Self Employment and Development: Job Amenities, (Mis)allocation, and Informality.

Guillermo Beylis, William F. Maloney, Andres Zambrano *

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Abstract

Although the advanced country literature views self-employment as a desirable occupational choice, in developing countries where it is far more prevalent it is often treated as a distinct phenomenon and effectively disguised unemployment. This paper presents evidence from numerous sources to show that, in fact, self-employment is part of a continuum of occupational choices over the development process in which workers weigh the amenities it offers (autonomy and flexibility) against the earnings and statutory benefits in salaried employment. We show the valuation of these amenities to be as high as found in the US and that they create a labor misallocation by driving a wedge between marginal productivities across sectors. We develop a unified dynamic occupational choice model with informality in which the economy may be further distorted by labor market regulations, credit constraints, social protection systems, and a binding minimum wage that rations low-skilled workers into informal salaried jobs in micro firms. Calibrating the model to Colombia, we quantify the welfare costs of labor misallocation and conduct counterfactual experiments to identify policies that affect the structure of the labor market. Although distortions have first-order effects, the largest changes in worker allocation arise from shifts in the skill distribution, improvements in the quality of transformative entrepreneurs, and increases in the opportunity cost of self-employment, that explain the observed decline in self-employment share over the development process.

Keywords: Self employment, Informality, Sectoral Choice, Amenities

JEL codes: E26, J24, O17

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1 Introduction

Self employment, which averages 15 percent in the OECD, is considered a credible alternative to salaried labor in developed countries (for the US see for example Hamilton, 2000; Hurst and Pugsley, 2011). However, in developing countries, where it can represent up to 90 percent of the labor force, it is often considered the disadvantaged or subsistence sector of disfunctional labor markets (Figure 1, see also Gollin, 2008). This paper argues that they in fact, share a close kinship and offers a unified framework that emphasizes the continuity of worker sector and production decisions across the development process, and lays out the role of preferences and distortions on labor allocation, informality and growth.

Bringing together multiple data bases- labor force, micro enterprise, entrepreneurship surveys and results from discrete choice experiments, we document that the developing country self employed are similar in motivations for entry and willingness to pay for the value of sectoral amenities (agency, flexibility, independence, social protection benefits) to their advanced country counterparts. As in the US (Akcigit et al., 2025; Hurst and Pugsley, 2011) there are both transformative entrepreneurs with potential for scale as well as "mom and pop" entrepreneurs who highly value self employed amenities, but have few aspirations to grow. We accordingly develop a unified occupational choice model with informality in the spirit of Lucas (1978) where the firm size distribution is driven by underlying entrepreneurial skills, and Rosen (1986) where sectoral choice is driven by relative productivity and amenity values. We employ a common production function across firms sizes, and, importantly, are able to generate the mass of own account (single person) firms- without recourse to a separate informal sector production function.[1] Households differ in productivity, age, assets, and preferences for self-employment amenities, and choose the occupation that maximizes lifetime utility. The model explicitly incorporates the nonpecuniary benefits of self-employment alongside the value of formal-sector benefits, allowing workers to trade off earnings against job amenities. Entrepreneurs differ in productivity and choose between being formal or informal given tax obligations, labor regulations, and credit constraints, while a binding minimum wage segments workers into formal and informal labor markets. Informality emerges endogenously from firms' incentives and workers' occupational choices.

[1] See Eslava (2026) on modeling self employment as well as Gollin, 2008

Calibrating the model to Colombia, we are are able to quantify the impact of the distinct drivers. For instance, while confirming the importance of distortions and of the incentives in social protection systems, we show that the large amenity values we document account for 7 percentage points of self employment, and, critically, that the largest determinant of the allocation of workers across sectors is the distribution of skills: a 10 percent leads to a 21 percent increase in GDP/capita and a decrease of 5 percentage points in self employment and informality. This effect tracks well the declining share of self employment/informality with development, both through increasing the potential productivity of the self employed in the formal sector, and hence the opportunity cost of related amenities, combined with increased demand arising from expanding formal sector firms. The model is further able to explain the life cycle patterns observed across the two informal and two formal sectors.

The paper thus contributes to three related strands of literature. First, it contributes to the generalization of the occupational choice tradition pioneered by Lucas (1978), where heterogeneous entrepreneurial ability determines firm size and the allocation of talent across occupations, and extended by studies emphasizing the role of financial frictions in shaping entrepreneurship and aggregate productivity (Buera et al., 2011; Evans and Jovanovic, 1989; Franjo et al., 2022). More recent work has used occupational choice frameworks to explain cross-country differences in productivity, firm dynamics, and structural transformation (Bento and Restuccia, 2021; Gollin, 2008; Hsieh and Klenow, 2009).

At the same time, a growing labor economics literature has highlighted the importance of nonpecuniary job characteristics in shaping occupational decisions. Building on the theory of compensating wage differentials developed by Rosen (1986), studies using both realized labor market outcomes and experimental approaches document substantial worker valuations of flexibility, autonomy, independence, and other job amenities (Garin et al., 2025; Hamilton, 2000; Hurst and Pugsley, 2011; Maestas et al., 2023; Mas and Pallais, 2017). We build on our previous work documenting and quantifying the value of such amenities for the developing world (Beylis et al., 2026; Falco et al., 2015; Maloney, 1999, 2004) by incorporating these amenity valuations directly into the occupational choice model with informality and showing that they are necessary to explaining the prevalence of self-employment (and particularly own account) in developing economies, the presence of of similarly skilled workers and entrepreneurs across all

sectors, and the overlapping earnings distributions between formal and informal sectors.

The paper also seeks to bring develop a unified view of informality that encompasses both the labor market dualism and sectoral choice strands of the literature on informality. Traditional segmented labor market models view informal employment as the consequence of rationing from the formal sector caused by institutional distortions (Donovan et al., 2023; Fields, 2019; Fields et al., 2023; Harris and Todaro, 1970; Herreño and Ocampo, 2023; Jaar, 2024). An increasingly established alternative view argues that a substantial share of self-employment reflects opportunity-driven entrepreneurship rather than disguised unemployment, highlighting the role of worker heterogeneity, firm characteristics, and policy distortions in shaping sectoral allocation (La Porta and Shleifer, 2014; Maloney, 2004; Meghir et al., 2015; Poschke, 2018; Ulyssea, 2018). Our framework nests both, allowing workers to sort across formal and informal entrepreneurship and wage employment on the basis of productivity, amenities, and institutional distortions. In the process, it is able to replicate the presence of an opportunity driven informal self employed sector, as well as the more necessity driven informal salaried who work for them and clearly articulate the distinct logic of each. Since together, the self employed and the salaried who work for them account for 85 percent of the informal sector in Latin America, our model offers an important complementary formalization to the groundbreaking work by Ulyssea, 2018 that models informal salaried workers in larger firms.

2 Self Employment

We present evidence from preference surveys, labor market surveys, and global entrepreneurship surveys that show that despite greatly varying shares of self employment across advanced and developing countries, much of this is global in reach and hence lends a generality to the model. However we draw particularly on the data from Latin America which has the most consistent, detailed and homogenized data in the developing world.

2.1 Evidence on Global Preferences for Self Employment: International Social Survey Program (ISSP)

The International Social Survey Program (ISSP) is a cross-national collaboration program conducting annual surveys on diverse topics relevant to social sciences, but with occasional modules on self-employment. The 2015 wave "Work Orientations IV" asks random samples of individuals in each countries the question: "Suppose you were working and could choose between different kinds of jobs. Which of the following would you choose? I would choose…(i) Being an employee, (ii) Being self-employed , (iii) Can't choose." The data confirm not only the very high rates in advanced countries identified in an earlier wave by Blanchflower (2000) but also establishes a downward-sloping relationship in attitudes (Figure 2) with country income per capita that is highly correlated with actual incidence (Figure 1). Among developing/middle income countries, the vast majority of workers in Mexico (79 percent), the Dominican Republic (74 percent), and the Philippines (83 percent), and between 70 and 80 percent of salaried workers, report wanting to be self-employed, substantially higher, in both cases, than in the OECD.[2] Their high and on trend self employment preference rates suggest that there is no obvious discontinuity in preferences and that there is something attractive about self employment globally that salaried work does not offer. One candidate explanation is offered by responses to a second question "does being an employee interfere more with family life than self-employment." This is also highly correlated with both actual and aspirational levels, ranging from from 10 percent in the advanced economies with low levels of self employment, to 60 to 70 percent in Mexico, the Dominican Republic, and Philippines and suggesting that some salaried sector amenities rise with the sector's productivity.

2.2 Evidence on Motivations to enter Self Employment: Global Entrepreneurship Monitor

The 2024/25 Global Entrepreneurship Monitor run by Babson College (USA) and London Business School (UK) since 1999 collects data on the motivations of those who

[2]South Africa and Bulgaria are lower (55-60%), the latter leading the ex-soviet economies Russia, Latvia, Czechia and Hungary who are below trend, as they are in actuality, perhaps reflecting 80 years of Soviet systemic discouragement of entrepreneurship and the repression of black enterprise under apartheid in South Africa.

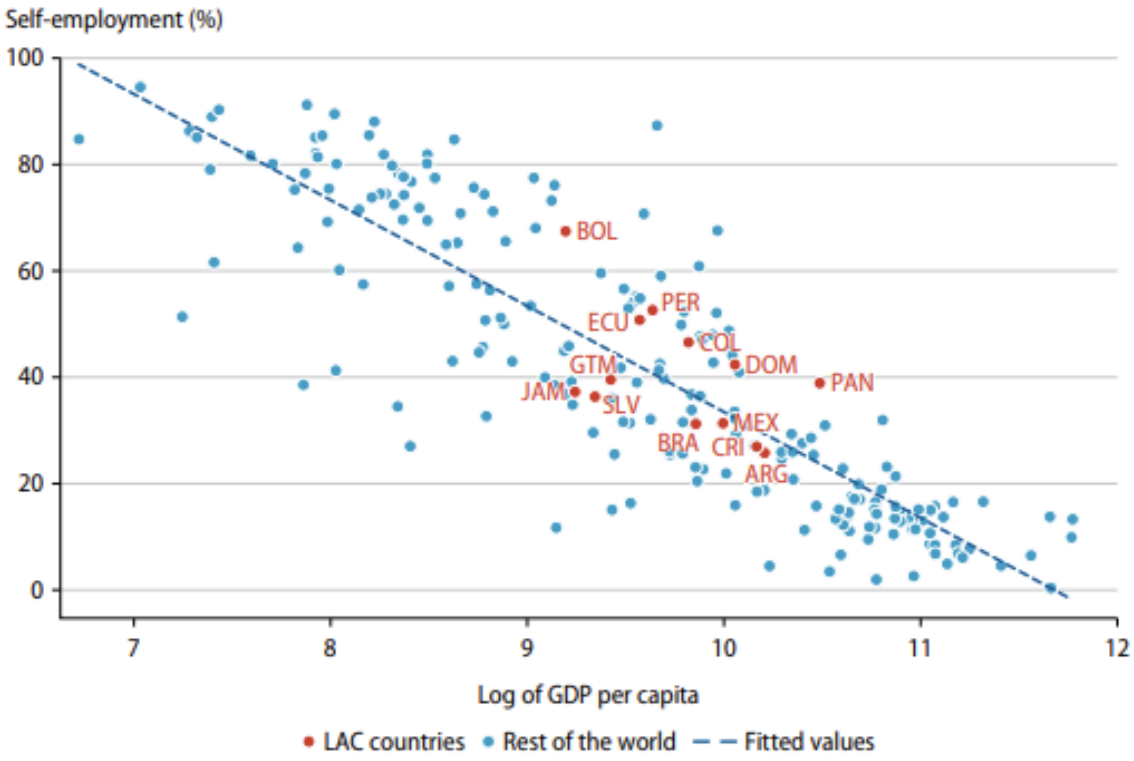


Figure 1: Self-employment across income, World Development Indicators

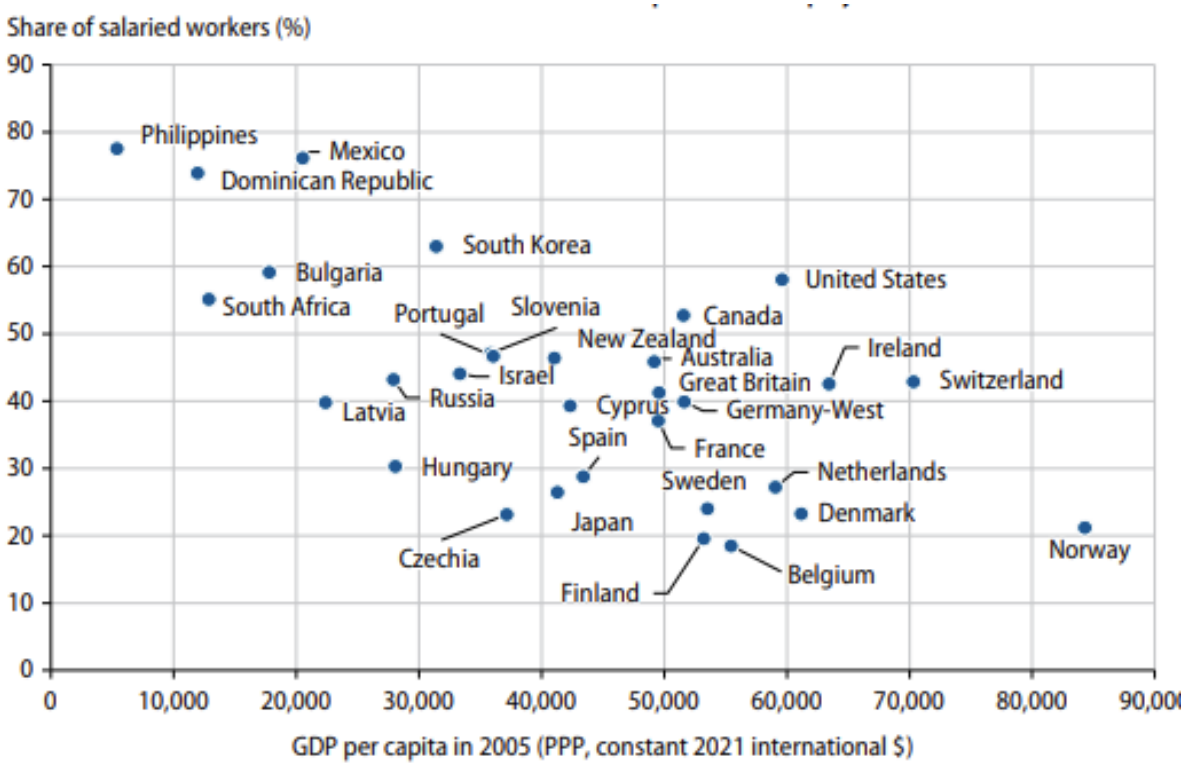


Figure 2: Worker preferences for self-employment across income, ISSP

actually opened a business.[3] When we restrict the sample to firms less than 5 workers and no more than a secondary education, which describes most informal self employed in Latin America, the share entering for "opportunity" motives (higher earnings, independence) is highest in the OECD at 71.9%. However, is similarly high in many developing countries: 71.9% in Southeast Asia, 61.8% in the Middle East, 61.4% in Latin America, 60.9% in East Asia and 56.3% in Sub Saharan Africa.[4] Disaggregating, 27.1% in the OECD, and 30.8% for Latin America reported entering for more independence while 23.5% and 18.4% respectively reported entering for higher income. In the poorer countries, the remaining 35-40% may correspond to the "subsistence" entrepreneurs discussed by Schoar (2010) and Akcigit et al. (2025) in the sense of entering for survival reasons.

2.3 Evidence on Labor Market Sectoral Selection: Country Labor Market Surveys

These findings are consistent with earlier and recent findings from labor market survey modules from Latin America and the advanced countries. As a base line for "normal" rates of involuntary transition, we update and confirm Gottschalk and Maloney (1985) for 2017–2023 using the US PSID, and find 29 percent of salaried to salaried transitions are involuntary (laid off, fired, or plant closing) that would be classified as "necessity" transitions in our surveys, while 17 percent of salaried to self employment transitions are. This is broadly consistent with Hurst and Pugsley (2011) who find over 50 percent enter entrepreneurship for non pecuniary reasons including flexibility and being one's own boss. Similarly, Smeaton (2003) for the UK finds between 16 and 26 percent of men cited 'unemployment/redundancy' as a motivating factor behind choosing self employment while Dawson et al. (2009) finds around 15 percent report entry either for redundancies or no jobs available. Hughes (2006) find 22 percent pushed into self-employment as a result of lack of other opportunities in Canada.

Rates of necessity transition are broadly similar in the developing world. The merged National Survey of Urban Employment (ENEU) and National Survey of Micro Firms (ENAMIN) show suggest 35% of Mexicans enter informal self employment, defined as

[3]https://www.gemconsortium.org/

[4]it is also the case that in Eastern Europe, North Africa, and South Asia, opportunity entry was lower at roughly 40%. See also Poschke, 2013

not covered by social security, from formal salaried positions not because of higher income, increased flexibility, or balancing of home chores etc (Maloney, 1999). Jaar (2024) confirms these findings using the complete set of ENAMIN and data from Brazil, Chile, Colombia as well as Armenia, Central African Republic, Congo, Georgia, India, Iraq, and Mozambique that roughly 20 percent enter for necessity reasons. As he notes, many of these surveys group informal and formal enterprises and probably understate necessity, but given the overwhelming dominance of informal micro firms in these countries, the bias is likely to be small. Relatedly, Breza et al. (2021) report for India, that in lean times, 24 percent of self-employment among casual workers occurs because they cannot find jobs.

Surveys also suggest a high degree of satisfaction in the sector and only a minority searching for better jobs. The 1989 National Household Sample Survey (PNAD) 66% of unregistered Self employed in Brazil are not looking for a formal salaried job, because of greater earnings or flexibility (Maloney, 2004). We update and confirm these with the large integrated Household Survey (GEIH) from Colombia (2023) which reports that 64 percent of informal self-employed report that they would prefer self-employment to a formal salaried job with the same earnings. They are also consistent with Falco et al. (2015) and Cerkez et al. (2025) who find that more than 75 percent of the nonagricultural self-employed in West African countries are opportunity entrepreneurs who report that they are in the sector for more money, more flexibility, or to continue family tradition, and less than 25 percent report they cannot find a job they would prefer.

In sum, all three sources point to 1. Self employment being aspirationally equally or more desirable in poor countries 2. the majority enter for opportunity reasons and at very similar high levels as in the advanced countries 3. Informal self employment is not primarily disguised unemployment, but rather has the same attractions as in the advanced countries and must be modeled as such.

2.4 Evidence on Plans for Growth

The limited survey evidence suggests that, as found in Hurst and Pugsley (2011) for the US where only 24% of nascent small business owners had any plans for expansion, the mass of self employed/own account workers are near their ability driven steady state.

	All workers	FS	IS	FSE	ISE
Share	100%	43%	23%	5%	29%
Female	41%	43%	41%	34%	41%
Primary education	42%	24%	53%	28%	59%
High school	38%	42%	38%	35%	32%
College	20%	34%	8%	37%	9%
Age	39	38	34	46	43
Tenure (in years)	4	5	2	8	6
Earnings 25[a]/50[b]	0.65	0.94	0.57	1.00	0.41
Earnings 50[a]/50[b]	1.00	1.28	0.79	1.64	0.74
Earnings 75[a]/50[b]	1.57	2.05	1.10	3.00	1.29

Figure 3: Sectoral summary statistics, Latin America, SEDLAC

Only 8 percent in Chile (Survey) and 1 percent in Mexico (ENAMIN) report plans to expand their business. This is not due to being a temporary platform for search. Figure 3 presents the aggregate data from the full set of standardized surveys for Latin America and makes it clear that both small and transformational self employment are similar in duration- 6 and 8 years respectively- and both longer than the 5 years for formal salaried work and consistent with the sector being a destination. Emphatically, neither is disguised unemployment which has a duration of roughly .5 years. Further, Figure 4 shows that they both share a similar lifecycle pattern where entry increases with age, consistent with financing or human capital accumulation (Evans and Jovanovic, 1989; Hamilton, 2000).

Nor do barriers to formalization seem to be responsible for the difference is steady state size between the two groups. Bruhn and McKenzie (2014) find in Brazil that providing information, accounting service and reducing registration costs to zero had limited impact suggesting no perceived value of formalization for growth which, in a review of the literature De Andrade et al. (2016), appears largely to be the case in general.

The more likely explanation is that this group appears to correspond broadly to Lucas (1978) 'mom and pop' stores whose steady state size will remain very small, despite entering the sector for opportunity due to low entrepreneurial ability. Figure 3

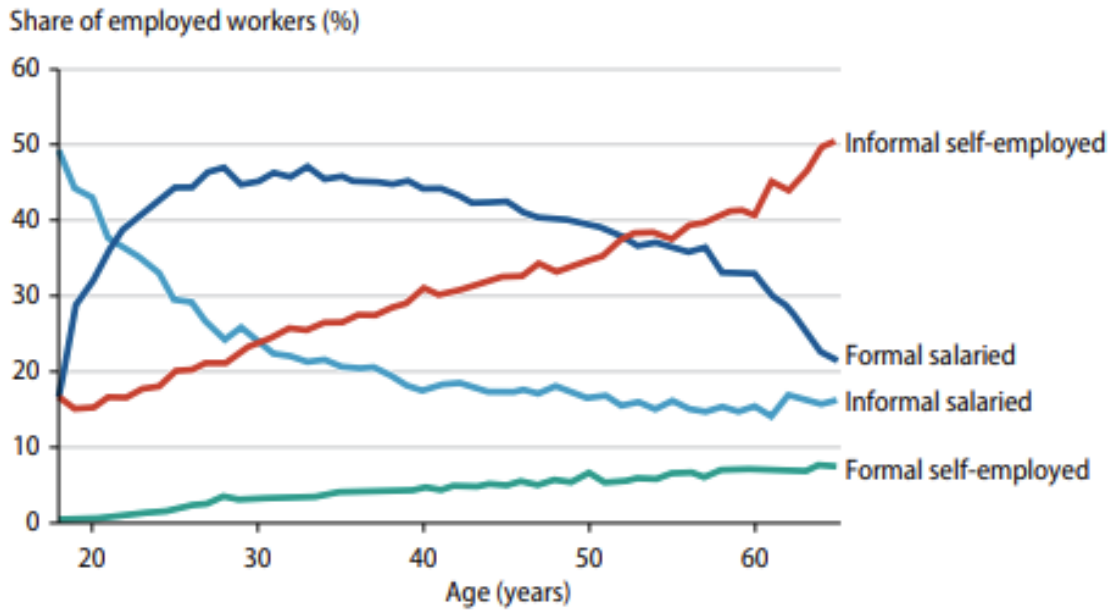


Figure 4: Sectoral labor market shares across the life cycle, Latin America, SEDLAC

is clear that the difference in skill levels across sectors is massive. 59 percent of Small scale entrepreneurs have only primary education while only 25 percent of formal entrepreneurs do; only 9 percent of small scale entrepreneurs have any tertiary education while 39 percent of formal self employed do.

2.5 Evidence on the Value of Amenities

We broadly follow Rosen (1974, 1986) who argued that the labor market clears along the dimensions of both worker productivity and amenity values of different job types and, as is now widely acknowledged in the most recent literature, these valuations of amenities and benefits play a major role in job selection (Eriksson and Kristensen, 2014; Maestas et al., 2023; Mas and Pallais, 2017), occupational choice (Garin et al., 2025), and even human capital investments (Wiswall and Zafar, 2018). Their quantification is necessary for formal modeling of the labor market as we do here.

Yet, empirical evidence on compensating differentials in wages—where workers trade off higher wages for job amenities—has remained elusive. For the United States, Hamilton (2000) identifies a 35 percent discount in earnings for self-employment after 10 years in business relative to being a salaried worker, which he interprets as a lower bound on

the value of non pecuniary benefits of self-employment, such as being your own boss. Imputing a 20 percent value of non wage salaried benefits foregone raises the value to 55 percent of earnings. The evidence from developing countries is similarly scarce although, again, comparable. In Mexico, the 2012 National Survey of Micro-Enterprises (ENAMIN), asks informal self-employed individuals "how much income they would need to switch to a salaried job," and finds that they reported that they would need two times their current earnings on average, with the highest values among the poorest. As an alternative approach, tracking transitioning workers in a short panel, those who report moving from formal salaried to informal self-employed jobs for more independence in Mexico gain 20 percent in earnings over the transition—which, again, adding the value of formal benefits foregone (contributions of firms and employees) yields an implicit value of independence of perhaps 40–50 percent (Maloney, 1999).

The methodology behind these estimates has been criticized because it often leads to hypothetical bias—systematic overstatement of willingness to pay relative to real decisions—as workers do not see any real trade-offs. A growing literature has turned to stated-preference methods (Eriksson and Kristensen, 2014; Maestas et al., 2023; Wiswall and Zafar, 2018), also known as discrete choice experiments. These are typically implemented through survey-based choice experiments with hypothetical jobs. These approaches offer clear advantages: they allow researchers to vary multiple job attributes exogenously, avoid sorting and omitted-variable bias inherent in realized job choices, and quantify willingness-to-pay for a broad set of characteristics. and the current state-of-the-art methodology is based on discrete choice experiments where respondents are presented with hypothetical jobs that randomly vary certain job attributes, including different amenities as well as wages, allowing researchers to calculate the willingness to pay (WTP) for specific amenities. We take the value of amenities from Beylis et al. (2026) who apply this methodology to estimate the WTP for different job amenities and benefits in seven Latin American countries (Argentina, Brazil, Chile, Colombia, Ecuador, Mexico, Peru), using an online panel of workers.

Field-experiment approaches using actual job applicants (He et al., 2021; Mas and Pallais, 2017) address this tradeoff directly. Like stated-preference designs, the field-experiment approach eliminates bias from unobserved heterogeneity and endogenous sorting by presenting exogenously varied job attributes. Unlike survey settings, however, applicants are actively searching for jobs and have strong incentives to reveal

preferences consistent with their true objectives. Because choices affect actual employment outcomes and respondents are unaware they are part of a study, the resulting willingness-to-pay estimates are incentive-compatible and less vulnerable to hypothetical bias. However, the setting is necessarily narrower—focused on a specific pool of applicants and occupation—so the results may not generalize to different types of jobs and the workers searching for them.

The distribution of preferences for the amenities of each sector and that there is trade off between earnings and amenities dictates that similar individuals should be found across sectors, and that earnings distributions should overlap. Figure 3 shows that formal self-employment pays best at 64 percent above median wages followed by formal salaried work at 28 percent above the median. Informal salaried work follows at 79 percent of the median and then informal self-employment at 74 percent.

However, the variance within sectors (75th/25th ratio of earnings percentile between 2 and 3), exceeds that across sectors (1.62), and there are substantial overlaps in the distributions of the three sectors: earnings at the 75th percentile in informal self-employment equal those at the 50th percentile of formal salaried work; earnings at the 75th percentile for informal salaried work are well above the 25th percentile for formal salaried work.

In sum, the majority of the micro segment is not "subsistence" or "necessity" driven, but finds this the best option offered to workers with their low level of skills in a low productivity economy. This, in turn, implies that in the absence of any distortions, a substantial fraction of poor country labor forces would choose to be informal self-employed. That is, at the margin, workers are equating marginal utility (not earnings) and the allocation of workers is socially optimal in a static sense.

2.6 Salaried Work

The same cannot be said for the Informal salaried workers. The data on motivations of the informal salaried is much scarcer, but the Brazilian labor survey cited above shows that whereas 69 percent of prime age informal self employed men report not looking for a formal salaried job, only 31 percent of prime age and 22 percent of younger men reported this. The evidence from the DCE is somewhat more positive, but still below the entry for opportunity rates for self employment. Figure 3 suggests that, again, skill

levels is a critical factor separating formal from informal workers. While 53 percent of informal salaried workers have only a primary education, only 24 percent of formal due; while only 8 percent of informal salaried have any tertiary education, 37 percent of formal sector workers do. Hence, there is an educational divide between workers in larger formal firms and informal micro firms. Further, Figure 4 shows very different lifecycle patterns between informal and formal salaried. The latter is clearly a sector of entry, consistent with lower experience, where the former peaks at prime age. In sum, given the low level of human capital, we might expect that nominal distortions such as minimum wages, would precisely be most binding on this group. The much lower duration-2 years compared to 5 for formal salaried work- may reflect the lower job attachment of less skilled workers, or reflect that there is greater component of workers in the sector who constitute, in fact, disguised unemployment.

3 Model

The evidence presented above suggests that self-employment in developing countries shares many of the same characteristics as self-employment in advanced economies. Most workers enter for opportunity rather than necessity, place substantial value on amenities such as independence and flexibility, and often remain in the sector for long periods despite limited prospects for growth. At the same time, developing countries are characterized by widespread informality, labor market regulations, credit constraints, and substantial differences in worker skills that may distort occupational choices and the allocation of labor. To organize these forces and assess their quantitative importance, we develop a dynamic occupational choice model with informality. The framework combines Lucas's (1978) view of entrepreneurship, where firm size is determined by entrepreneurial ability, with Rosen's (1986) perspective that workers choose occupations based on both earnings and nonpecuniary job attributes. Individuals differ in productivity, assets, and preferences for self-employment, and choose among formal and informal wage employment and entrepreneurship. The model allows us to quantify the role of amenities, skills, financial frictions, and labor market distortions in shaping occupational sorting, informality, productivity, and welfare.

3.1 Households

Households live for T periods and are heterogeneous in age, productivity, and preferences for self employment. Every household is born with an idiosyncratic productivity $\upsilon \in Z \subseteq \mathbb{R}_{++}$ drawn from a distribution $G(z)$ that increases with age in the same proportion for everyone, so that productivity at age $\tau \in \mathcal{T} \equiv \{0, 1, \ldots, T-1\}$ is equal to $z(\tau, \upsilon) \equiv \rho_\tau \upsilon$, with ρ_τ being the multiplier by age and $\rho_0 = 1$. At $t = T$ the household retires, does not work and consumes all its savings. Hence the state space of effective productivity is $\tilde{Z} \equiv \{\rho_\tau \upsilon : \ \tau \in \mathcal{T}, \ \upsilon \in Z\}$. Empirical evidence shows that a fraction of the population perceives an amenity for self-employment. We model this heterogeneity by including a proportion p of agents that obtain a higher utility from consumption generated by running their own business. Formally, $x \in X = \{0, 1\}$, where $x = 1$ increases the value of consumption by λ_{se} percent. Finally, households are heterogeneous in the assets, a, they accumulate over time, where $a \in A \equiv [\underline{a}, \overline{a}]$.Therefore, each household's state space is $S \equiv \mathcal{T} \times A \times Z \times X$.

Productivity can be used for earning wages by working or earning profits managing a firm (self-employed). Income is used for consumption, c, or saving in a risk-free asset a. We assume the existence of formal and informal labor with wage rates per unit of productivity w_F and w_I, respectively. The formal compensation of a worker, zw_F, must be at least as large as the minimum wage $\underline{w}$. Therefore, there exists a productivity threshold $\hat{z}$ that separates informal workers from formal ones, where $\hat{z}w_F \equiv \underline{w}$.

Entrepreneurs in sector $i = I, F$ produce the same consumption good using their productivity z, hiring labor n in effective units and renting capital k following the production function $A_i z y(k, n)$, where $y(k, n) = (k^\alpha (\overline{n} + n)^{1-\alpha})^{1-\omega}$ with $\alpha, \omega \in (0, 1)$ and $\overline{n} \geq 0$. In order to allow for one-worker firms we assume all entrepreneurs get a labor endowment $\overline{n}$ such that they can choose zero effective-terms labor demand which is interpreted as the owner being the only employee.

Given a state s, households choose between being a formal entrepreneur (FE), an informal entrepreneur (IE), or a salaried employee (W). Hence its value function is:

$$V(\tau, a, \upsilon, x) \equiv \max\{V_{FE}(\tau, a, \upsilon, x), \ V_{IE}(\tau, a, \upsilon, x), \ V_W(\tau, a, \upsilon, x)\}. \tag{1}$$

If it chooses salaried employment V_W, then it will be a formal worker V_{FW} if it has a sufficiently high productivity, otherwise it will be an informal worker V_{IW}:

$$V_W(\tau, a, \upsilon, x) \equiv \begin{cases} V_{FW}(\tau, a, \upsilon, x) & \text{if } z(\tau, \upsilon) \geq \hat{z} \\ V_{IW}(\tau, a, \upsilon, x) & \text{otherwise} \end{cases} \tag{2}$$

Next, we define the value functions for each occupation. We assume that all agents are born with zero assets. Second, all households perceive a formality amenity $\lambda_f \geq 0$ in formal occupations. This amenity captures the value that employees attach to mandated formal benefits. The utility of consumption is therefore $u(c)$ for informal workers, $u((1 + x\lambda_{se})c)$ for informal entrepreneurs, $u((1 + \lambda_f)c)$ for formal workers, and $u((1 + \lambda_f + x\lambda_{se})c)$ for formal entrepreneurs. Households receive a lump-sum health transfer $\lambda_{\text{h}} \geq 0$ that aims to capture health benefits in the social protection system that can potentially depend on whether it being formal or not (universal health care). Households also obtain a continuation value of retirement at the end of the last working period. An agent who ends her working life in occupation o with end-of-period assets a' receives $u(b_o + (1 + r)a')$, where b_o is the pension they get depending on their last occupation $o \in \{FW, FE, IW, IE\}$. For the formal labor force, pensions are assumed to be a fraction θ of their last income, wage compensation for workers or net profits for entrepreneurs. For the informal labor force, pensions are independent of their previous income because they do not contribute to the pension system $b_{IW} = b_{IE} = \hat{b} \geq 0$.

3.1.1 Workers

The value function for an informal worker is given by

$$V_{IW}(\tau, a, \upsilon, x) = \max_{c,a'} u(c) + \beta V(\tau + 1, a', \upsilon, x)$$

such that

$$c = z(\tau, \upsilon)w_I + (1 + r)a - a' + \lambda_{\text{h}}. \tag{3}$$

The value function of a formal worker is given by

$$V_{FW}(\tau, a, \upsilon, x) = \max_{c,a'} \left\{ u((1+\lambda_f)c) + \beta V(\tau+1, a', \upsilon, x) \right\}$$

such that

$$c = (1-\lambda_W) z(\tau, \upsilon) w_F + (1+r)a - a' + \lambda_{\text{h}}, \tag{4}$$

where $\lambda_W \in [0,1]$ is the labor income tax rate that funds social security (the pension and health contributions withheld from the worker).

3.1.2 Informal entrepreneur

Following Ulyssea (2018), we assume that informal firms have a probability of being audited, which is modeled as a convex cost for labor demand with parameter κ. Informal firms are credit constrained and their capital use is capped by their initial assets multiplied by $\eta_I \geq 1$. In the baseline, we assume that informal entrepreneurs are in autarky and thus $\eta_I = 1$. Formally,

$$V_{IE}(\tau, a, \upsilon, x) = \max_{c,a'} u((1+x\lambda_{se})c) + \beta V(\tau+1, a', \upsilon, x)$$

such that

$$c = \pi_I(\tau, a, \upsilon) + (1+r)a - a' + \lambda_{\text{h}} \tag{5}$$

$$\pi_I(\tau, a, \upsilon) = \max_{n \geq 0,\ k \leq \eta_I a} \{ A_I z(\tau, \upsilon) y(k, n) - w_I n \left(1 + \frac{n}{\kappa}\right) - (r+\delta)k \} \tag{6}$$

3.1.3 Formal entrepreneur

Formal entrepreneurs also face financial frictions expressed as a collateral constraint, although this constraint is not as tight as the informal one, i.e. $\eta_F > \eta_I$.

$$V_{FE}(\tau, a, \upsilon, x) = \max_{c,a'} u((1+\lambda_f + x\lambda_{se})c) + \beta V(\tau+1, a', \upsilon, x)$$

such that

$$c = (1 - \lambda_W)(1 - \lambda_\pi)\pi_F(\tau, a, \upsilon) + (1 + r)a - a' + \lambda_{\text{h}} \tag{7}$$

$$\pi_F(\tau, a, \upsilon) = \max_{n \geq 0,\ k \leq \eta_F a} \{A_F z(\tau, \upsilon) y(k, n) - (1 + \lambda_E) w_F n - (r + \delta)k\} \tag{8}$$

where $\lambda_E \in [0, 1]$ is the firm payroll tax rate and $\lambda_\pi \in [0, 1]$ is the profit tax rate. The payroll rate comprises the employer contributions to pension and health plus the other mandated benefits (severance, mandatory bonuses, paid vacations, and payroll levies). The formality amenity λ_f is set equal to the rate of these other mandated benefits, so employees value in utility terms what firms pay in benefits. Formal entrepreneurs also pay the worker-side rate λ_W on their after-tax profits as their own social security contribution. Their pension base is $(1 - \lambda_\pi)\pi_F(a_{T-1}, \rho_{T-1}\upsilon)$.

3.2 Government

Government collects taxes, transfers the health subsidy to households and pays for pension benefits. Government primary balance is thus

$$(\lambda_W + \lambda_E) w_F T n_F + \lambda_W (1 - \lambda_\pi) T\pi_F + \lambda_\pi T\pi_F - \lambda_{\text{h}} - T \sum_{o(s) \in \{FW, FE, IW, IE\}} b_o, \tag{9}$$

where $Tf \equiv \sum_{s \in S} F(s) f(s)$ denotes the aggregation of any function f of the individual state over the distribution F of states s in the economy. The first term collects the payroll taxes on formal labor from both the worker side and the firm side, the second term is the social security contribution that formal entrepreneurs pay on their after-tax profits, and the third term is the profit tax. The transfer λ_{h} is the lump-sum health transfer received by all households, whose total mass equals one. Pension benefits b_o are also paid by the government to agents in different occupations.

3.3 Equilibrium

In equilibrium, individuals sort across occupations according to their productivity, assets, and valuation of self-employment amenities. Low-productivity agents dispropor-

tionately select into informal activities, while wealthier and more productive agents operate larger formal firms. Self-employment persists even in the absence of distortions because some households value the amenity of independence, while labor regulations, minimum wages, and financial frictions further shape the allocation of labor across occupations and the aggregate level of informality.

A stationary equilibrium is a collection

$$\Big\{V(s), V_{FW}(s), V_{IW}(s), V_{FE}(s), V_{IE}(s), a'(s), o(s), n_F(s), n_I(s), k_F(s), k_I(s), w_F, w_I, r, F(s)\Big\},$$

where $s = (\tau, a, \upsilon, x) \in S$, such that:

1. **Household optimization.** Given prices (w_F, w_I, r), the value functions and the policy functions for consumption, savings, and occupation solve the household problem of Section 3.1, with $V(s)$ given by Equations (1) and (2). Let $o(s) \in \{FW, IW, FE, IE\}$ denote the optimal occupational choice.

2. **Firm optimization.** For every entrepreneur, the capital and labor demands

$$k_i(s), \qquad n_i(s), \qquad i \in \{F, I\},$$

   solve the profit maximization problems in Equations (6) and (8).

3. **Stationary distribution.** The distribution of agents

$$F : S \to [0, 1]$$

   is invariant under the optimal policies. For every measurable subset $B \subseteq S$,

$$F(B) = \int_S \Pr\left(s' \in B \mid s\right) \, dF(s),$$

   where the transition law is induced by the optimal savings and occupational policies.

4. **Labor market clearing.** Aggregate labor demand equals aggregate labor supply in each sector:

$$N_F = \sum_{s \in S} F(s)\, n_F(s) = \sum_{s \in S} F(s)\, z(\tau, \upsilon)\, \mathbf{1}_{\{o(s)=FW\}},$$

$$N_I = \sum_{s \in S} F(s)\, n_I(s) = \sum_{s \in S} F(s)\, z(\tau, \upsilon)\, \mathbf{1}_{\{o(s)=IW\}}.$$

5. **Capital market clearing.**

   Aggregate savings finance aggregate capital used by firms:

$$\sum_{s \in S} F(s)\, a(s) = \sum_{s \in S} F(s) \Big[k_F(s) \mathbf{1}_{\{o(s)=FE\}} + k_I(s) \mathbf{1}_{\{o(s)=IE\}} \Big].$$

6. **Government budget constraint.**

   The primary balance in Equation (9) is constant across different equilibria.

Given the exogenous parameters of the economy, a stationary equilibrium determines occupational sorting across formal and informal wage work and entrepreneurship, the invariant distribution of agents over assets and productivity, factor prices, the firm-size distribution, and aggregate levels of informality, output, and welfare.

4 Results

4.1 Calibration

We assume one model period is equivalent to ten years: households work for four periods and then retire. A first group of parameters is predetermined outside the model (Table 1). The tax and contribution rates come from Colombian legislation: the firm payroll tax $\lambda_E = 49\%$ (pension 12%, health 8.5%, and other mandated benefits 28.5%), the worker payroll tax $\lambda_W = 8\%$ (pension 4%, health 4%), the profit tax $\lambda_\pi = 33\%$, and the pension replacement rate $\theta = 0.65$. The discount factor $\beta = 0.96^{10}$, the capital share $\alpha = 0.36$, and the depreciation rate $\delta = 1 - (1 - 0.1)^{10}$ take standard values. The decreasing returns parameter ω is taken from Allub and Erosa (2019), and the formality amenity λ_f is set equal to the other mandated benefits rate. The share of agents p that value self employment amenities and its respective value λ_{se} are taken from Beylis et al. (2026). The labor endowment for the production function $\bar{n}$ is set to

the average productivity of the distribution of agents. Finally, the collateral constraint for the formal sector follows Franjo et al. (2022) and we assume the informal sector can only use their own savings for production. The lump sum transfer associated to health insurance λ_h is taken as the per capita health expenditure from DANE.

Parameter	Value	Description	Source
β	0.96^{10}	Discount factor	Standard value (0.96 annual)
α	0.36	Capital share	Standard value
δ	$1-(1-0.1)^{10}$	Capital depreciation rate	Standard value (10% annual)
λ_E	49%	Firm payroll tax rate: pension 12%, health 8.5%, other mandated benefits 28.5%	Colombian labor legislation
λ_W	8%	Worker payroll tax rate: pension 4%, health 4%	Colombian labor legislation
λ_π	33%	Profit tax rate on formal firms	Colombian tax legislation
ω	0.198	Inverse firms technology returns to scale	Allub and Erosa (2019)
p	40%	Share of agents that value self-employment more	Beylis et al. (2026)
λ_{se}	1.0	Self-employment amenity (consumption bonus in IE and FE)	Beylis et al. (2026)
λ_f	0.285	Formality amenity (consumption bonus in formal occupations)	Set to the other mandated benefits rate
θ	0.65	Pension replacement rate	Colombian legislation
λ_{h}	32.82	Lump-sum health transfer (all households)	Per capita health expenditure (DANE)
$\overline{n}$	21	Labor endowment of entrepreneurs	Average productivity
η_F	1.43	Formal collateral constraint multiplier	Franjo et al. (2022)
η_I	1.0	Informal collateral constraint multiplier	Autarky

Table 1: Predetermined parameters. Ten-year frequency.

The five remaining parameters shown in Table 2, the minimum wage $\underline{w}$, the productivity upper bound υ_{MAX}, the cost of informal labor κ, the productivity distribution parameter γ, and the productivity growth rate per age ρ, are calibrated to match the informality rate and the four occupational shares. The model reproduces the informality rate and the occupational shares with errors below one percentage point (54.6% against 54.2% for the informality rate).

Parameter	Value	Description	Moment to match	Moment value	
				Data	*Model*
$\underline{w}$	110	Minimum wage	Informality rate	54.2%	54.6%
υ_{MAX}	65	Productivity upper bound	Informal workers (% of employed)	17.4%	17.9%
κ	2	Cost of informal labor	Informal entrepreneurs (% of employed)	36.8%	36.7%
γ	0.75	Productivity distribution parameter	Formal workers (% of employed)	39.0%	38.2%
ρ	9.5%	Productivity growth rate per age	Formal entrepreneurs (% of employed)	6.9%	7.2%

Table 2: Calibrated parameters and targeted moments. The informality rate is the share of the employed (workers and entrepreneurs) who do not pay for social security contributions. Own-account workers are entrepreneurs whose firms hire less than one worker in worker-equivalent units.

4.2 Baseline Results

Figures 5 and 6 report the life-cycle policies of the baseline equilibrium: assets and consumption by age at four percentiles of the productivity distribution, for each preference type. Consumption rises with age for every type because $\beta(1+r) > 1$ at the ten-year frequency ($\beta = 0.665$ and $r = 0.766$ per decade). Asset accumulation, in contrast, is concentrated at the top of the productivity distribution, while the lowest-productivity household ($\upsilon = 1.0$) is nearly hand-to-mouth.

The asset accumulation of the most productive household tracks its occupational transitions. With the preference for self-employment, this household is a formal worker in its twenties with zero assets, an informal entrepreneur in its thirties once some assets have been accumulated, and a formal entrepreneur from its forties onward with more assets. Without the preference, it jumps from formal work directly to formal entrepreneurship already in its thirties. In both cases accumulated assets relax the collateral constraint: households self-finance their entry into formal entrepreneurship. We also observe that the profiles of the lower percentiles are nearly identical across the two panels, so the self-employment preference barely changes the saving of low-productivity households; the differences between panels appear at the 50th and top percentiles.

Figures 7 and 8 plot the factor demands of firms as functions of the entrepreneur's assets, evaluated at equilibrium prices for the productivity quartiles of the entrepreneurs active in each sector. The typical informal firm reaches its small efficient scale quickly.

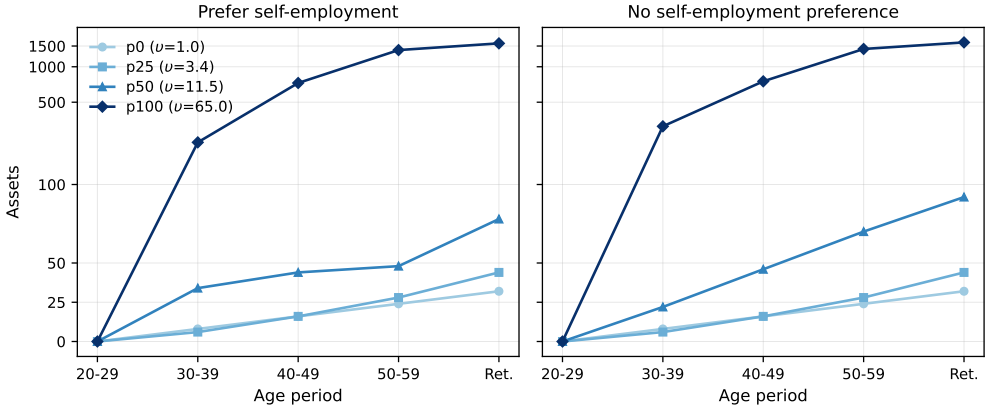


Figure 5: Assets by age in the baseline, by productivity percentile and preference for self-employment.

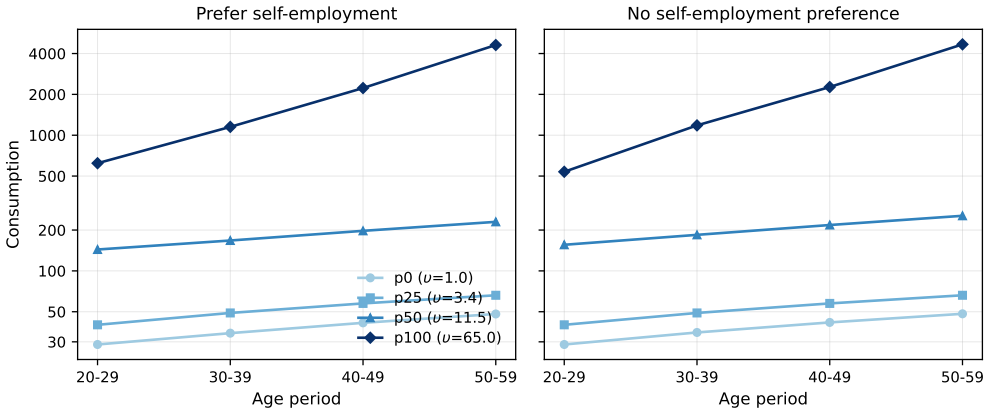


Figure 6: Consumption by age in the baseline, by productivity percentile and preference for self-employment.

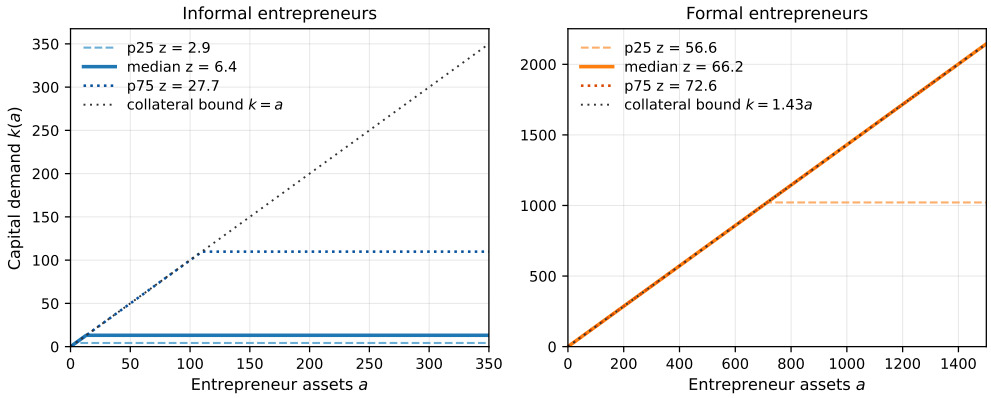


Figure 7: Capital demand of informal and formal firms as a function of the entrepreneur's assets.

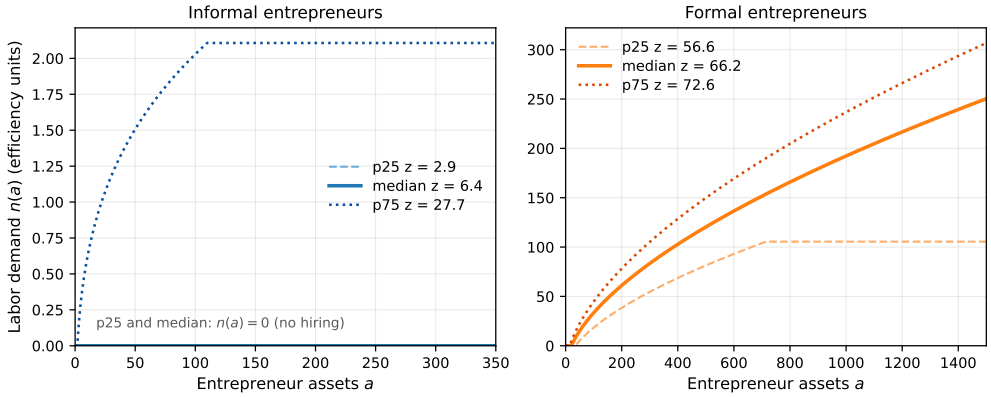


Figure 8: Labor demand of informal and formal firms as a function of the entrepreneur's assets.

On the labor margin, the 25th percentile and the median informal firm hire no labor at any asset level: these firms are own-account by optimal scale, not only by constraint, and even the 75th percentile hires only about 2 efficiency units. Formal firms display the opposite pattern. For the median and the 75th percentile the collateral constraint $k \leq \eta_F a$ binds over the entire range of assets observed in equilibrium; only the 25th percentile becomes unconstrained. Formal labor demand rises with assets through the complementarity of capital and labor. The entrepreneur's wealth therefore limits the effective size of the formal firm.

Figures 9 and 10 map the occupation chosen at zero initial assets by age and productivity, one panel per preference type. At the youngest age both types are workers only, since the collateral constraint rules out capital at zero assets: households with effective

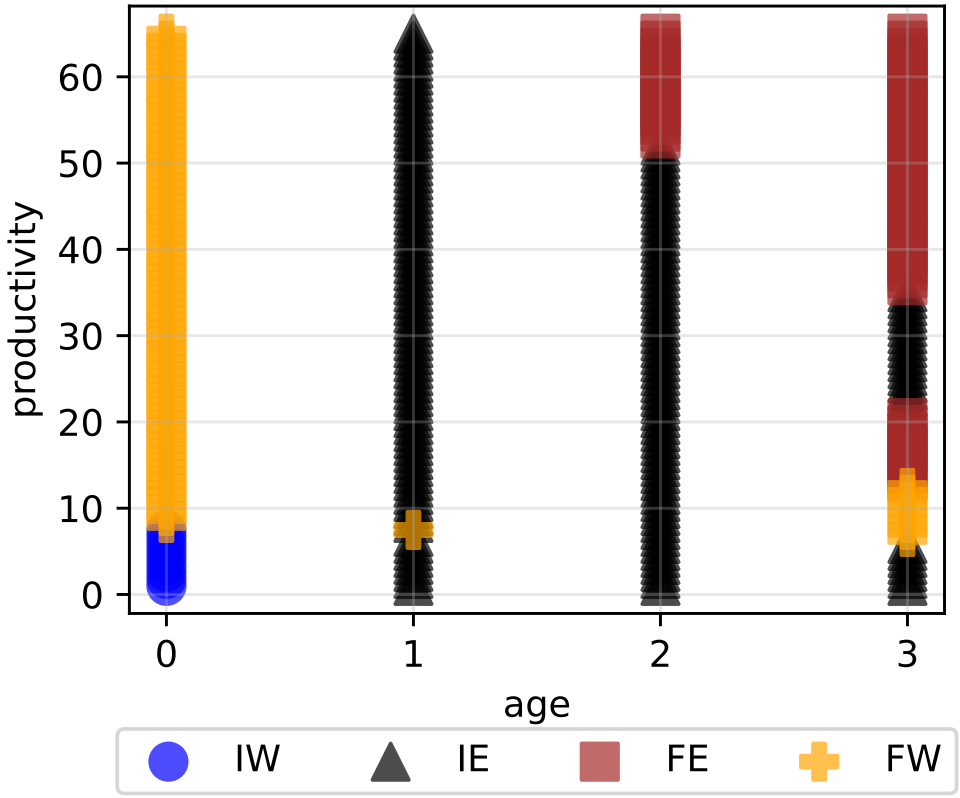


Figure 9: Occupational choice for households that prefer being self-employment over workers.

productivity below the minimum wage threshold work informally and those above it work formally. As households age, accumulated assets make entrepreneurship feasible. The type that prefers self-employment switches into informal entrepreneurship from its thirties onward over almost the entire productivity range, and its most productive members end up as formal entrepreneurs at older ages. The type without the preference remains a formal worker over the middle of the distribution; informal entrepreneurship survives at the bottom and, at younger ages, in a narrow band just below the formal entrepreneurship region. The comparison across panels isolates the role of the amenity: the preference for self-employment moves the middle of the productivity distribution out of formal salaried work and into informal self-employment.

Figure 11 plots the value functions of the four occupations by ability percentile in the last working period, ages 50-59, at a fixed asset level of 44, just below the median holding of 45.3 among households with the self-employment preference, with one panel

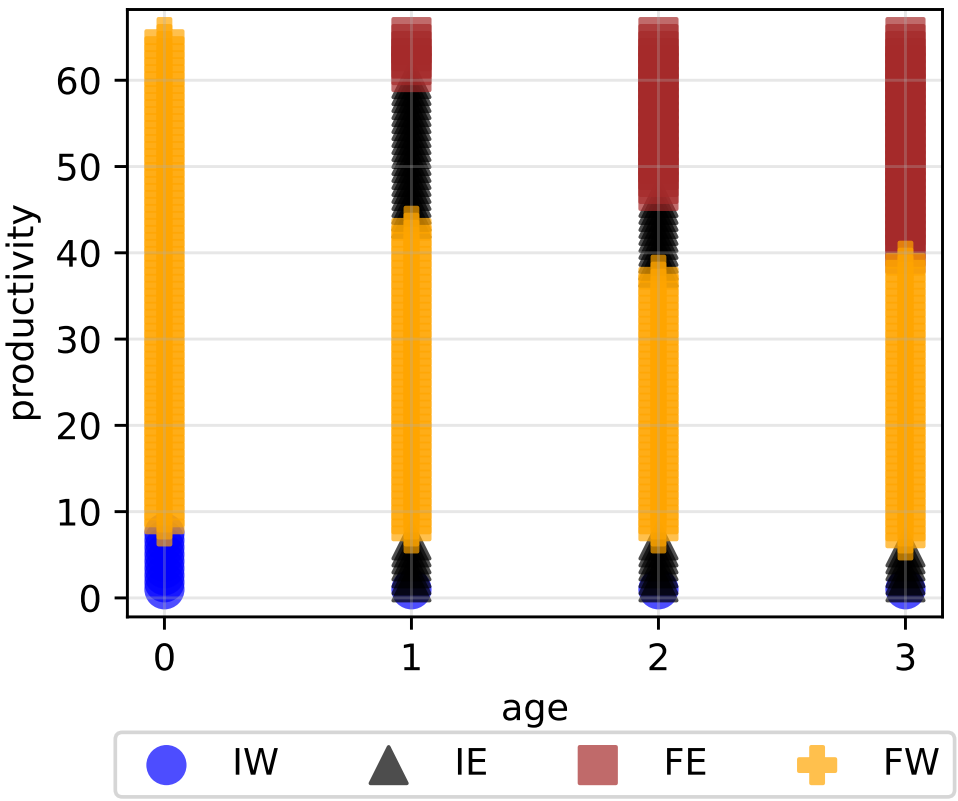


Figure 10: Occupational choice for households that are indifferent between being a worker or self-employment.

per preference type; the figure is a slice at common assets, not the choice at each household's own assets mapped in the two previous figures. Below ability percentile 37.2 effective productivity falls short of the minimum wage threshold and the choice set is restricted to the two informal occupations: informal entrepreneurship leads over that range, except in the lowest tail of the panel without the preference, where informal salaried work leads. Above the cutoff formal salaried work leads for both types up to about percentile 73; beyond that the panels separate, with informal entrepreneurship leading up to about percentile 90 and formal entrepreneurship above it under the self-employment preference, and formal salaried work leading over the whole range without it. The reversal between the two entrepreneurial occupations follows from the dilution of the formality amenity: the preference multiplies consumption in utility by 2.285 for the formal entrepreneur and by 2.0 for the informal entrepreneur, against 1.285 and 1 without it, so the relative advantage of formality falls from 28.5 percent to 14.25 percent. Scale keeps the formal entrepreneur from hiring until about percentile 84, since each efficiency unit of formal labor costs $(1 + \lambda_E)w_F$, 20.35, while the first efficiency unit of informal labor has a marginal cost of 3.85 that rises with employment through the audit cost κ, reaching 20.1 at the top of the band. Above about percentile 90 the lead of formal entrepreneurship rests on its looser collateral constraint and its pension entitlement, which outweigh the profit tax it pays; read alongside the occupational maps, the figure shows how close the alternatives are in value at each ability level.

Figures 12 and 13 show the equilibrium distributions of capital demand and firm size by sector. The informal mass of capital demand concentrates near zero, while the formal mass, apart from a small group of own-account formal entrepreneurs, looks like a uniform distribution. The size distributions display the same duality: 64 percent of informal entrepreneurs hire no employees at all, and 78 percent demand less than one full worker. Formal firms instead reach sizes of up to about 16 workers, with a mean of about 5.3. Taken together, these distributions reproduce the dual structure of the Colombian labor market, an informal sector of own-account microfirms alongside a formal sector of employer firms, and they define the baseline that the counterfactuals of the next section perturb.

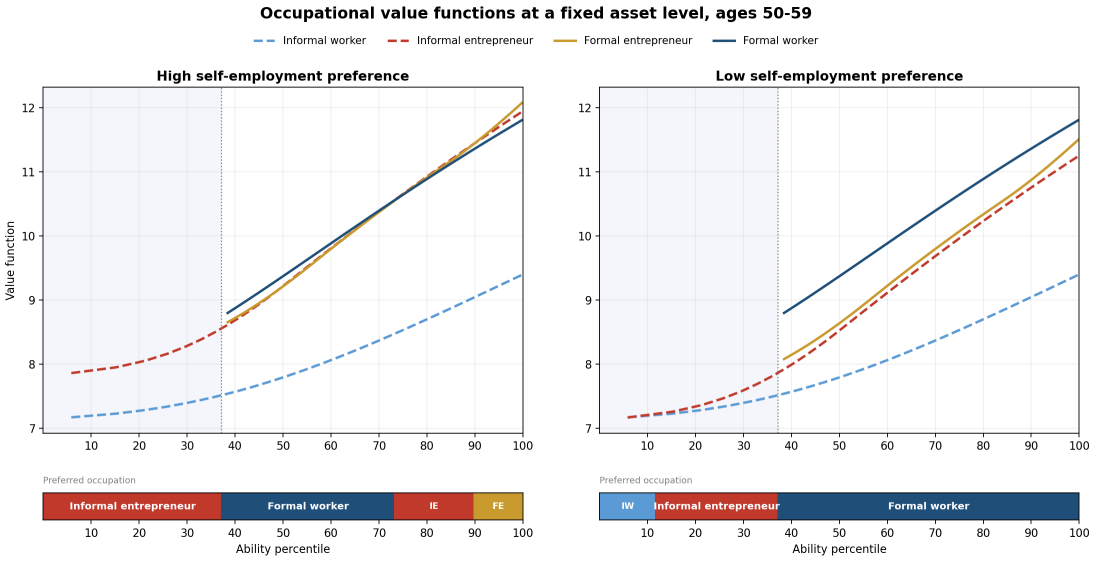


Figure 11: Value functions of the four occupations by ability percentile at the end of working life, ages 50-59, with assets fixed at 44, just below the median holding of 45.3 among households with the self-employment preference at that age, one panel per preference type. The shaded region marks the ability range below the minimum wage threshold, where the household chooses between the two informal occupations; the bottom band reports the occupation with the highest value function.

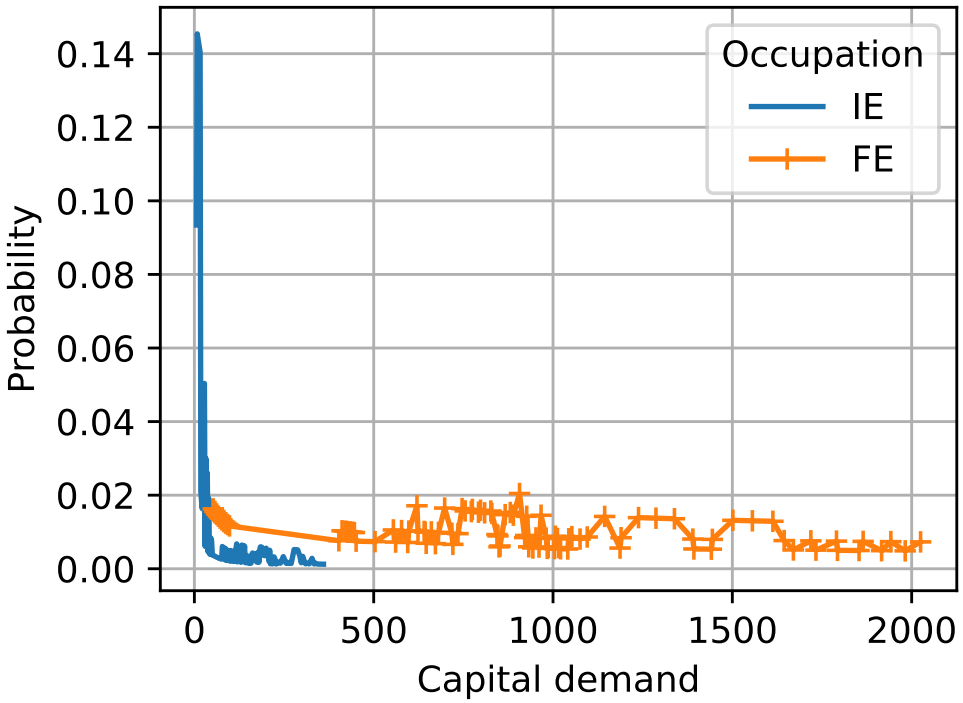


Figure 12: Capital demand by firms in each sector.

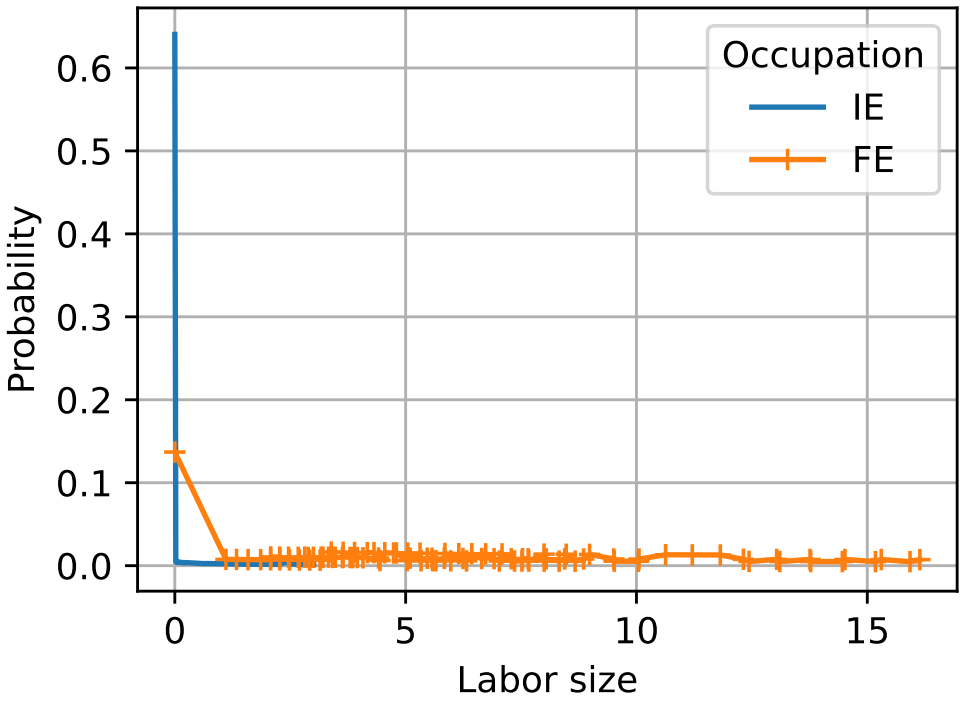


Figure 13: Firm size distribution in each sector.

5 Counterfactual Results

This section describes the counterfactual experiments reported in Appendix A. Starting from the calibrated baseline (in which the informality rate is 54.6 percent, aggregate welfare is 13.89 utils, net government revenue is 106.8, and aggregate output is 573.5), we vary one fundamental at a time and recompute the stationary equilibrium. In what follows, we report output relative to this baseline level. Most figures report six panels: the informality rate, the occupational composition of the labor force across the four sectors (formal worker, FW; informal entrepreneur, IE; informal worker, IW; formal entrepreneur, FE), aggregate output, formal and informal wages, aggregate welfare, and production by sector. Two figures instead compare the model trajectory with cross-country data, and two report bar comparisons across discrete regimes. All experiments are reported in Appendix A.1.

5.1 Skills

Improving the skill distribution is the single most powerful margin in the model. Figure 14 raises the skill multiplier υ from 0.7 to 2.5 while holding the minimum wage fixed. As skills rise, the informality rate falls steeply, from 72.0 percent at the lowest skill level to 15.9 percent at the highest, while aggregate output rises from about half the baseline level to 5.9 times the baseline, roughly a twelvefold increase across the range. The gains are concentrated in the formal sector: formal salaried employment expands from 22.2 to 73.7 percent of the labor force and the formal wage rises from 9.85 to 32.82, as higher-skilled entrepreneurs expand the most productive firms and draw workers out of informal self-employment into formal salaried work.

Figure 15 moves skills and the minimum wage together over the same range. The qualitative pattern is unchanged: informality declines from 65.0 to 27.5 percent and output rises from about half the baseline to 5.9 times the baseline, confirming that the skill channel dominates even when the minimum wage co-moves. Comparing the two experiments, letting the minimum wage rise with skills damps the fall in informality (at a multiplier of 2.5, 27.5 versus 15.9 percent) without materially changing the output path. Together these two experiments establish that expanding skills jointly raises job quality, formality, and growth.

The skill experiments admit a cross-country reading. Raising the skill multiplier raises output per capita, so the sweep traces a development path along which the model predicts how self-employment and the composition of firms evolve. Anchoring the baseline at Colombia and mapping each skill level to the implied level of GDP per capita, Figure 16 places the model trajectory against the cross-section of countries. Self-employment falls from 43.9 percent at the Colombian baseline toward the mid twenties at the skill levels that reproduce the income of Portugal, Japan and Korea, and the slope of the model path is close to the slope of the world data.

Figure 17 decomposes self-employment into its two margins. Own-account work falls steeply with development in both the data and the model, while the share of employers rises. The model thus delivers the two facts jointly: development moves the self-employed away from own-account work and toward firms that hire, which is the composition change that accompanies the fall in informality, without any change in the tax system or in preferences.

5.2 The Minimum Wage

Figure 18 varies the minimum wage by ± 20 percent around its calibrated value. Informality is increasing in the minimum wage, rising from 50.7 to 57.7 percent across the range, as a higher wage floor rations low-skill workers out of formal salaried jobs. The aggregate effects, however, are small: output moves within a ± 0.4 percent band of the baseline and welfare within 0.16 utils, indicating that, around the calibrated point, the minimum wage reshuffles workers across sectors without large efficiency consequences.

5.3 Credit Access and Productivity

Figures 19–21 examine financial frictions and sector-specific productivity. The bar-chart comparisons make the sectoral contrast explicit. Figure 19 sets the informality rate against the baseline of 54.6 percent across alternative credit regimes: relaxing the informal collateral constraint by 10 percent leaves informality essentially unchanged (54.7 percent) and raises output only slightly (by 0.3 percent), whereas granting formal firms unrestricted credit lowers informality to 51.1 percent and raises output by 8.8 percent. Figures 20 and 21 sweep sector-specific total factor productivity. Raising

formal TFP by 10 percent cuts informality to 49.0 percent and lifts output by 13.3 percent, while the same shock to informal TFP *raises* informality to 59.2 percent for an output gain of only 2.4 percent. Support targeted at microenterprises therefore tends to enlarge the informal sector without materially raising economy-wide productivity.

5.4 Amenities and Preferences

The valuation of non-pecuniary amenities is a central driver of sectoral choice. Figure 22 varies the formality amenity λ_f from 0 to its calibrated value of 0.285: as the perceived value of formal-sector benefits rises, informality falls from 63.3 to 54.6 percent and output rises from 4 percent below the baseline to the baseline level. The formal wage is essentially flat, so the reallocation operates through the value workers attach to formal benefits rather than through pay. Figure 23 varies the self-employment amenity λ_{se} from 0 to 2: removing the value of autonomy and flexibility entirely lowers informality to 47.6 percent and raises output by 2.8 percent, as workers reallocate from informal self-employment toward more productive formal employment. Figure 24 varies the share of agents who prefer self-employment from 0 to 0.7; informality rises with this share, from 47.6 to 61.5 percent, confirming that heterogeneity in amenity preferences, rather than distortions alone, sustains a large informal sector even in an otherwise undistorted labor market.

5.5 Payroll Taxes and the Financing of Social Protection

Figure 25 compares the baseline to economies in which each contribution is removed without compensating the lost revenue. Eliminating the payroll contribution lowers informality from 54.6 to 39.9 percent and raises output by 7.2 percent, with the formal wage rising by 43 percent, as cheaper formal labor draws workers into formal salaried employment. Setting the profit tax to zero lowers informality to 41.4 percent and raises output by 3.1 percent, and works through a different margin: the share of formal entrepreneurs almost triples, from 7.2 to 20.8 percent. Withdrawing the health subsidy from informal households lowers measured informality to 50.5 percent but reduces welfare sharply (from 13.89 to 12.28 utils), because the subsidy is the main consumption floor for the poorest households.

Figures 26 and 27 trace the same two reforms in steps of a quarter of the statutory rate. Both are close to monotone: cutting the payroll contribution by 25, 50 and 75

percent yields informality rates of 52.2, 48.3 and 44.2 percent, while the corresponding cuts to the profit tax give 51.9, 49.8 and 44.9 percent. The payroll margin dominates throughout, and neither schedule shows a threshold beyond which the response changes sign.

6 Conclusion

This paper has argued that self-employment in developing countries should not be viewed primarily as disguised unemployment, but rather as part of a continuum of occupational choices observed throughout the development process. Drawing on evidence from labor force surveys, entrepreneurship surveys, and novel estimates of workers' willingness to pay for job amenities, we show that many self-employed workers value autonomy, flexibility, and independence sufficiently to choose self-employment despite lower expected earnings and limited growth prospects. The prevalence of self-employment in developing countries therefore reflects not only economic necessity, but also the interaction between worker preferences, entrepreneurial ability, and the opportunities available in the economy.

To quantify these forces, we develop and calibrate a unified occupational choice model with informality in which workers sort across formal and informal wage employment and entrepreneurship on the basis of productivity, amenities, and institutional constraints. The model highlights two distinct sources of inefficiency. First, because workers value amenities that are not fully reflected in output, occupational choices may differ from those that maximize aggregate productivity. Second, labor market regulations, financial frictions, and low levels of human capital can further distort the allocation of workers and entrepreneurs across sectors. Quantitatively, while distortions exert important effects on labor market outcomes, improvements in worker and entrepreneurial skills generate the largest changes in the occupational structure, reducing informality and increasing productivity by raising the opportunity cost of low-productivity self-employment.

These findings have important implications for policy. Policies aimed solely at reducing informality through stricter enforcement or lower regulatory costs are unlikely to fundamentally alter occupational choices when workers place substantial value on

the amenities associated with self-employment. Instead, sustained reductions in informality and improvements in job quality are more likely to arise from policies that increase productivity, expand opportunities for high-quality wage employment, and strengthen the stock of worker and entrepreneurial skills. More broadly, the results suggest that understanding labor market development requires moving beyond the traditional dichotomy between voluntary entrepreneurship and disguised unemployment, and recognizing the central role that preferences, skills, and institutions jointly play in shaping the allocation of labor across activities.

A Counterfactual Figures

A.1 Parameter experiments

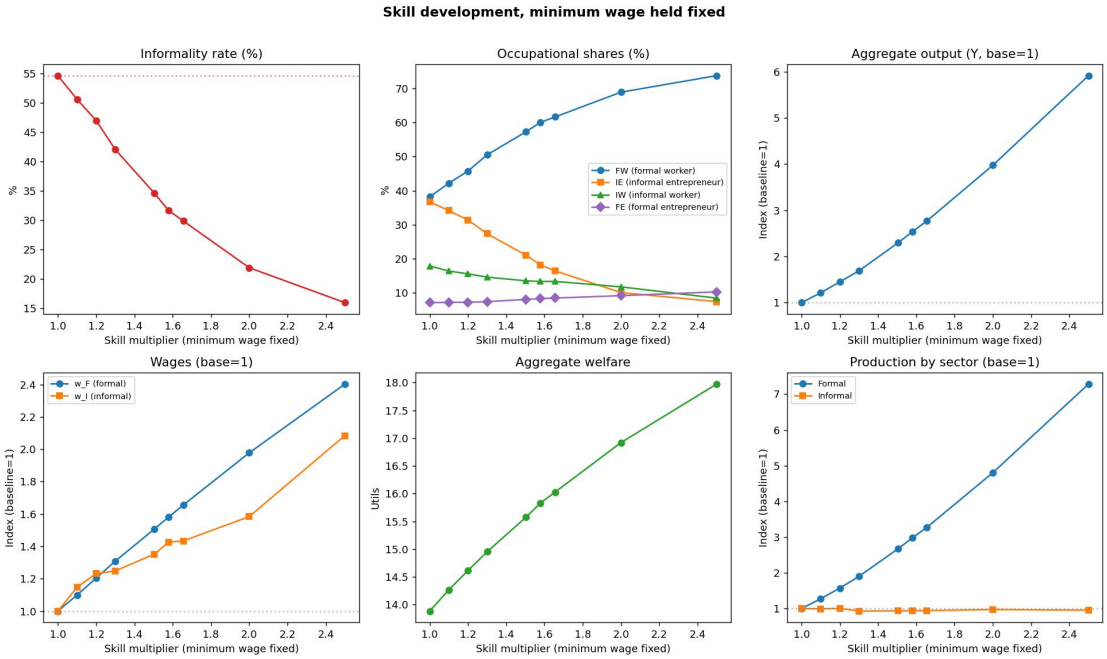


Figure 14: Skill development (minimum wage fixed)

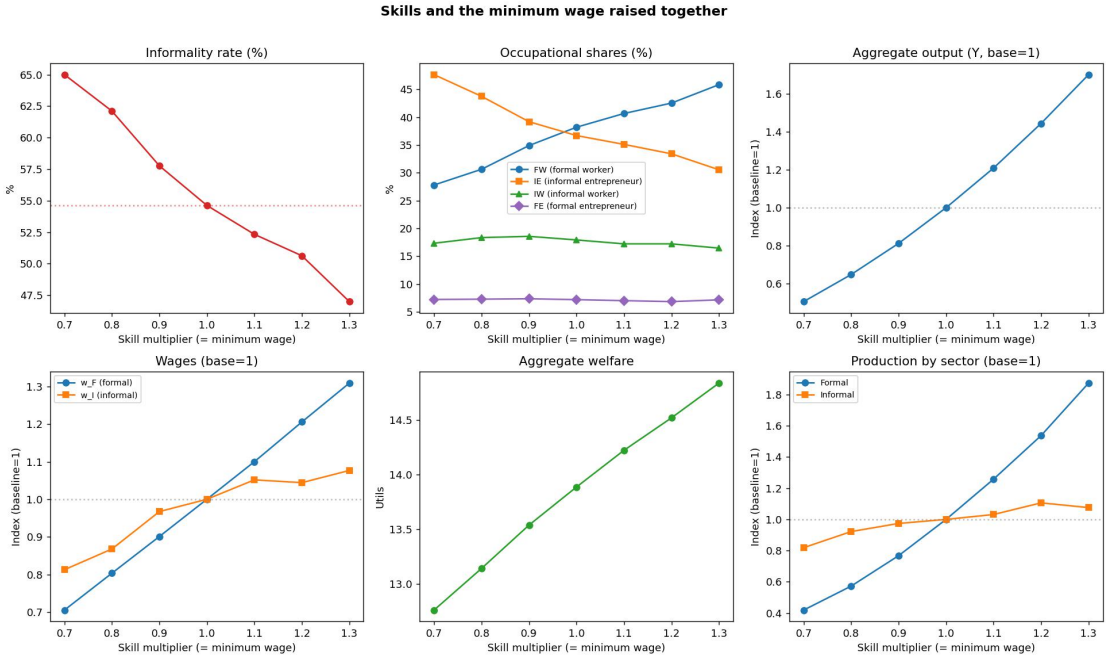


Figure 15: Raising and lowering skills and the minimum wage together

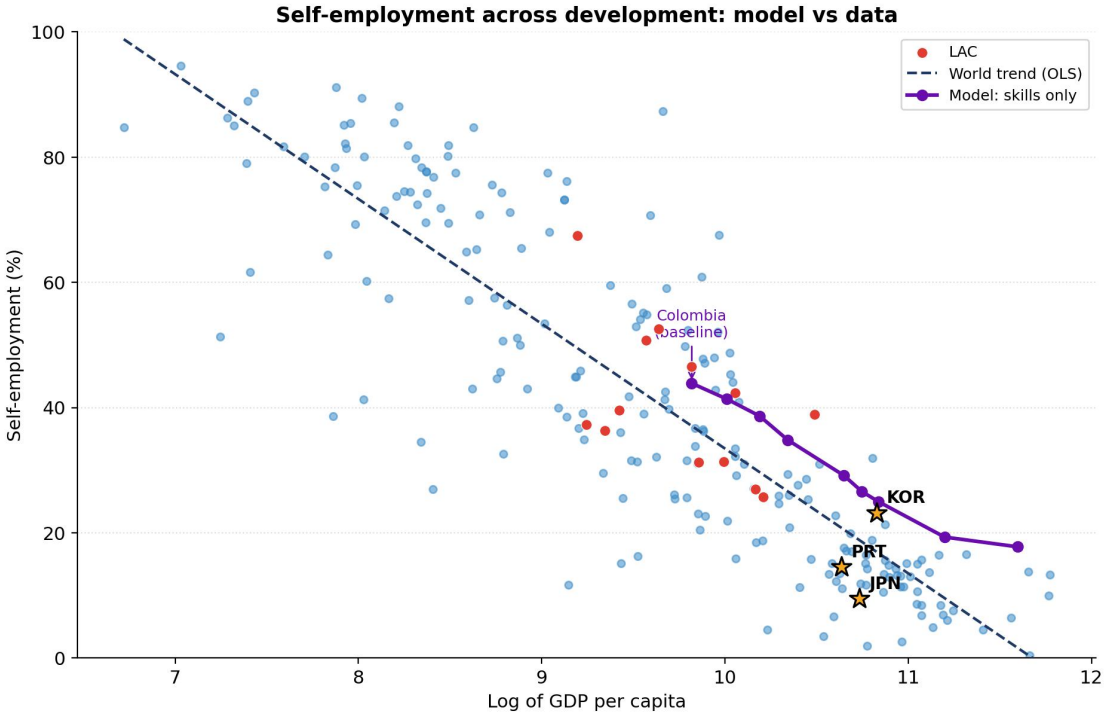


Figure 16: Self-employment across development: cross-country data and the model trajectory. The model path is the skill sweep of Section 5.1, anchored at the Colombian baseline.

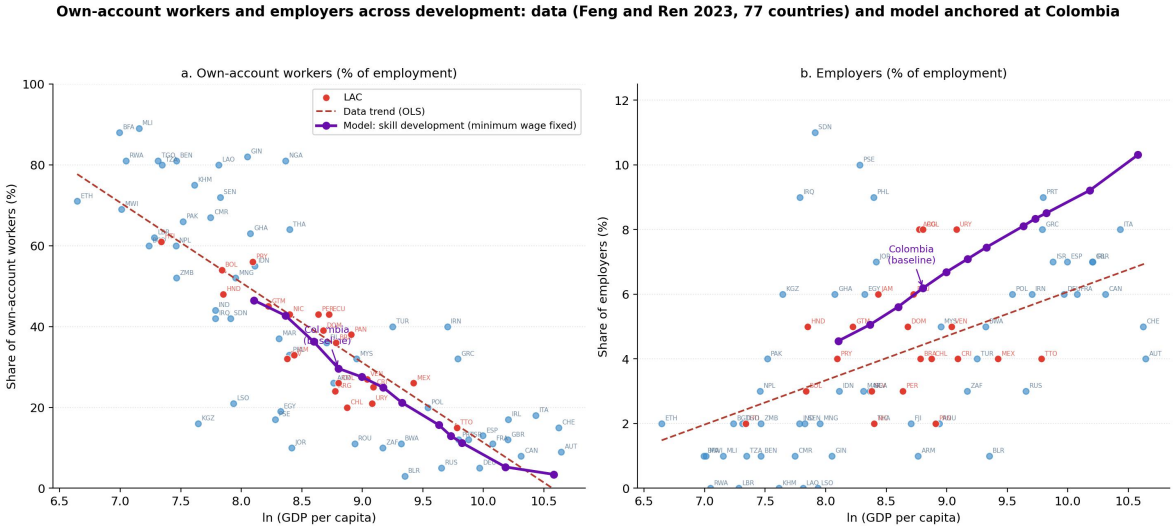


Figure 17: Own-account workers and employers across development. Cross-country data for 77 countries from Feng and Ren (2023); the model path is the skill sweep anchored at the Colombian baseline.

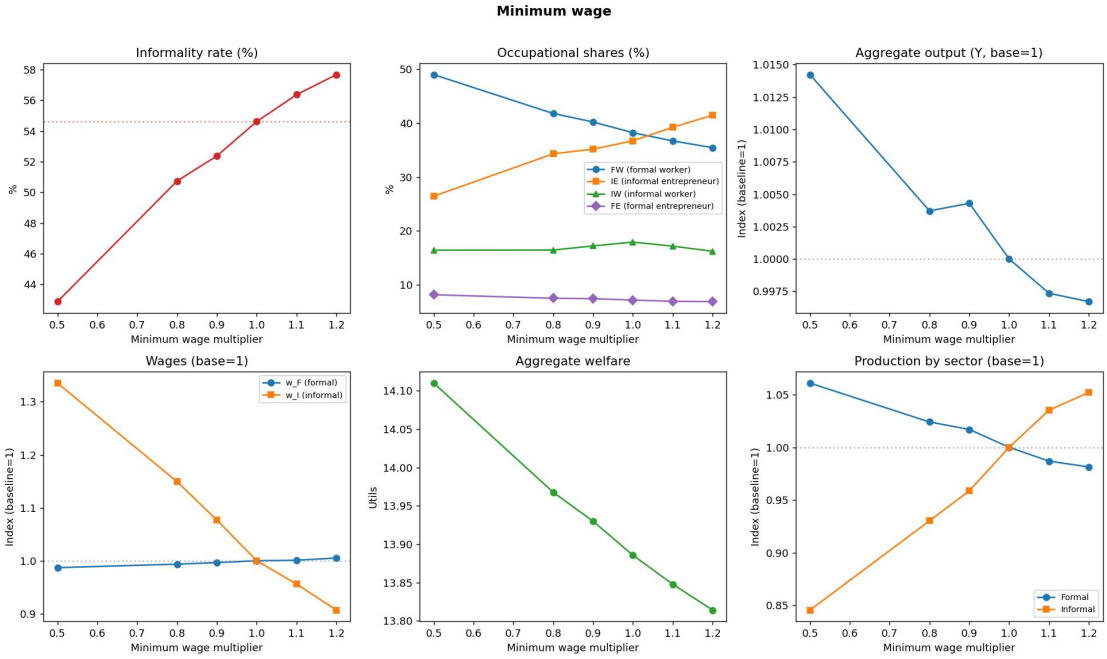


Figure 18: Minimum wage (range -20% to +20%)

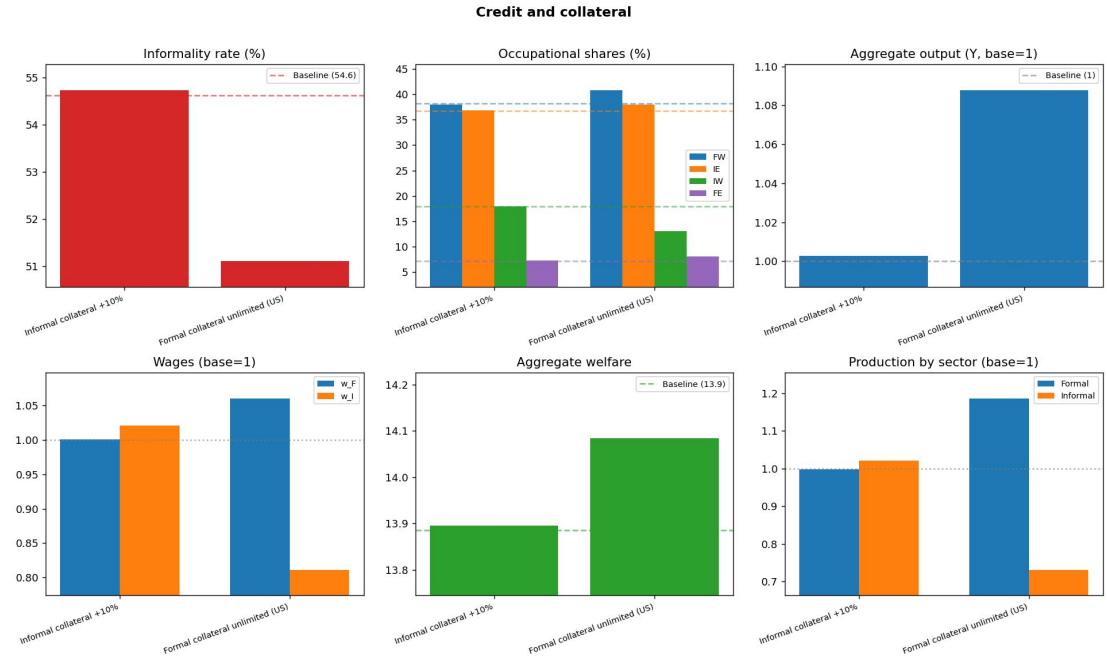


Figure 19: Credit access and informal productivity

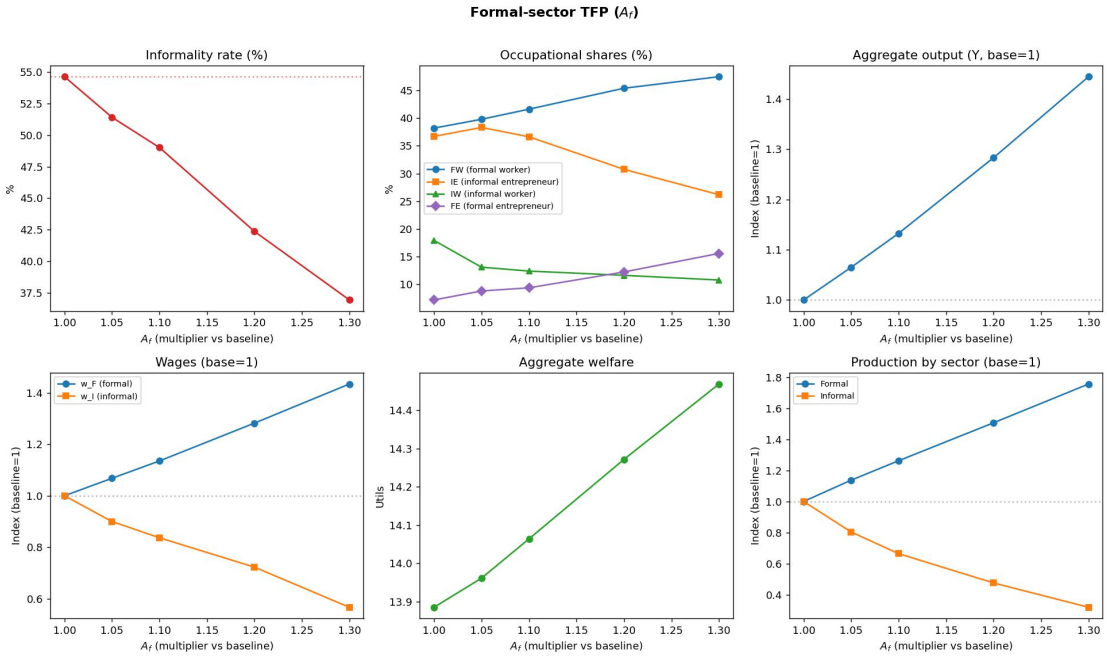


Figure 20: Formal sector: TFP sweep from the baseline to +30%

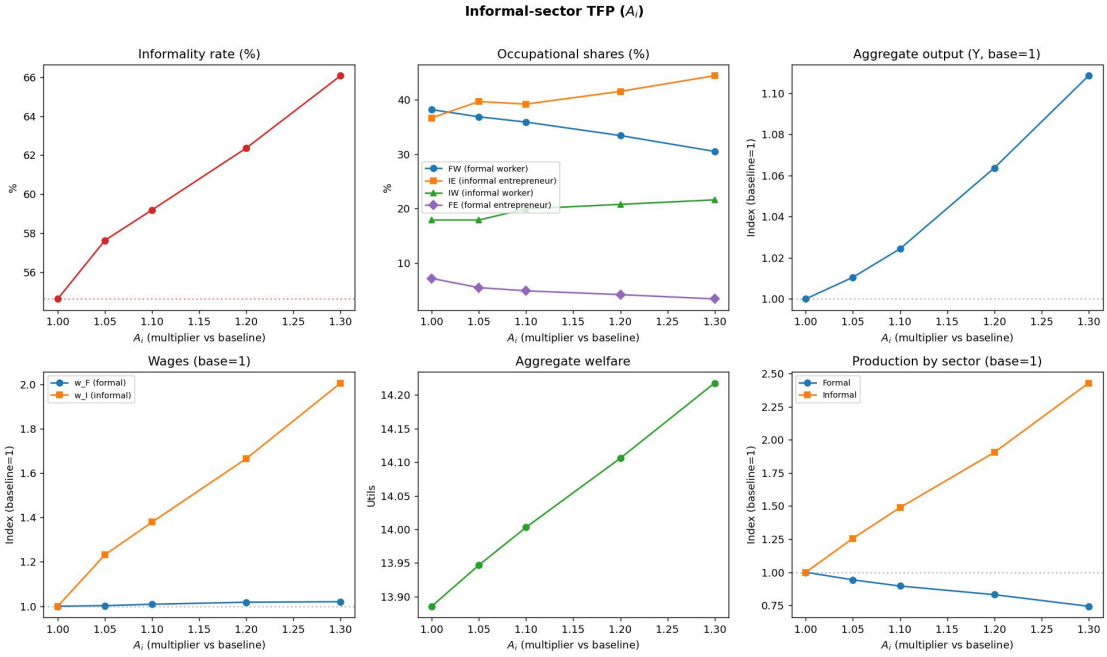


Figure 21: Informal sector: TFP sweep from the baseline to +30%

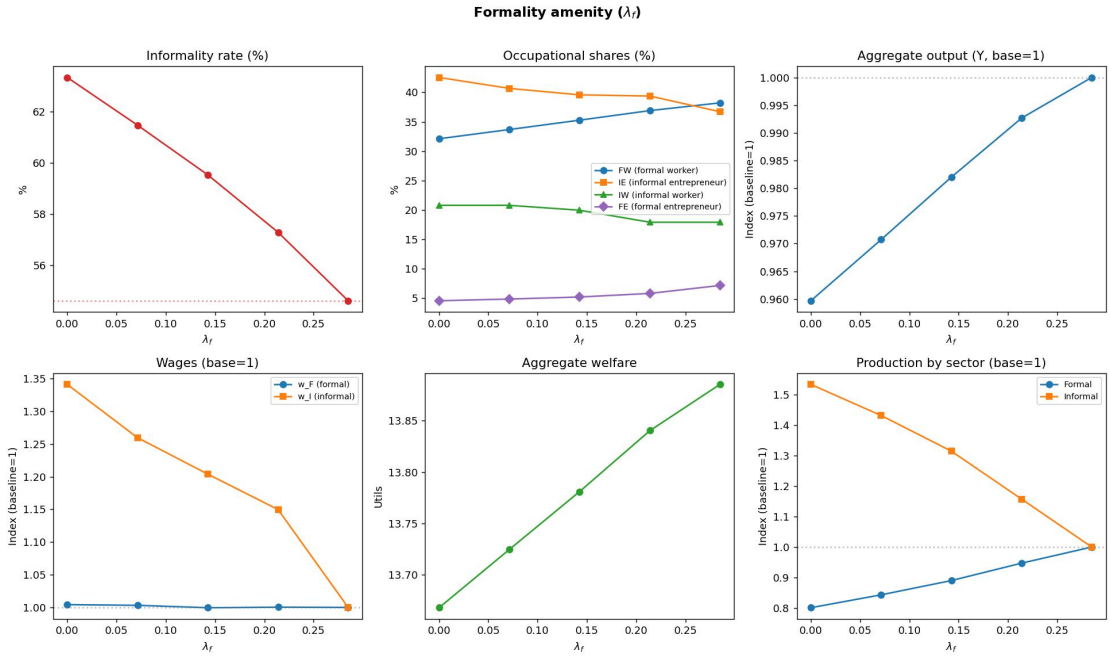


Figure 22: Reducing the formality amenity (lambda_f)

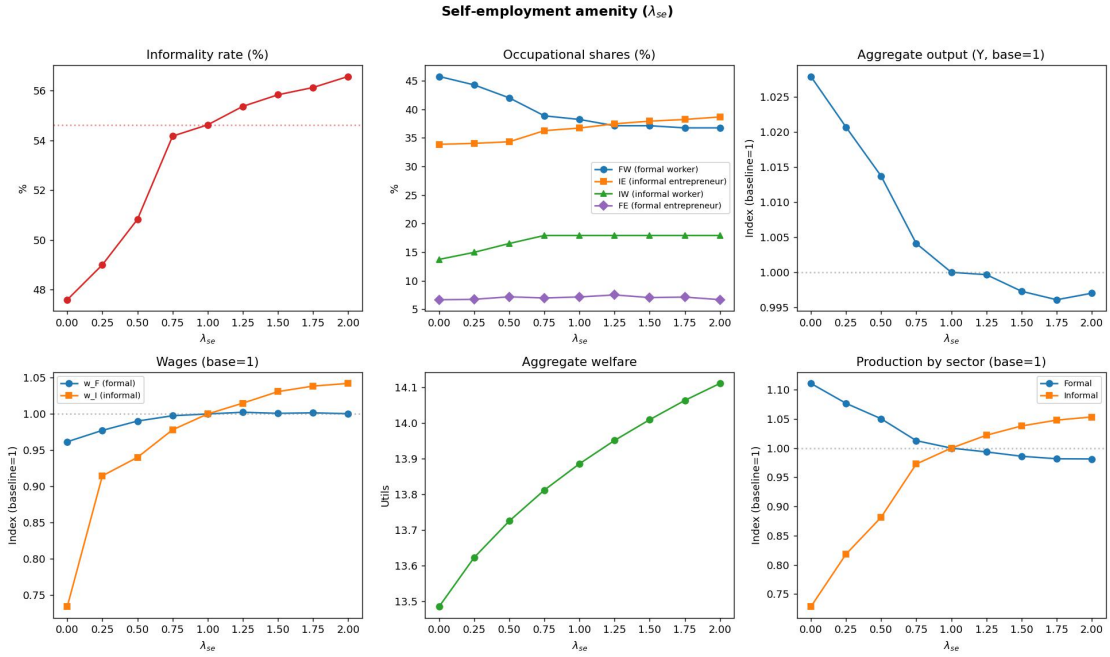


Figure 23: Reducing the self-employment amenity (lambda_se)

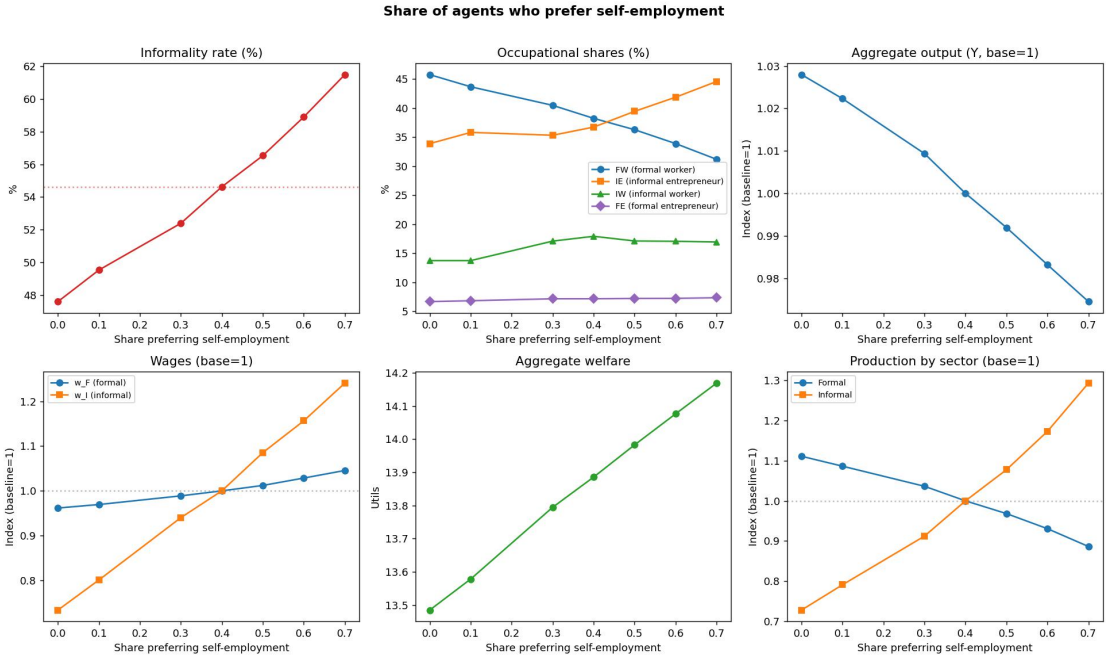


Figure 24: Varying the share of agents preferring self-employment

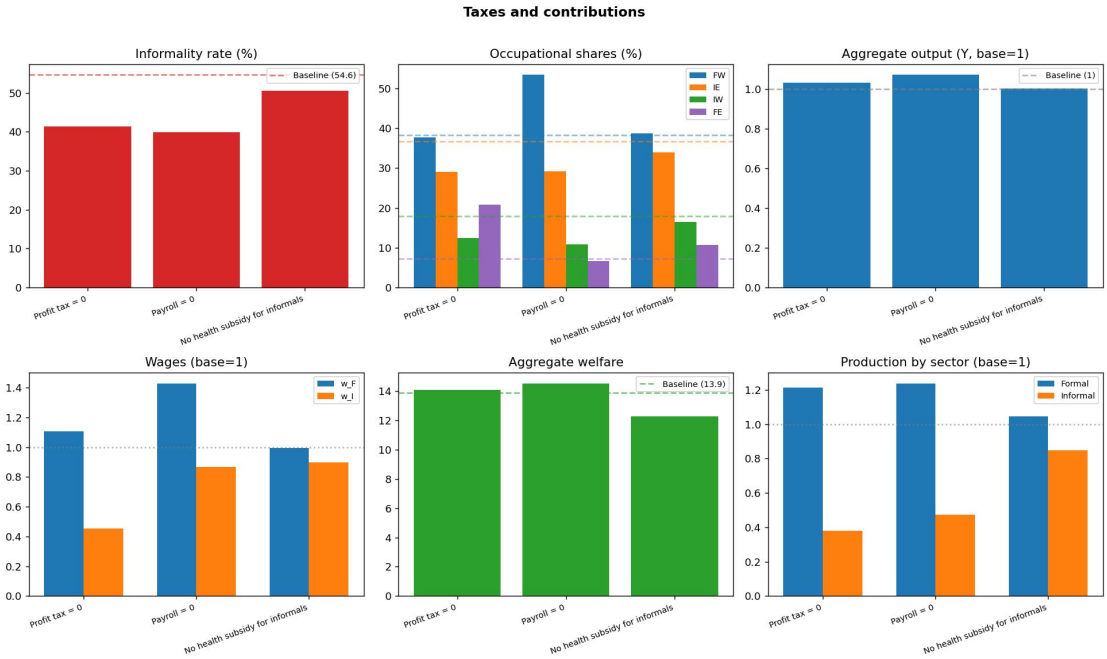


Figure 25: Removing each contribution without compensating the lost revenue

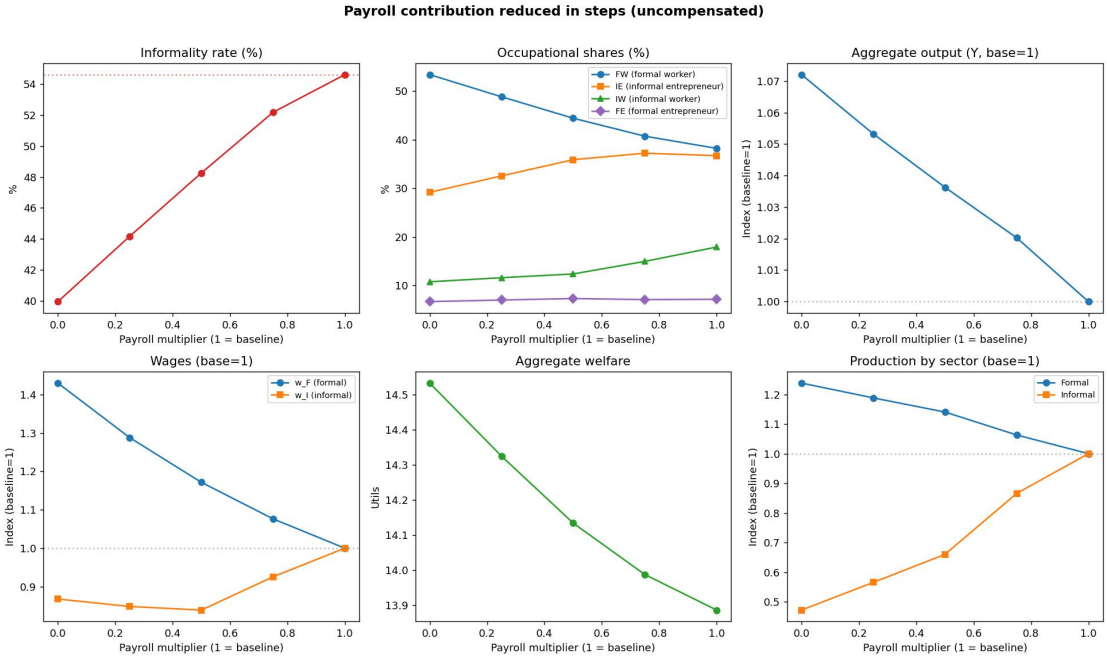


Figure 26: Payroll contribution reduced in steps (uncompensated)

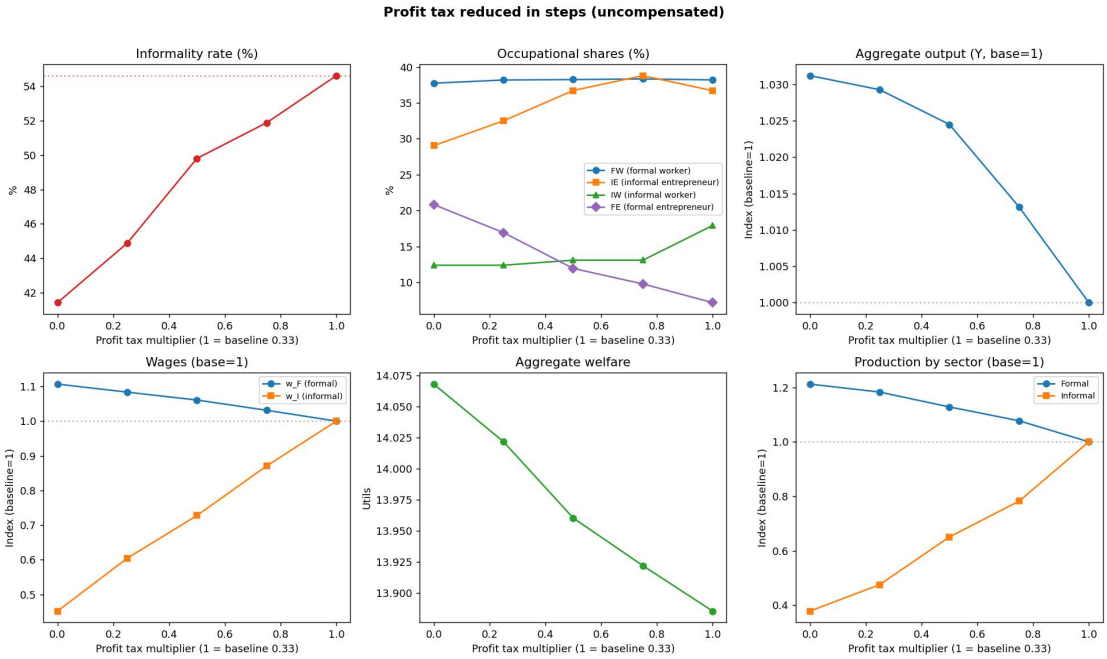


Figure 27: Profit tax reduced in steps (uncompensated)

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