and medium enterprises in Mexico. While the results on productivity are sensitive to econometric choices, the authors find robust and sustained increases in employment and wage bills. Brooks, Donovan, and Johnson (2018) find that pairing inexperienced female microenterprise owners with an experienced mentor increases profits by 20 percent on average, but those effects disappear when the mentor-mentee relationships dissolve following the withdrawal of a researcher-provided incentive.

As a whole, the evidence indicates that management practices matter for productivity and that interventions targeting management practices can generate modest improvements in firm performance. But is large-scale training of small-scale entrepreneurs a path to structural transformation? A reason for caution is that, notwithstanding the results of Bruhn, Karlan, and Schoar (2018), very few studies show increases in employment and firm size, suggesting that while acquiring skills can improve micro-entrepreneurs income and well-being, lack of skills is not a primary reason for their size. Additionally, several key questions are unresolved in the literature.

One unresolved question is the size and magnitude of spillovers from interventions targeting management practices, e.g. whether untreated firms experience declines in sales and profits through competition with treated firms.<sup>3</sup> This question presents a significant research challenge, as designing studies to have enough statistical power to detect such spillovers appears difficult. Yet, understanding the nature of spillovers is important for understanding if such gains from scaled-up training programs could be expected to lead to aggregate benefits, and therefore if skills training for entrepreneurs should be seen as an area of first-order importance for economic growth in low-income settings.

Whether the effects of these interventions grow, shrink, or stay the same would offer important insights about their potential to contribute to aggregate growth, but the durability of impacts is another unresolved question. Tracking respondents for many years after an intervention creates logistical and fundraising challenges for researchers. As such, there are few examples of papers that report effects of interventions targeting management practices beyond 3 years, and Brooks, Donovan, and Johnson (2018) provide an example of effects that dissipate quickly.<sup>4</sup>

As in the case of credit constraints, it is not immediately clear the modest experimentally estimated effect sizes from skill training imply that national-level policies supporting training for the self-employed would have small aggregate effects. As far as we know, no paper has address this question directly, making it an interesting area for future research. The closest paper is Akcigit, Alp, and Peters (2021) which uses results from an experiment that provided management services to Indian manufacturing firms to estimate a macroeconomic model in which management skills are an important input to production. However, the experimental results are taken from a sample of large manufacturing firms and the model focuses on frictions preventing the hiring of outside managers, both of which prevent the results from being generalized to a policy oriented towards training micro-entrepreneurs.

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<sup>3</sup>Blattman et al. (2016) and McKenzie and Puerto (2021) are exceptions, both finding small to negligible spillovers.

<sup>4</sup>Bloom et al. (2020) shows that consulting services provided to Indian textile firms resulted in improvements in management practices as long as 9 years after the initial intervention, although, by that time, “about half of the practices adopted in the original experimental plants had been dropped.”

### 2.3 Efficient Micro-Enterprise

As opposed to theories in which micro-entrepreneurs wish to be large but are kept small due to constraints or lack of skills, it is also possible that micro-entrepreneurs in developing countries optimally seek to stay small in size. In such a theory, the cross-country relationship between micro-enterprise and economic development would be driven by structural differences between developed and developing countries. These structural differences may be fundamental (i.e. they cannot be fixed but simply shrink in importance as countries grow) or non-fundamental (i.e. they can be fixed but unlike the discussion above, do not directly impact the self employed beyond shaping the environment in which they make decisions).

Gollin (2008) is among the first papers to develop such a theory. Self employment is represented as its own production technology, distinct from production using outside labor. While self employment is limited in scale as it can only use labor from within the household (a portion of which must be used for managerial tasks in addition to production), it has the advantage that it is more productive than that standard production technology. Such a productivity advantage could be thought of as arising from principal-agent concerns and monitoring costs – household members internalize the benefits of production and thus require less monitoring than employees. Combining these idea with a few other assumptions (notably, that capital and labor are gross complements in aggregate) yields the key result: when aggregate productivity is low, the optimal level of self employment is high.

Further theories of or evidence for the idea that micro-enterprise may be the optimal firm structure in poor countries are sparse in the literature. As far as we know, the only direct evidence supporting such a theory comes from Blattman and Dercon (2018) who find that individuals preferred entrepreneurship and self employment over wage work when offer the choice between the two. While it is hard to generalize, as the wage work was narrow in scope and limited to employment in a handful of Ethiopian industrial firms, this is at least suggestive that entrepreneurship offers something desirable beyond just income. Bassi, Lee, Peters, Porzio, Sen, and Tugume (2023) uncover evidence that high levels of product differentiation prevent specialization of labor, leading to firm compositions that appear like collections of self employed individuals, suggestive of the fact that micro-enterprises may be close to the optimal scale for many production tasks.

### 3 Promising Paths for Future Research

In this section, we discuss productive paths for future research into how self employment and micro-enterprise shape and are shaped by structural transformation. Here we wish to highlight the numerous and varied potential paths forward; rather than a single straightforward path, we describe many possible branches. This reflects the fact that, until recently, the dominant hypothesis was that high levels of self employment and micro-enterprise in developing countries were primarily driven by credit constraints. However, as discussed in Section 2, recent research has shown that attributing all of the relationship to financial friction may be incomplete. The open question of what the drivers of this relationship are naturally leads to many potential explanations, each representing its own path forward.

**Frictions in the Market for Managerial Talent:** One particularly promising path for future research stems from the idea entrepreneurs in developing countries may find it difficult or impossible to hire outside management services. While the central importance of management practices in large firms has been discussed and investigated (see e.g. Bloom, Eifert, Mahajan, McKenzie, & Roberts, 2013), less is known about management practices for SMEs. These practices (of lack thereof) may be even more important in SMEs where ownership and control of the business are often retained and handed down within the household, suggesting that new owners are chosen largely for their relationship to the previous owner rather than their management skills. McKenzie and Woodruff (2017) show that management practices are as important in explaining variation (in a statistical sense) in outcomes for micro-enterprises as they are for large firms, lending credence to this idea.

It is less clear what the fundamental causes of poor management practices are and, consequently, what can be done to improve them for micro entrepreneurs. The fact that businesses are retained within the household and rarely hire outside managers suggests some sort of friction or market failure in the labor market for managerial talent. One possibility is that in developing countries with poor enforcement of property rights, certain types of contracts with would-be managers cannot be effectively enforced. Bringing in an outside manager could carry expropriation risk; if the manager gains too much control over the areas of the business that they have been tasked with managing, they may be able to claim that portion of the business as their own leading to losses for the owner. A second possibility, similar in spirit to the mechanism of Gollin (2008), is that outside managers

must be monitored to make sure that they do not skim profits or shirk work and that sufficiently high monitor costs make hiring unfeasible. Careful empirical work quantifying these (or other) channels and, ideally, testing policy interventions aimed at reducing these frictions would be very valuable.

The aggregate effect of management practices and hiring frictions, if they exist, on firm sizes, economic growth, and structural transformation is also unclear. Even if management practices among SMEs are poor and hiring frictions are large, it may be the case that these are not primary drivers of small firm sizes or low productivity. Research, both theoretical and empirical, into these links would be valuable in confirming whether or not improvement of management practices should be considered a first order concern. A notable contribution along these lines is Akcigit, Alp, and Peters (2021) who develop a model in which production structure is impacted by reduced-form managerial delegation frictions and find that these frictions can account for a substantial share of the income gap and firm size difference between the United States and India.

**Subsistence Self Employment:** One increasingly common notion is the distinction between entrepreneurial self employment and so-called “subsistence self employment” (although it is important to note that this concept is not new; see e.g. Banerjee & Newman, 1993). The essence of this distinction stems from the realization that individuals choose self employment for very different reasons and that these different categories of individuals may have different relationships with structural change. The key distinction between the entrepreneurial and subsistence self employed is, intuitively, that the former pursues self employment by choice and would likely not take a job even if it were offered while the latter pursues self employed out of necessity and would leave for a wage job if they could find one. In this view, the key driver of subsistence self employment is that, despite a preference for wage work, the process of job search is sufficiently costly and unlikely to yield employment that the individual chooses to avoid this risk and engage in self employment instead. In other words, labor market frictions and the inability to smooth consumption through borrowing or insurance are drivers behind high rates of self employment. This is a notable deviation from intuitions derived from developed countries where self employment is almost universally considered to be a substantially more risky endeavor than participating in the job market.

While this distinction has been a growing theme in discussions and intuitions of micro-enterprise in developing countries, macroeconomic models incorporating this insight have lagged behind. A



large part of the reason for this is the complexity of the various ingredients necessary to fully capture this behavior. Fundamentally, the behavior stems from uninsurable idiosyncratic consumption risk; if an individual fails to find a job, they will earn nothing for the period and will go hungry. This already necessitates a model with Aiygari-Bewley-Hugget style incomplete markets and the computational complexity that follows. Such a model also necessitates at least two occupations – wage work and self-employment – and a choice between them. A discrete choice over options with differential risk can induce non-monotonic policy functions (equivalently, non-concave value functions) which substantially complicates implementation of high-performance solution algorithms (see Druedahl & Jørgensen, 2017, for discussion). These two facts already lead to substantial complications, but a full general equilibrium analysis of subsistence micro-enterprise would also need to account for equilibrium changes in the frictional labor market. Adding a labor search or wage posting framework to an already difficult to solve model quickly becomes nightmarish.

Despite these difficulties, a few papers have made initial progress in modeling subsistence self-employment and examining the implications for economic development and structural change. Herreño and Ocampo (2023) solve a model featuring wide-spread subsistence entrepreneurship and all three features described above. They find that it can accurately capture cross-sectional variation between assets and occupational choice. The key insight that arises from their paper is that the pool of subsistence entrepreneurs essentially acts as a reserve supply of labor, substantially blunting the effects of policies that result in higher labor demand in general equilibrium as labor supply is highly elastic with respect to the wage. VanVuren (2022) uses a model featuring subsistence self-employment to study the effects of development policies aimed at increasing participation in the wage sector and shows that such policies can improve allocative efficiency in the economy by reallocating labor towards the most productive entrepreneurs, increasing TFP and accelerating the process of economic development.

To our knowledge, these are the only papers with explicit macroeconomic models of subsistence self-employment. Given the overwhelmingly high rates of self employment in developing countries and the large role that subsistence entrepreneurship occupies in the minds of economists and policy-makers dealing with these issues, further research in this area seems like a promising path forward. In particular, while the papers discussed in the previous paragraph explore (narrow portions of) the role that subsistence entrepreneurship plays in macroeconomic development, none examine the its

role in structural transformation, meaning the reallocation of labor from rural agricultural work to urban manufacturing and services, specifically. While structural transformation and development go hand-in-hand, subsistence self employment and transformation are naturally linked as much of subsistence entrepreneurship takes the form of smallholder agriculture, and structural transformation largely consists of reallocating this labor towards wage employment in non-agriculture. Thus, embedding a notion of subsistence self employment in a macroeconomic model of structural change that can separately account for self employment in smallholder agriculture and self employment in urban manufacturing or services would be a substantial step forward in our ability to understand how these things interact.

Related to these ideas is the growing literature on barriers to migration (e.g. Lagakos, Mobarak, & Waugh, 2018). Given that wage labor opportunities (as an alternative to self-employment) are often located in urban areas, any barriers that prevent individuals from choosing a profitable migration opportunity can help maintain high levels of self-employment. This may involve matching frictions that create risk for would-be formal sector employees, combined with missing insurance markets, as discussed above, and credit and savings constraints. Gender norms may also play a role in sustaining such barriers. For example, women who face pressures within the household to not migrate to obtain wage employment may be limited to self-employment opportunities to earn cash (consistent with the fact that self employment rates are higher for females than males in essentially every developing country). More research on gender differences in self-employment may be helpful for better understanding reasons for high levels of self-employment overall.

**Policies to Help the Self Employed without Harming Growth:** As mentioned in the introduction, there is a strong urge from policymakers in developing countries to help the self employed as these individuals are typically among the poorest in their countries. While the loan, grant, and training programs discussed in Section 2 can be considered programs with this goal, there has been little research looking at the long-run aggregate effects of micro-enterprise-oriented policies. The broad motivation for potential concern stems from the fact that rates of micro-enterprise shrink dramatically as countries develop. Thus, at least in a correlational sense, policies that encourage individuals to stay in micro-enterprise would slow down changes associated with economic development.

Whether or not this is a concern depends heavily on the answer to the question posed at the

start of this paper: are high levels of micro-enterprise a large proximate cause of low productivity? In this sense, any research that broadens our understanding of SMEs is useful in answering this question, but direct evidence that SME-oriented policy does not harm long-run growth would be extremely useful.

In a similar vein, while many microeconomic studies have examined the effects on firm sales, profits, or employment of different interventions, few have examined potential spillover effects on untreated entrepreneurs, customers, and input suppliers. Even for interventions and settings (location, industry, sample of entrepreneurs and their characteristics) where there is evidence from rigorous evaluations of significant gains in firm performance – little is known about spillover effects in terms of magnitudes or mechanisms. These are important in understanding the aggregate effects of a policy directed at any single firm and thus important in understanding which firms to target with interventions.

Quantifying such effects is important for general equilibrium analysis more broadly. One might expect negative spillovers to other firms in the industry as certain suppliers that benefit from training and expand lowers the market share of other firms competing in the same industry. Therefore, some of the most likely effects (e.g. negative effects on profits for other firms in the industry) may work against the cost-effectiveness of such interventions. If some private benefits of skills training to beneficiaries is accompanied by negative spillovers to other firms, this could from a policymaker’s perspective undermine some support for such training programs in areas where current evidence suggests that some modest to moderate level effects may be possible. Studying cost-effectiveness of individual interventions is likely to be insufficient to fully inform policymaking in this sphere. On the other hand, economies of scale and agglomeration forces may lead to positive GE effects for aggregate productivity. The direction and size of these kinds of effects needs to be better understood. Of course, studying such general equilibrium effects is challenging empirically. Our hope would be for microeconomic evaluations at a larger-scale relative to market size and use of GE modelling tools to be important for making progress on these questions.

**How to Identify Micro-Enterprises with Growth Potential:** Given the conclusion of the literature on credit constraints discussed in Section 2 that providing credit has small-to-null effects except for perhaps a handful of the ex-post largest entrepreneurs, research into how these entrepreneurs can be effectively identified ex-ante and provided capital would be a productive path

forward. The ability to identify and target these firms would improve the feasibility and cost-effectiveness of credit-based policies while retaining almost all of the gains. McKenzie (2017) provides one such intervention in the form of business plan competitions. By using the competition to identify the ex-ante most promising businesses, such a policy allows for much larger transfers of capital to promising businesses at a lower per-person cost (ignoring the cost of running the competition). The results are promising with winners being substantially more likely to operate large firms with more than ten employees. Further research into what business characteristics or grant structures can be used to target capital more effectively would be productive.

## 4 Conclusion

Despite the strong link between self employment and development, surprisingly little is known about the fundamental drivers and mechanisms of this relationship. Until recently, a dominant theory was that the inability to access capital kept entrepreneurs in developing countries small; however, the past decade of empirical work has shown that access to capital alone is not sufficient to transform these micro-enterprises into larger firms. Thus the literature, in its current state, is facing an open question: what are the key drivers of high self employment rates in developing countries?

Such a broad question is difficult to tackle, but the potential for new and interesting findings makes this an exciting area of research. While there are many possible paths forward for research to take, we have discussed some that we find the most promising. In particular, further research into the role that management frictions play in shaping the firm size distribution and further work categorizing and modeling subsistence self employment as an occupation distinct from larger-scale entrepreneurship both seem promising, and we hope that future researchers engage with these topics.

Finally, we wish to close by emphasizing the importance that a variety of complementary research methods have played in shaping this literature. While structural change is fundamentally a macroeconomic question, much of our understanding of the interaction between self employment and development has been informed by carefully executed microeconomic studies of decisions made by the self employed. Conversely, it is difficult to know how the effects estimated in these studies translate into aggregate impacts and inform different theories of structural change with detailed macroeconomic modeling. We hope that this literature will continue to value contributions on both

sides and maintain this tight relationship between micro and macro work going forward.

## References

- Akcigit, U., Alp, H., & Peters, M. (2021). Lack of selection and limits to delegation: Firm dynamics in developing countries. *American Economic Review*, *111*(1), 231–75.
- Banerjee, A. V., & Newman, A. F. (1993). Occupational choice and the process of development. *Journal of political economy*, *101*(2), 274–298.
- Bassi, V., Lee, J., Peters, A., Porzio, T., Sen, R., & Tugume, E. (2023). *Self-employment within the firm* (tech. rep.).
- Blattman, C., & Dercon, S. (2018). The impacts of industrial and entrepreneurial work on income and health: Experimental evidence from ethiopia. *American Economic Journal: Applied Economics*, *10*(3), 1–38.
- Blattman, C., Green, E. P., Jamison, J., Lehmann, M. C., & Annan, J. (2016). The returns to microenterprise support among the ultrapoor: A field experiment in postwar uganda. *American Economic Journal: Applied Economics*, *8*(2), 35–64.
- Bloom, N., Eifert, B., Mahajan, A., McKenzie, D., & Roberts, J. (2013). Does management matter? evidence from india. *The Quarterly journal of economics*, *128*(1), 1–51.
- Bloom, N., Mahajan, A., McKenzie, D., & Roberts, J. (2020). Do management interventions last? evidence from india. *American Economic Journal: Applied Economics*, *12*(2), 198–219.
- Bloom, N., & Van Reenen, J. (2010). Why do management practices differ across firms and countries? *Journal of Economic Perspectives*, *24*(1), 203–24.
- Brooks, W., Donovan, K., & Johnson, T. R. (2018). Mentors or teachers? microenterprise training in kenya. *American Economic Journal: Applied Economics*, *10*(4), 196–221.
- Bruhn, M., Karlan, D., & Schoar, A. (2018). The impact of consulting services on small and medium enterprises: Evidence from a randomized trial in mexico. *Journal of Political Economy*, *126*(2), 635–687.
- Buera, F. J., Kaboski, J. P., & Shin, Y. (2011). Finance and development: A tale of two sectors. *American economic review*, *101*(5), 1964–2002.
- Buera, F. J., Kaboski, J. P., & Shin, Y. (2021). The macroeconomics of microfinance. *The Review of Economic Studies*, *88*(1), 126–161.
- Campos, F., Frese, M., Goldstein, M., Iacovone, L., Johnson, H. C., McKenzie, D., & Mensmann, M. (2017). Teaching personal initiative beats traditional training in boosting small business in west africa. *Science*, *357*(6357), 1287–1290.
- Crépon, B., Devoto, F., Duflo, E., & Parienté, W. (2015). Estimating the impact of microcredit on those who take it up: Evidence from a randomized experiment in morocco. *American Economic Journal: Applied Economics*, *7*(1), 123–50.
- de Mel, S., McKenzie, D., & Woodruff, C. (2008). Returns to capital in microenterprises: Evidence from a field experiment. *The Quarterly Journal of Economics*, *123*(4), 1329–1372.
- de Mel, S., McKenzie, D., & Woodruff, C. (2012). One-time transfers of cash or capital have long-lasting effects on microenterprises in sri lanka. *Science*, *335*(6071), 962–966.
- Drexler, A., Fischer, G., & Schoar, A. (2014). Keeping it simple: Financial literacy and rules of thumb. *American Economic Journal: Applied Economics*, *6*(2), 1–31.
- Druedahl, J., & Jørgensen, T. H. (2017). A general endogenous grid method for multi-dimensional models with non-convexities and constraints. *Journal of Economic Dynamics and Control*, *74*, 87–107.
- Glaub, M. E., Frese, M., Fischer, S., & Hoppe, M. (2014). Increasing personal initiative in small business managers or owners leads to entrepreneurial success: A theory-based controlled randomized field intervention for evidence-based management. *Academy of Management Learning & Education*, *13*(3), 354–379.

- Gollin, D. (2008). Nobody’s business but my own: Self-employment and small enterprise in economic development. *Journal of Monetary Economics*, 55(2), 219–233.
- Herreño, J., & Ocampo, S. (2023). The macroeconomic consequences of subsistence self-employment. *Journal of Monetary Economics*.
- Hsieh, C.-T., & Klenow, P. J. (2010). Development accounting. *American Economic Journal: Macroeconomics*, 2(1), 207–223.
- Lagakos, D., Mobarak, A. M., & Waugh, M. E. (2018). *The welfare effects of encouraging rural-urban migration* (tech. rep.). National Bureau of Economic Research.
- Majurin, E. (2014). *Start and improve your business implementation guide* (tech. rep.). International Labour Organization.
- McKenzie, D. (2017). Identifying and spurring high-growth entrepreneurship: Experimental evidence from a business plan competition. *American Economic Review*, 107(8), 2278–2307.
- McKenzie, D. (2021). Small business training to improve management practices in developing countries: re-assessing the evidence for ‘training doesn’t work’. *Oxford Review of Economic Policy*, 37(2), 276–301.
- McKenzie, D., & Puerto, S. (2021). Growing markets through business training for female entrepreneurs: A market-level randomized experiment in kenya. *American Economic Journal: Applied Economics*, 13(2), 297–332.
- McKenzie, D., & Woodruff, C. (2013). What Are We Learning from Business Training and Entrepreneurship Evaluations around the Developing World? *The World Bank Research Observer*, 29(1), 48–82.
- McKenzie, D., & Woodruff, C. (2017). Business practices in small firms in developing countries. *Management Science*, 63(9), 2967–2981.
- McKenzie, D., Woodruff, C., Bjorvatn, K., Bruhn, M., Cai, J., Gonzalez-Uribe, J., Quinn, S., Sonobe, T., & Valdivia, M. (2021). *Training entrepreneurs* (tech. rep.). VoxDevLit.
- Meager, R. (2019). Understanding the average impact of microcredit expansions: A bayesian hierarchical analysis of seven randomized experiments. *American Economic Journal: Applied Economics*, 11(1), 57–91.
- Meager, R. (2022). Aggregating distributional treatment effects: A bayesian hierarchical analysis of the microcredit literature. *American Economic Review*, 112(6), 1818–47.
- Moll, B. (2014). Productivity losses from financial frictions: Can self-financing undo capital misallocation? *American Economic Review*, 104(10), 3186–3221.
- Moneke, N., & Walter, T. F. (2022). *Seasonality and development* (tech. rep.).
- VanVuren, M. (2022). *Active labor market policies in general equilibrium: Crowd-in or crowd-out?* (Tech. rep.).