

INFORMALITY

EFFECTS ON FIRMS AND AGGREGATE PRODUCTIVITY

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OECD Global Forum on Productivity

Webinar Series

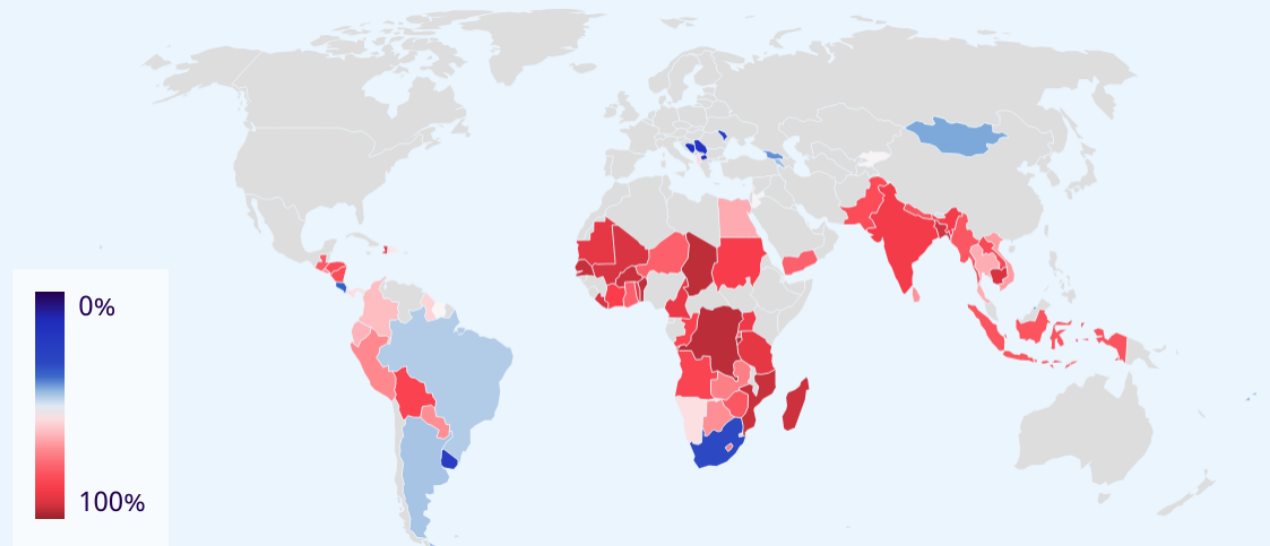
April 25, 2024

High informality is a defining characteristic of most developing economies:

- 30-70% of economic activity
- 20-80% of labour force
- Equally large share of firms

► High shares of informality in developing countries

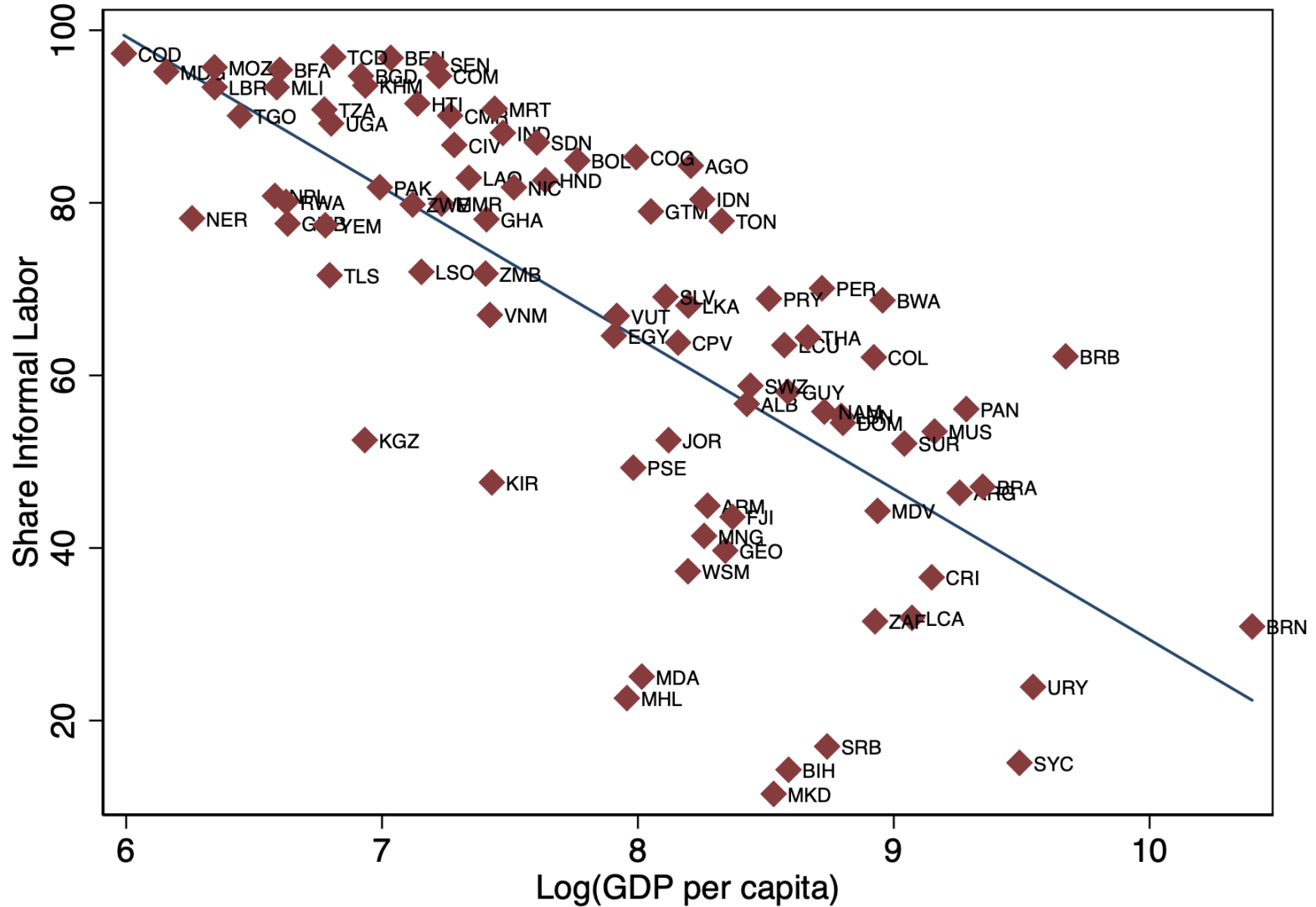
Share of informal employment by country (in percent), latest year



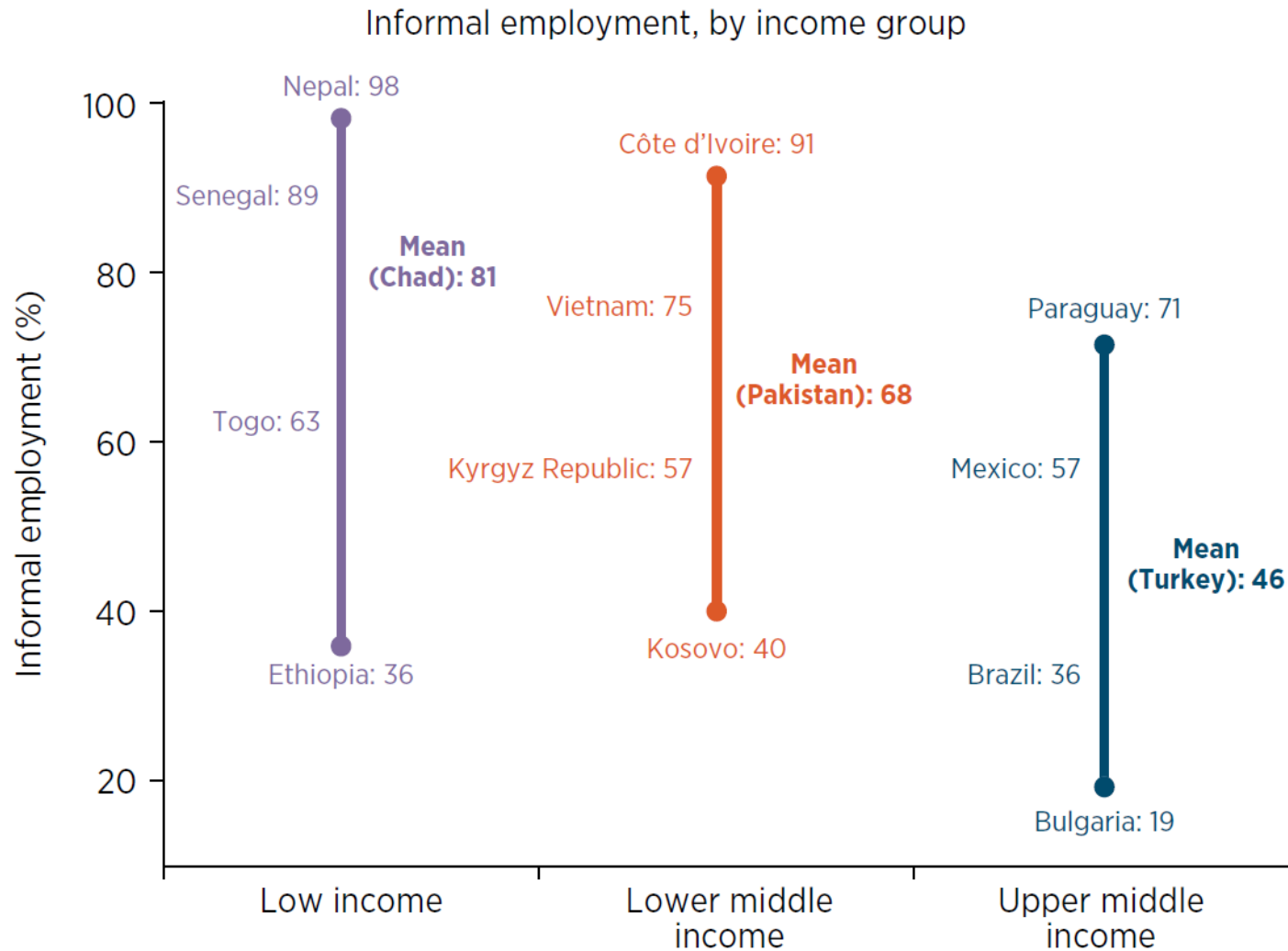
*The boundaries shown on this map do not imply endorsement or acceptance by the ILO.
Last updated on 19 July 2021.*

Source: [ILOSTAT](#)

It is negatively correlated with economic development...

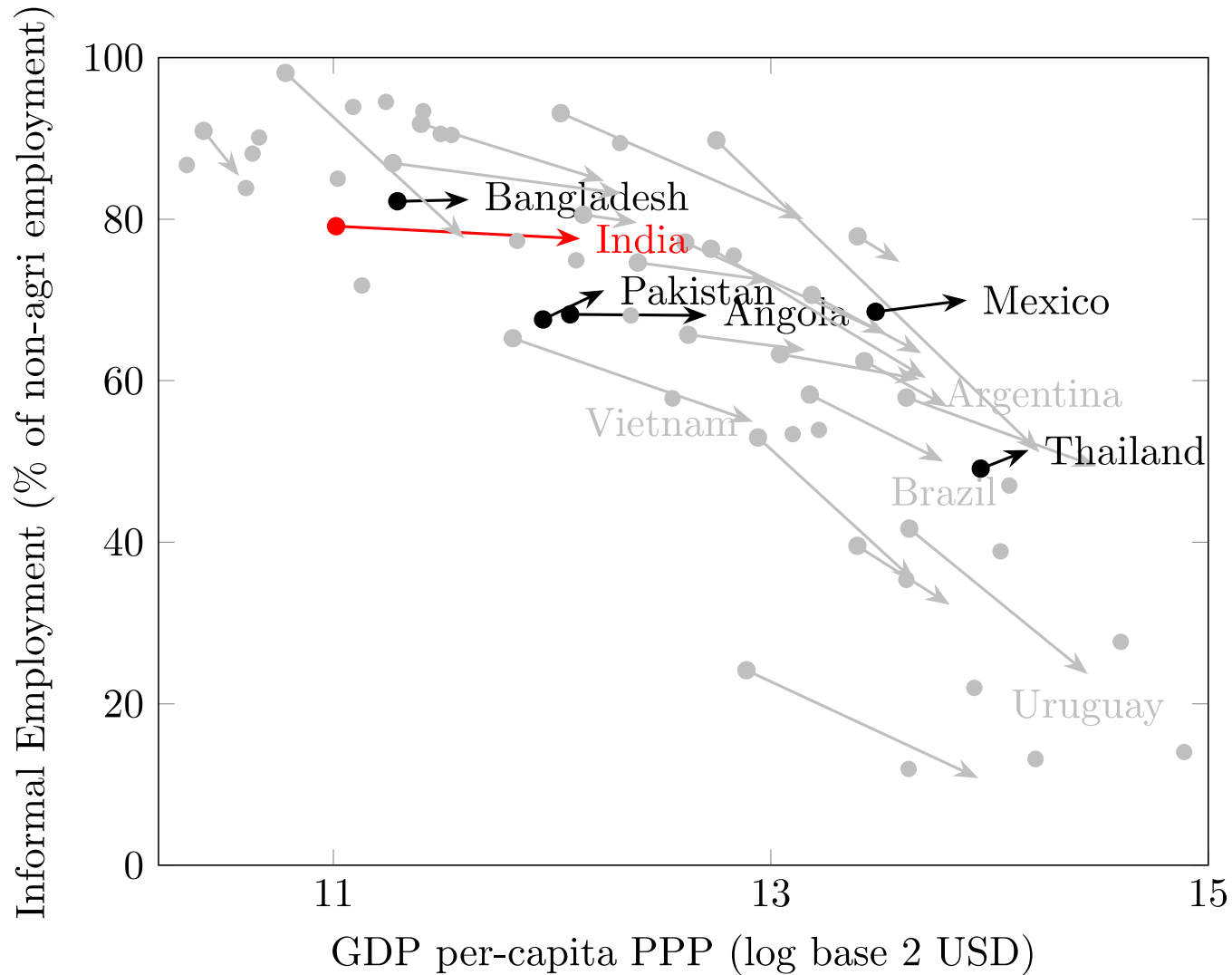


...but with huge variation even within income groups



Source: Penny Goldberg's Gorman Lecture, 2022.

Countries are unlikely to simply "grow out of informality"



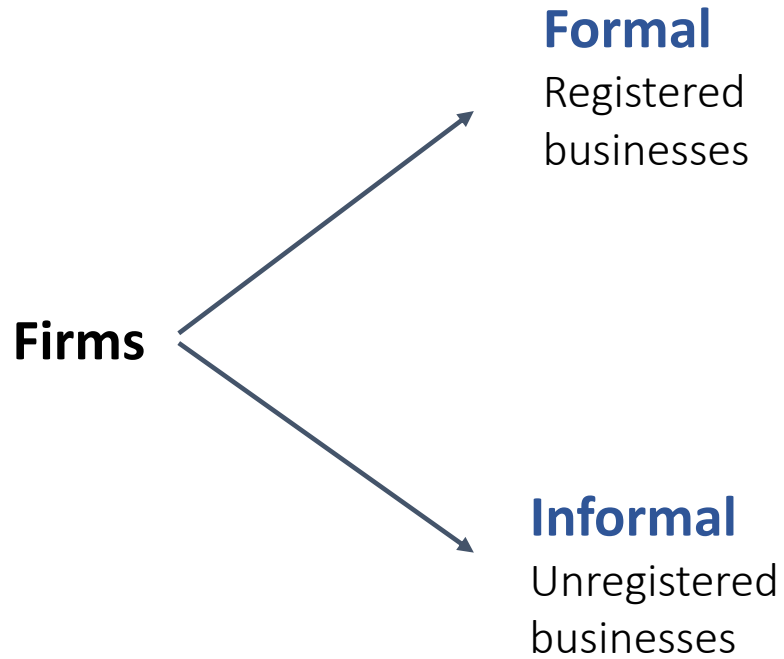
This Presentation:

What have we learned about the **causes and consequences of informality** for firms and aggregate productivity?

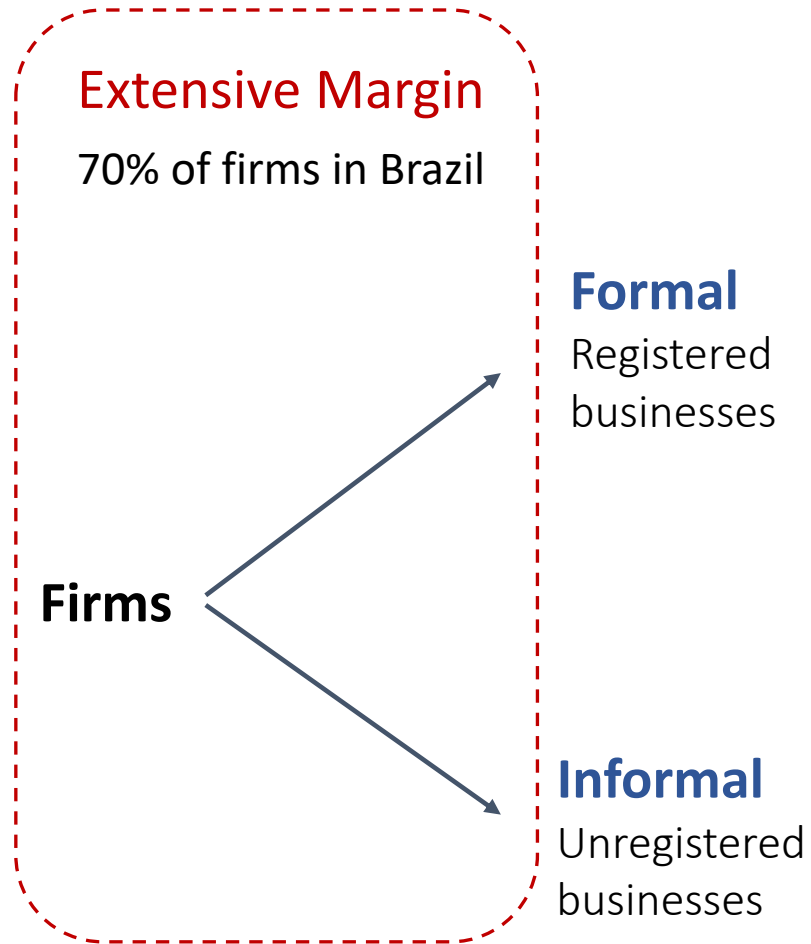
Based on:

- *VoxDevLit Review*: <https://voxdev.org/voxdevlit/informality>
- *Informality: Causes and Consequences for Development*. **Annual Review of Economics**, vol. 12, 2020.
- *Firms, Informality and Development: Theory and Evidence from Brazil*. **The American Economic Review**, vol. 108, No. 8, August 2018.
- *Trade and Domestic Distortions: The Case of Informality* (with Dix-Carneiro, R.; Goldberg, P.; and Meghir, C.). February, 2024.

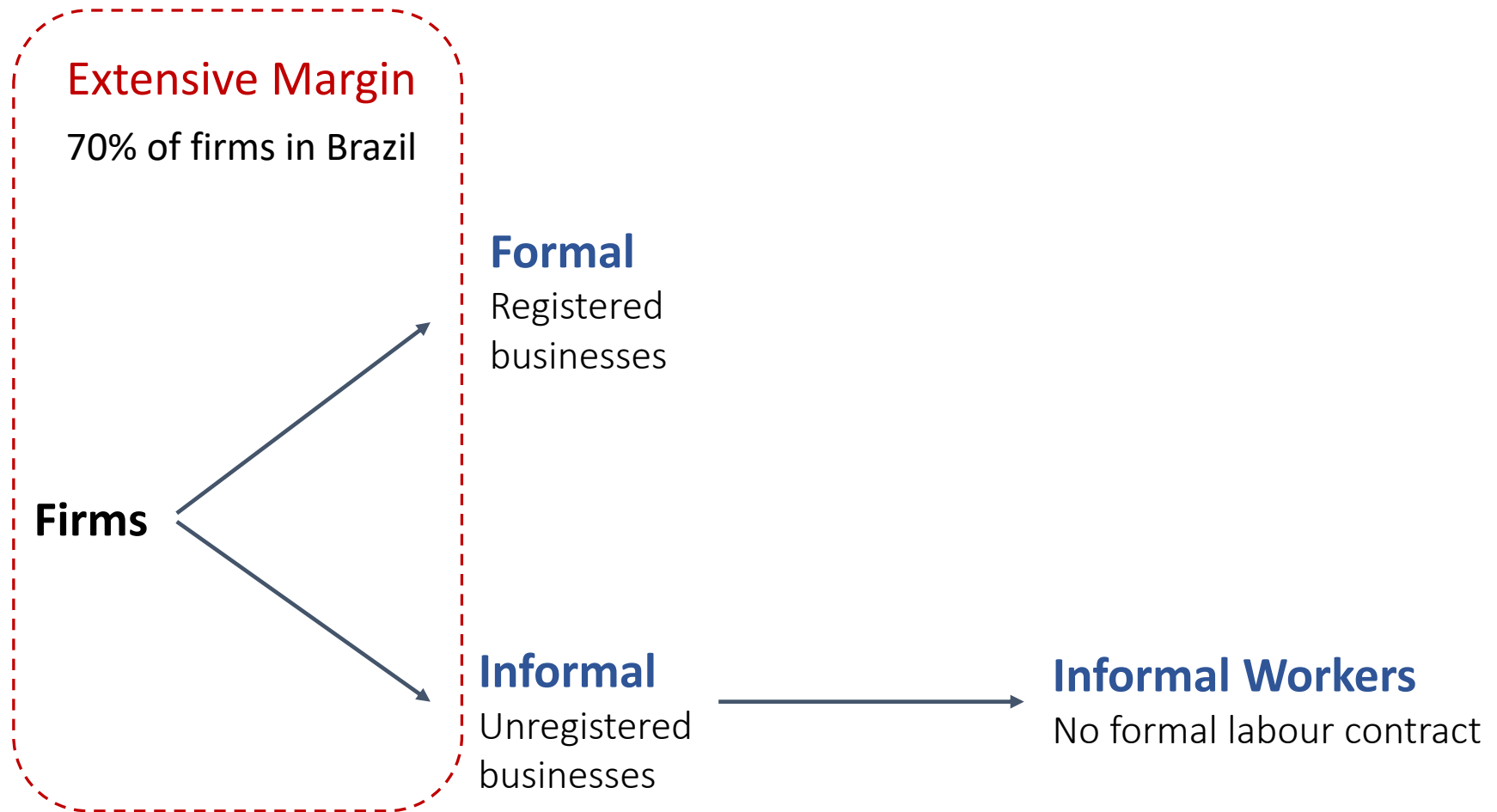
Definitions: Margins of Informality



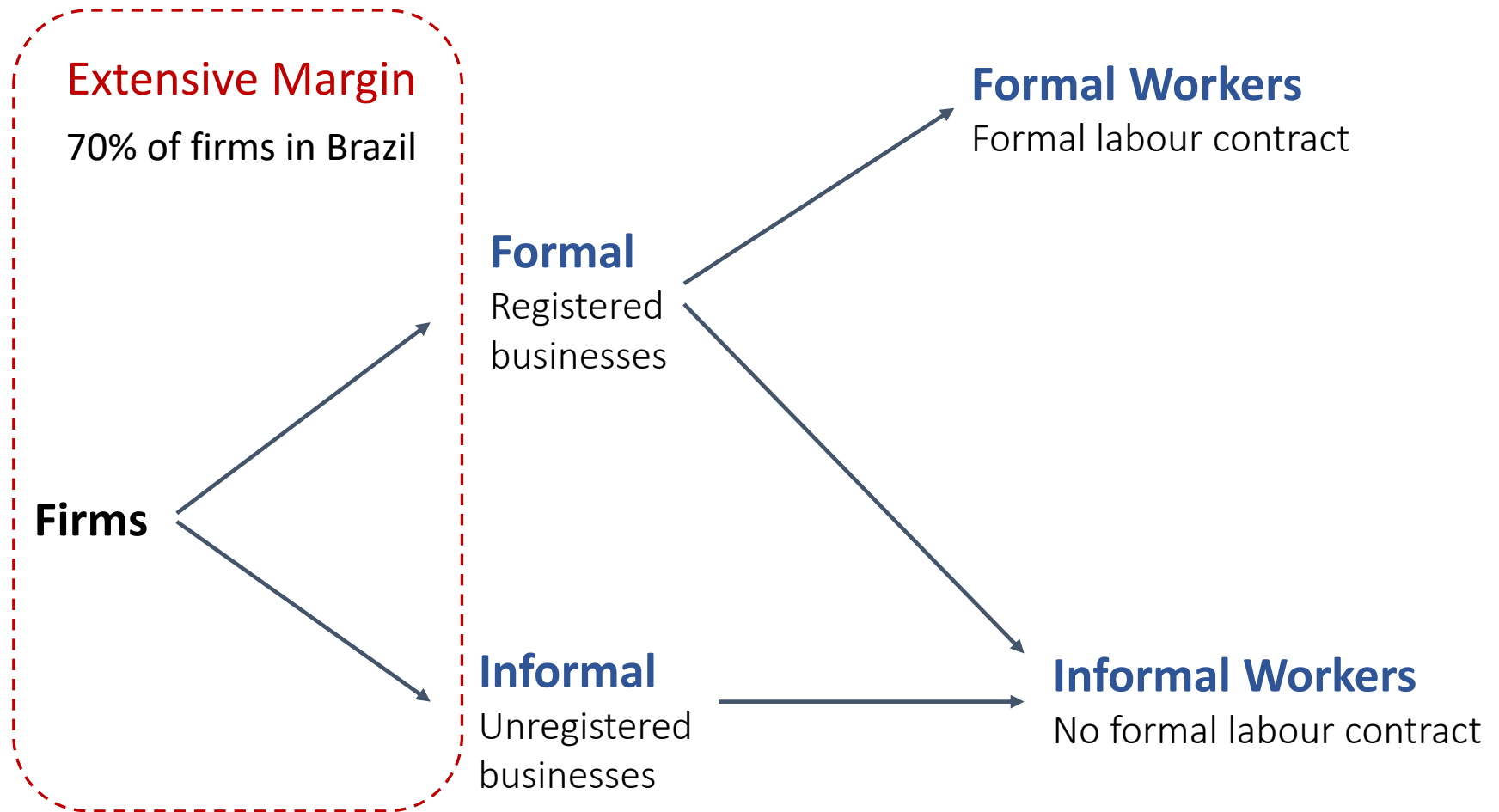
Definitions: Margins of Informality



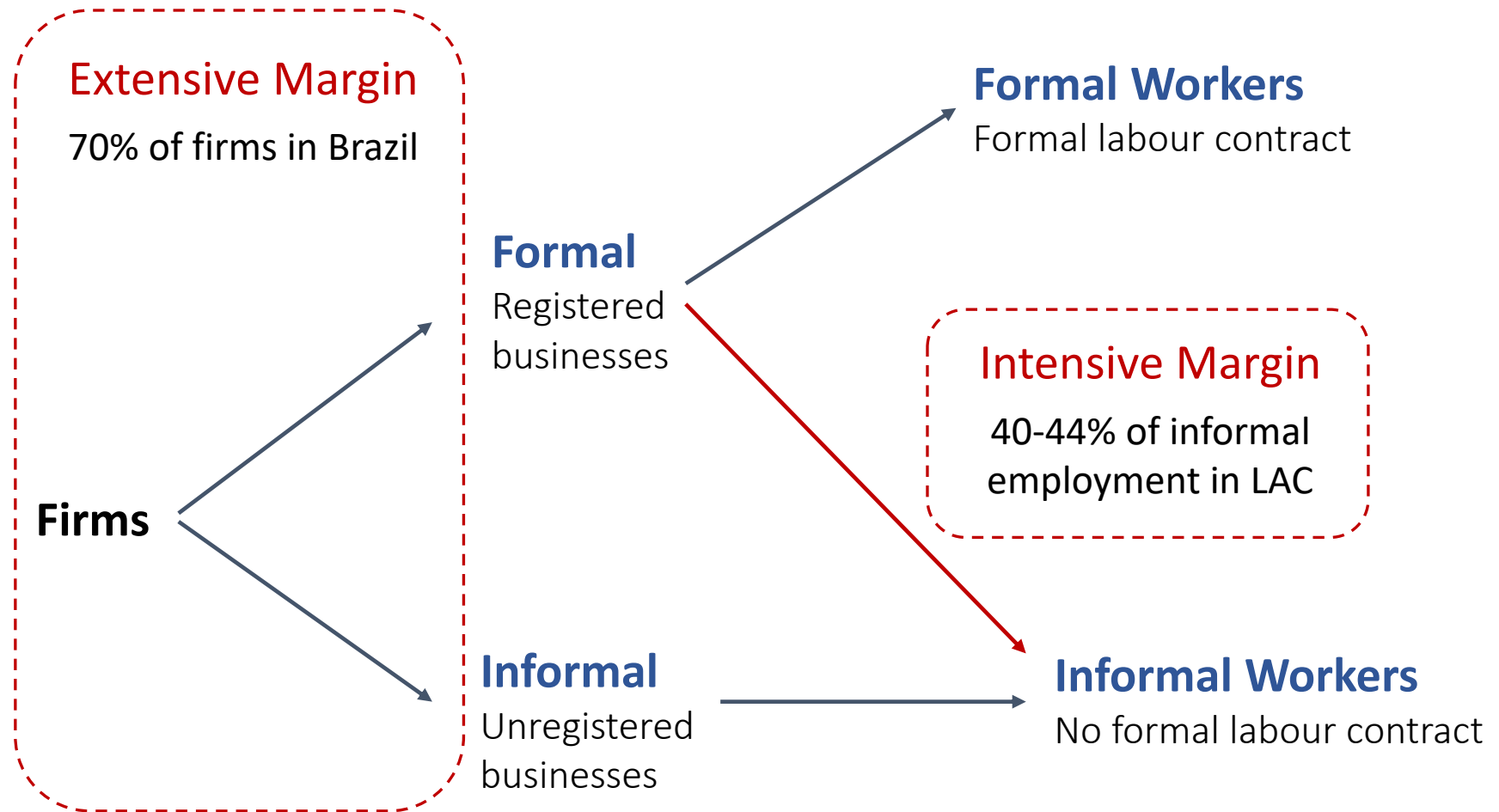
Definitions: Margins of Informality



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Outline

1. Facts

2. Determinants

3. Consequences

Facts about firms

Informal firms are, **on average**:

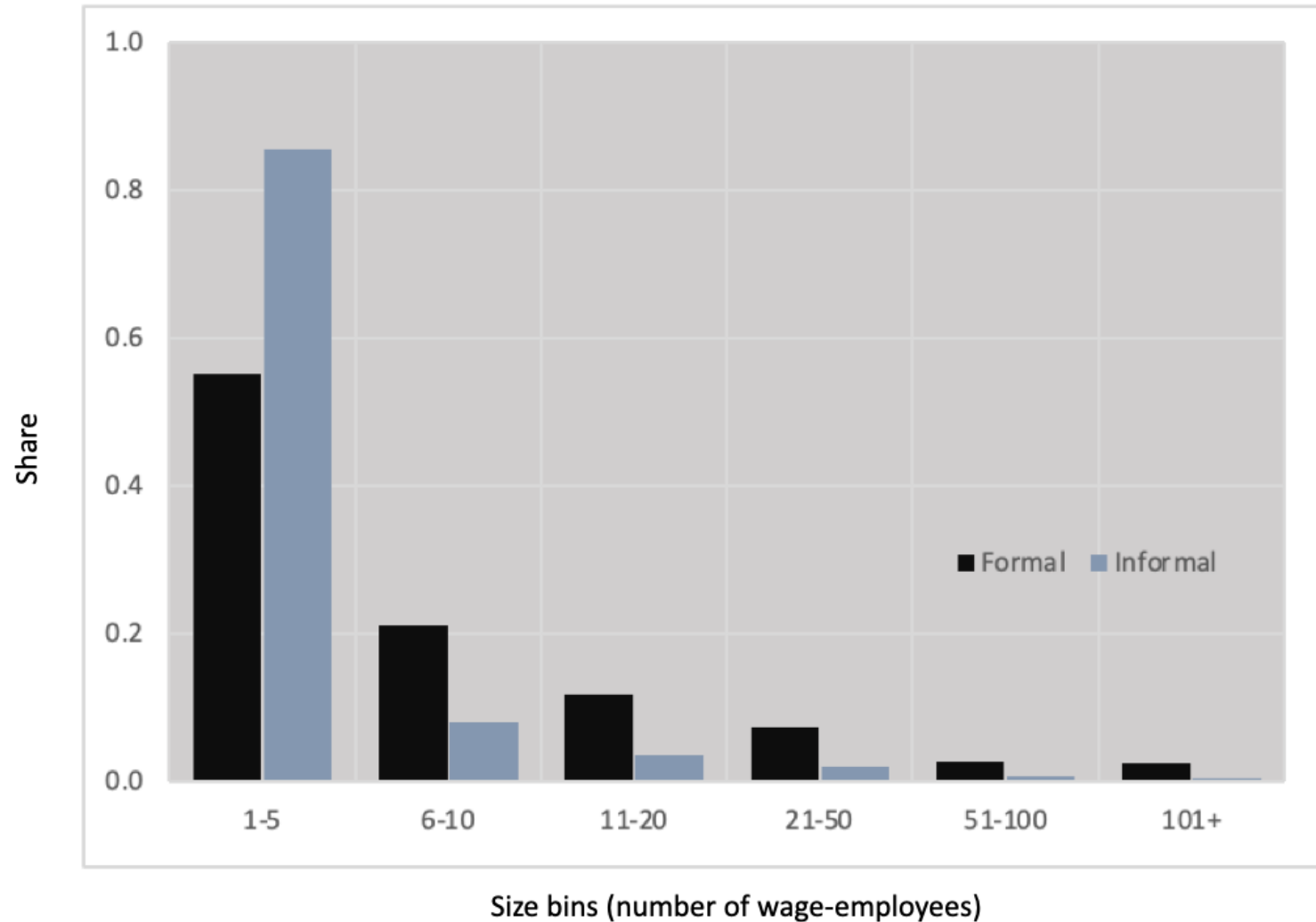
- Smaller
- Pay lower wages
- Run by low-skill individuals who hire low-skill workers
- Earn lower profits than formal firms

Nevertheless, there is **no evidence of duality**:

- Formal and informal firms coexist within the same industries and produce similar products
- There is a substantial overlap in formal and informal firms' productivity distributions (even within industries)

No missing middle in **firm size distributions** (but lots of skewness!)

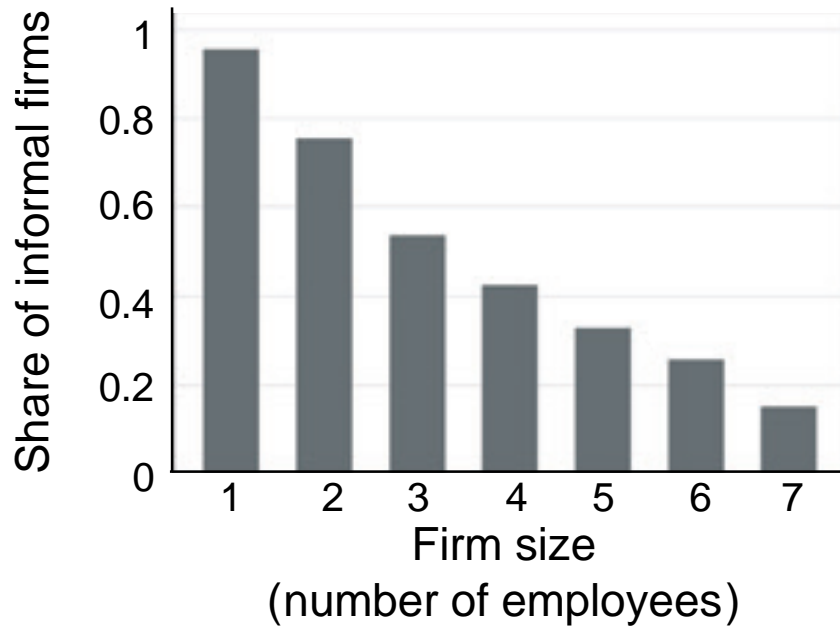
Mexico



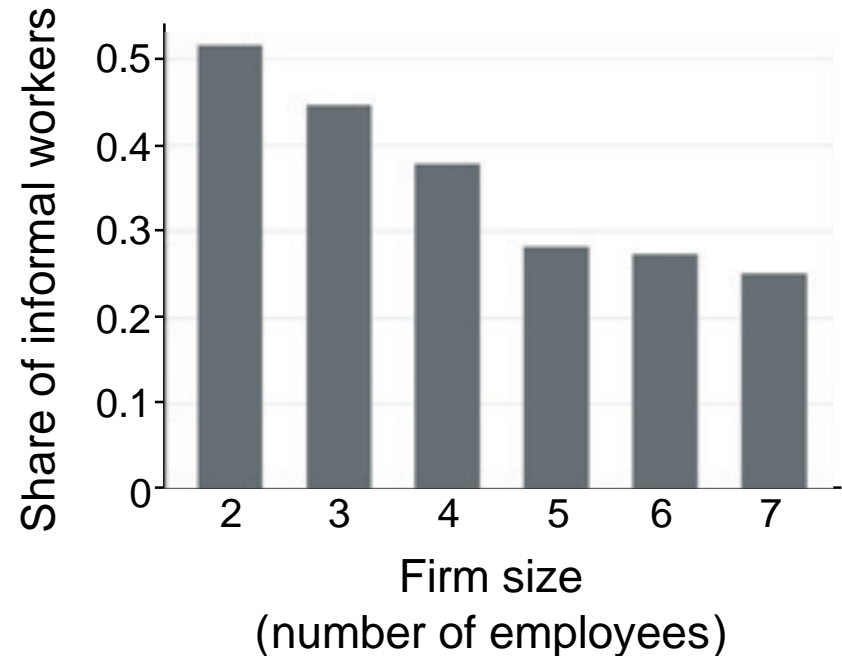
Source: Blundell et al. (2022)

Both margins of informality decline with **firm size**

Panel A. Extensive margin

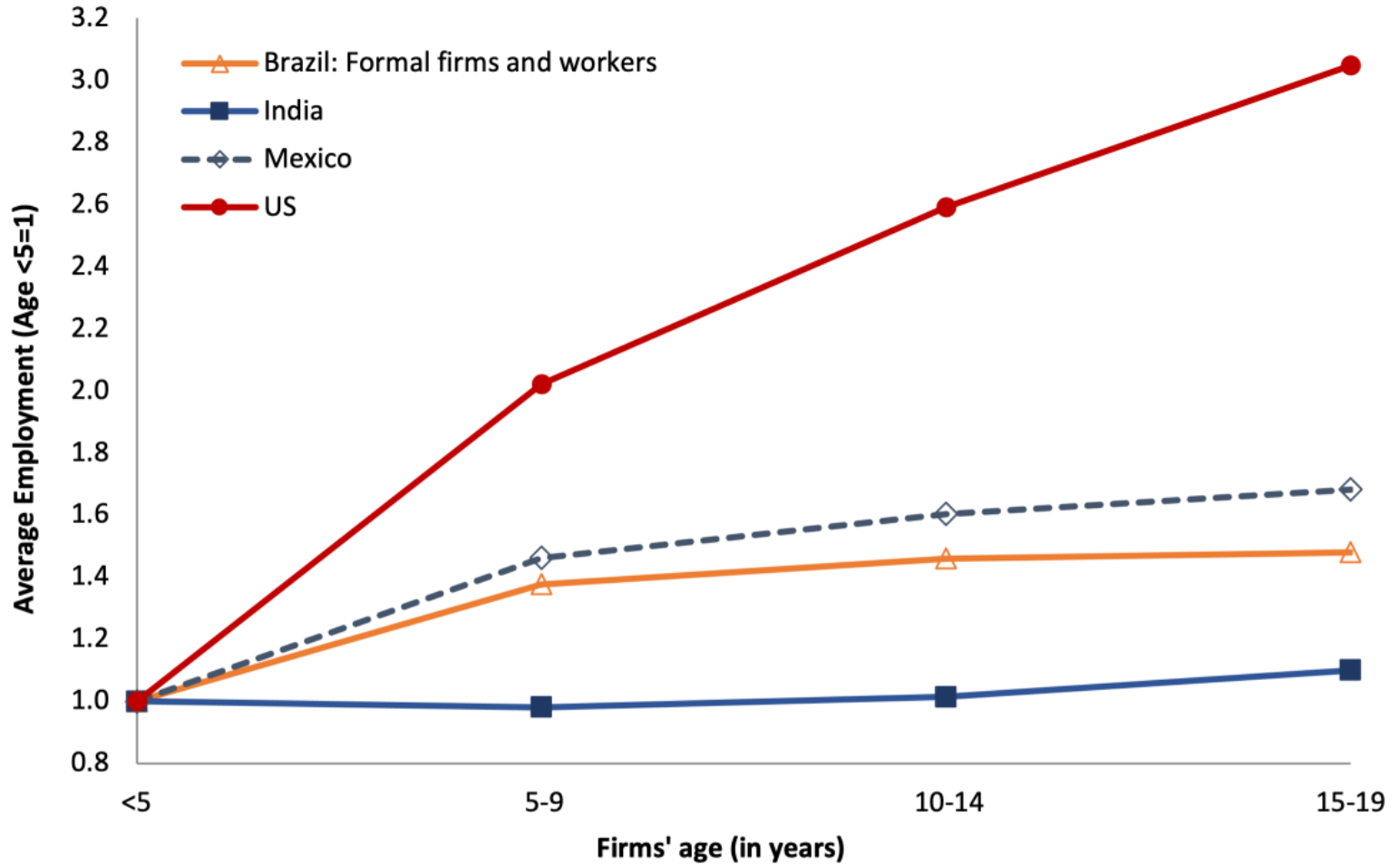


Panel B. Intensive margin



Same is true with respect to **firms' age!**

Firms in developing countries grow less + stagnant firms survive longer



Source: Hsieh & Klenow (2014) + Sedlacek & Ulyssea (2022).

Is this related to informality?

ENTRY

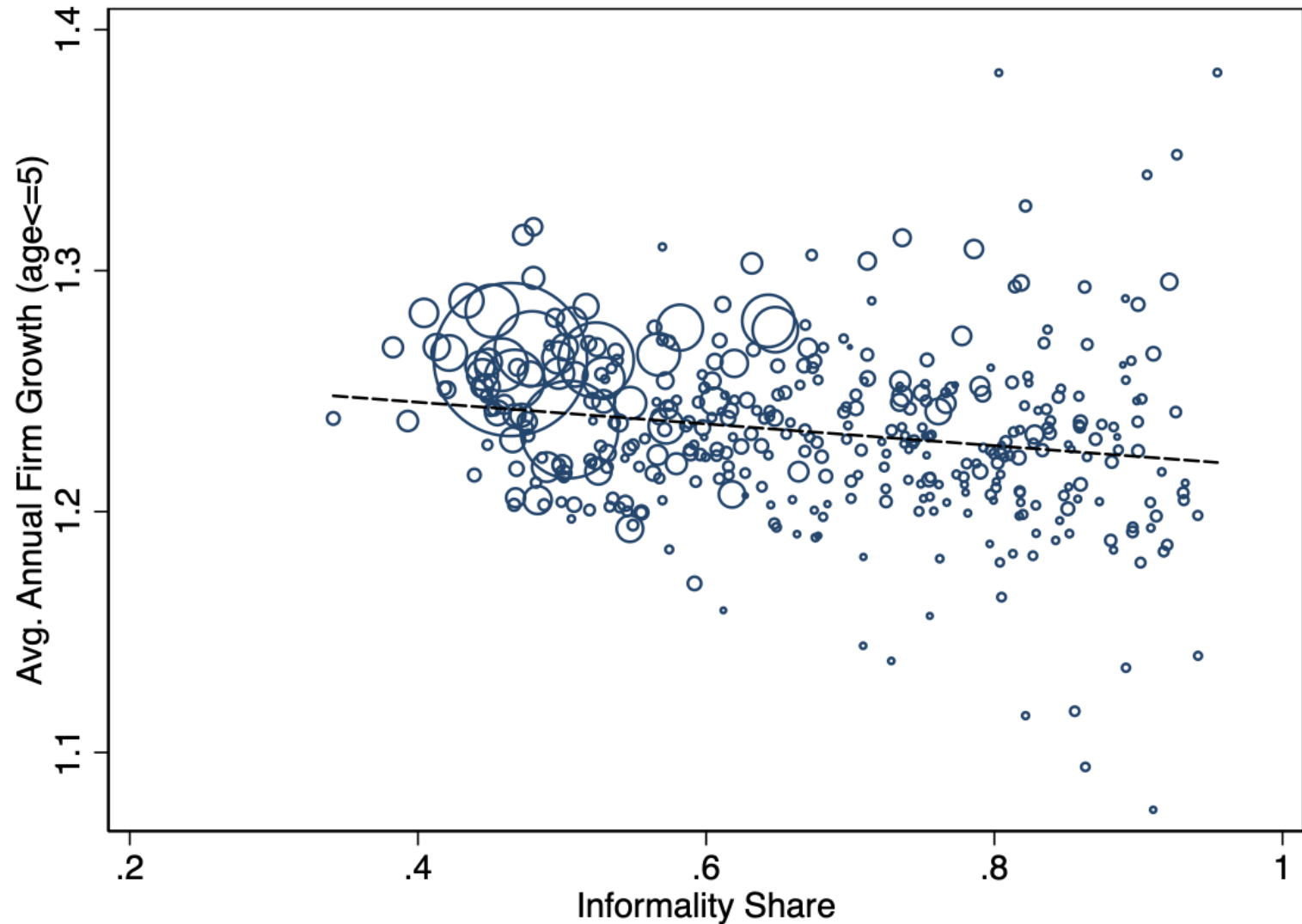


Note: informal workers defined as those who lack a working permit or the self-employed.
Slope from a population-weighted linear model.

Source: Sedlacek and Ulysea (2023)

Is this related to informality?

Firm Average Annual Growth ($\text{age} \leq 5$)



DETERMINANTS: FIRMS

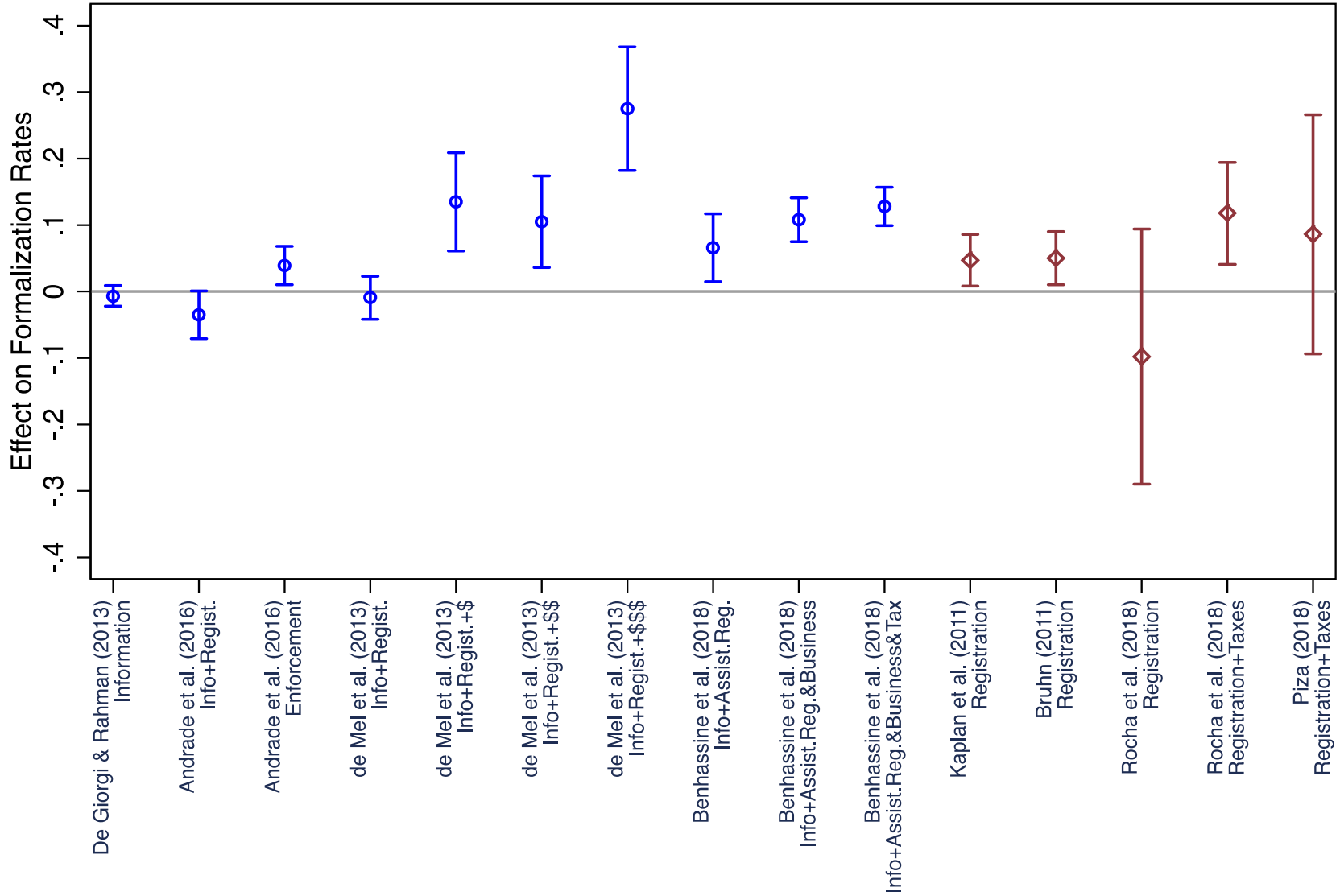
Costs and benefits of (in)formality

If policy makers want to **reduce informality among firms**, they can:

1. Reduce the **costs of formality**:
 - i. Costs of entering the formal sector (e.g. registration costs)
 - ii. Costs of remaining formal (e.g. taxes)
2. Increase the **benefits of formality**, e.g. improve credit access
3. Increase the **costs of informality** via greater enforcement of the existing laws and regulations

By and large, policies/interventions analyzed in the literature **focus on group 1**, in particular the **reduction of entry costs**.

What does the empirical literature say?

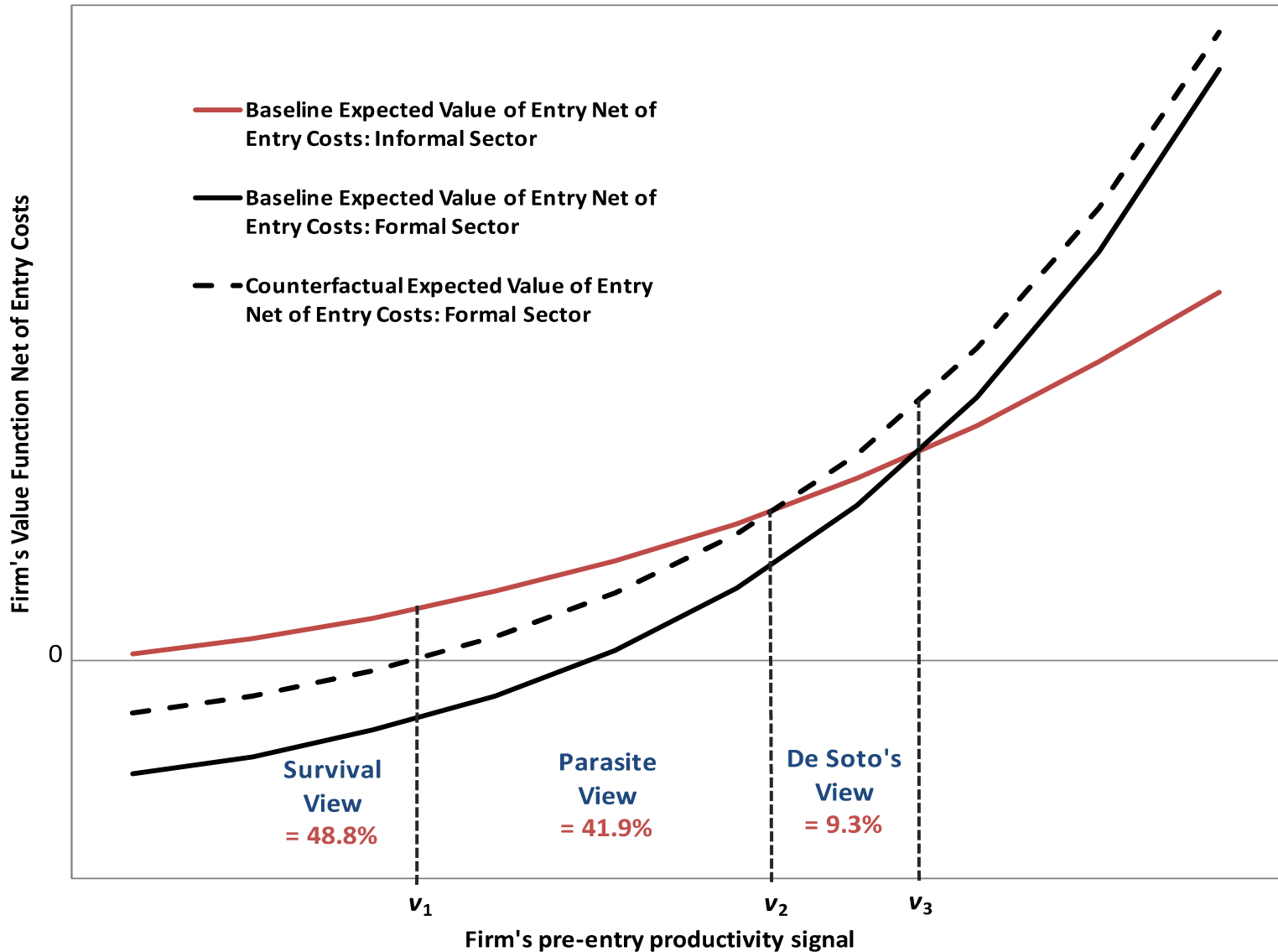


Source: Ulyssea (2020)

Summarizing:

- Providing **information** about registration (and potential benefits) or **reducing registration costs** has **very limited effects**.
 - Might be a necessary but not a sufficient condition for formalization
- **Largest formalization effects** come from interventions that **reduce the costs of staying in the formal sector** or that increase the **benefits of formality**
- Policies that **increase the costs of informality** have received far less attention by policy makers and empirical studies.
 - Existing results suggest **strong formalization** effects but there can be **adverse effects** as well, both at the firm and aggregate levels.

Why? A potential interpretation...



Aggregate determinant: Trade

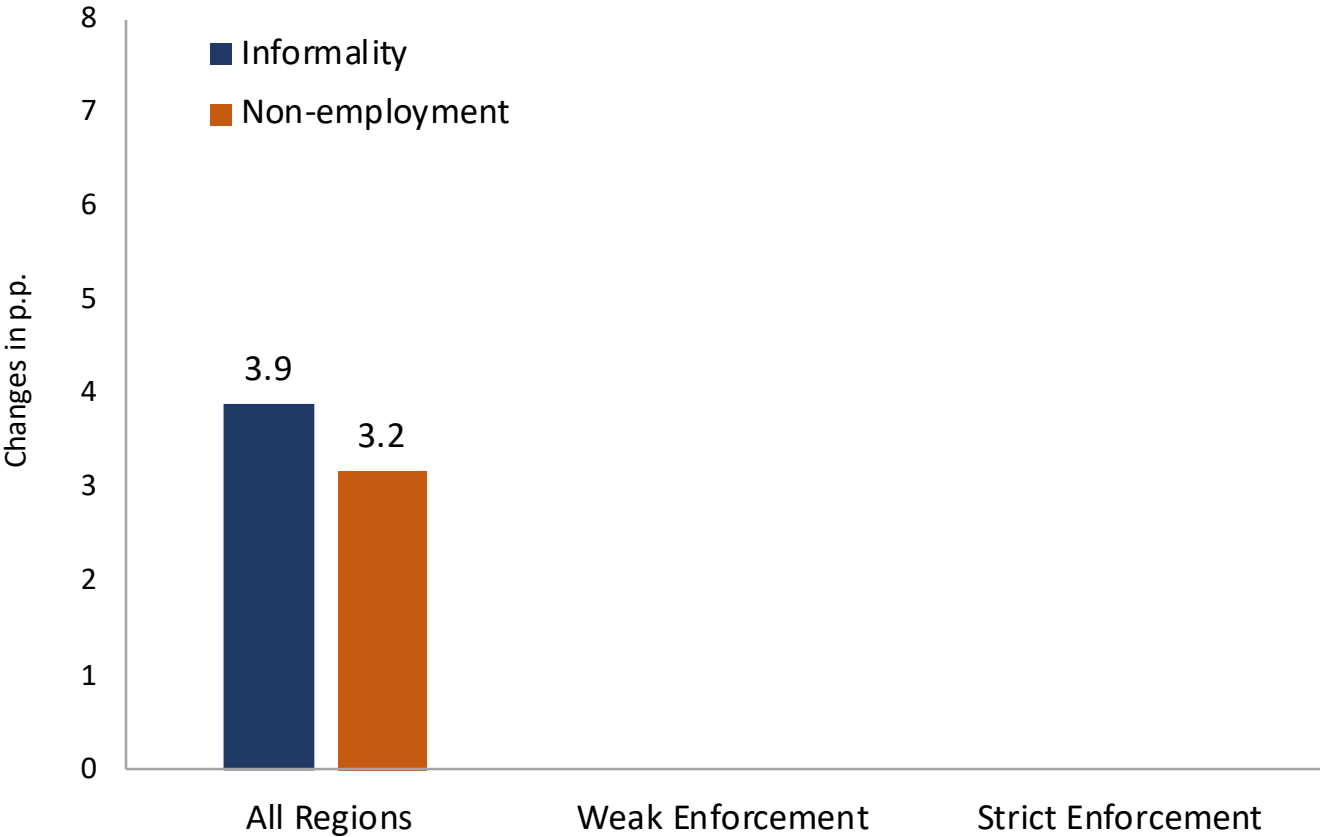
- Strong effects of trade on both **firm** and **labor informality**
- **Exposure to foreign competition** leads to higher informality among low skill workers, but with **two opposing forces**:
 - i. The least productive (informal) firms exit: **extensive margin**
 - ii. Formal firms cut costs by hiring informal workers: **intensive margin**
- **Greater access to foreign markets** can reduce firm informality (McCaig and Pavcnik, 2018)

Additional determinants: Trade

Higher informality is not necessarily bad; it can help reducing employment losses

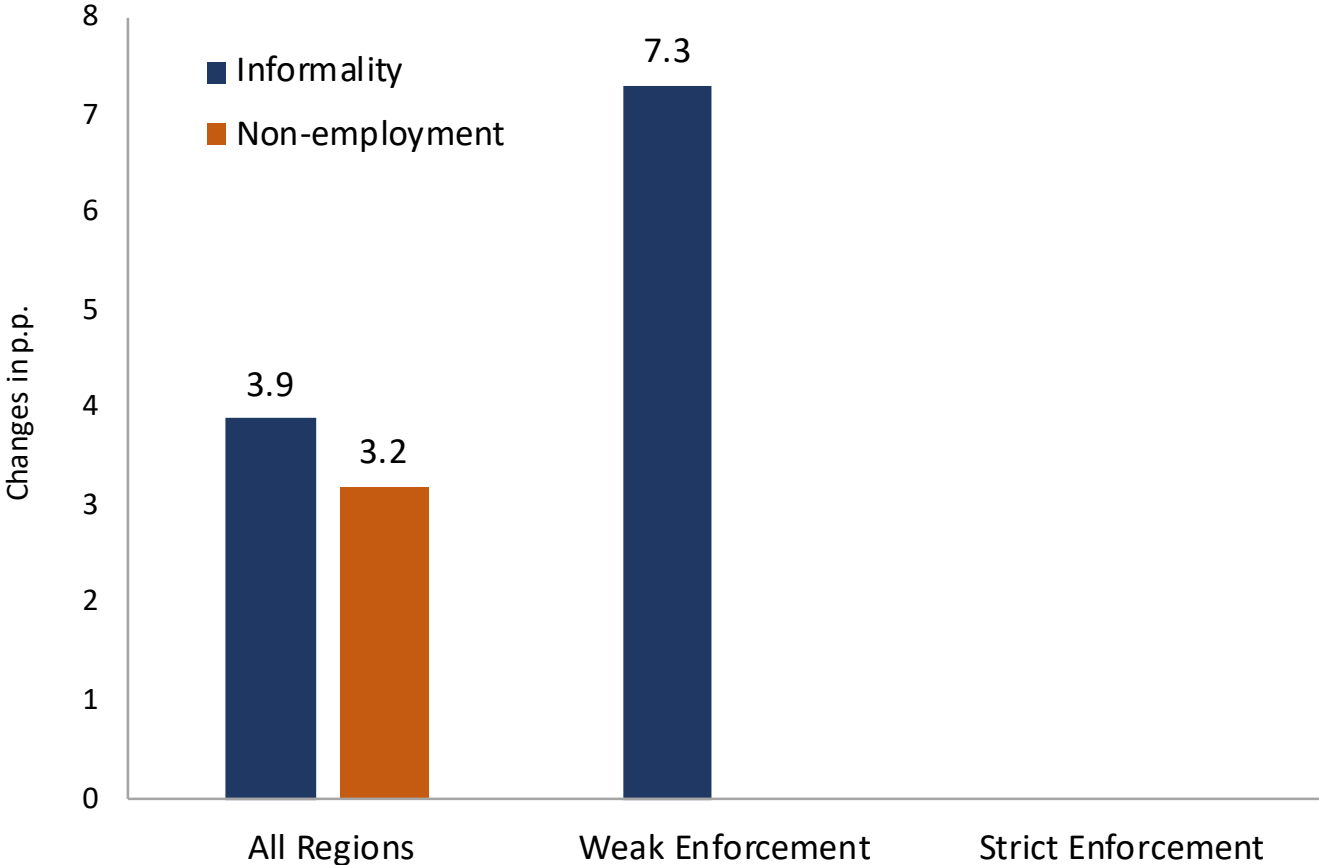
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Higher informality is not necessarily bad; it can help reducing employment losses. Example from Brazil (Ponczek and Ulyssea, 2022):



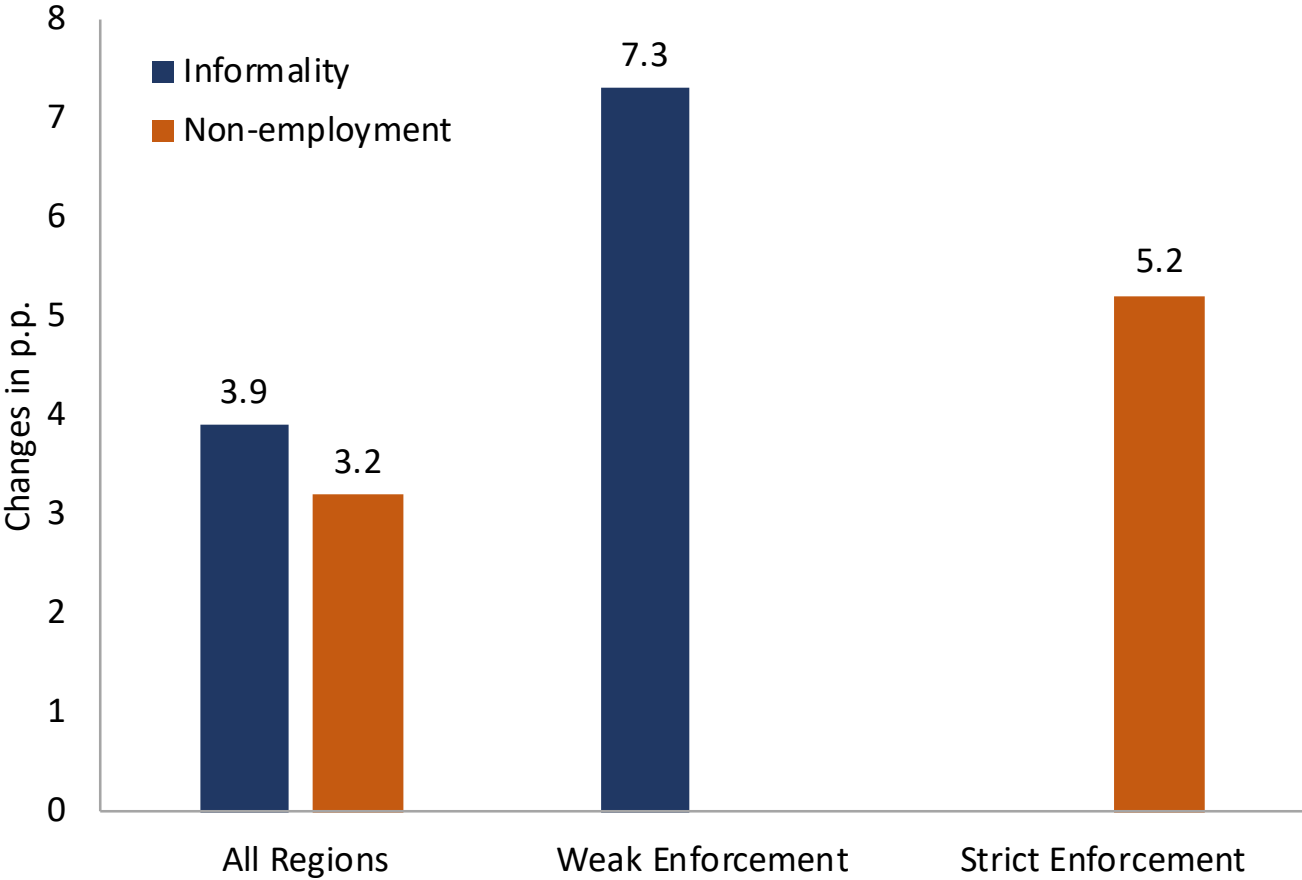
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Welfare effects? Need a structural model!

Results suggest that informality is a “employment buffer” but not a “welfare buffer” (Dix-Carneiro, Goldberg, Meghir and Ulyssea, 2024)

- Real income per capita and aggregate productivity are higher under stricter enforcement and lower informality

CONSEQUENCES

Firms

- The results in the literature indicate that formalization has **no effects** on different measures of **firm performance** (sales, profits, size,...)
- Consistently, firms that formalize do not seem to change any meaningful behavior (access to finance, formal banking, investments,...).
- Whenever there are positive average effects, these are driven by few firms experiencing substantial growth.
- This lack of effect is consistent with the argument that the **perceived benefits of formalization are very low** for most small-scale entrepreneurs.
- It might be the case that the positive effects of formality take long to appear. Even then, these results are not encouraging, as the costs kick in upon formalization.

Aggregate effects: Human Capital

Informality can lead to lower levels of aggregate human capital via two equilibrium mechanisms:

1. Lower **investments in schooling**

- Informality reduces the effective returns to schooling → individuals invest less in their education.
- Eliminating informal jobs can increase schooling investments by 10% but at the cost of decreasing welfare of workers and firms.

2. Lower **on-the-job human capital accumulation**

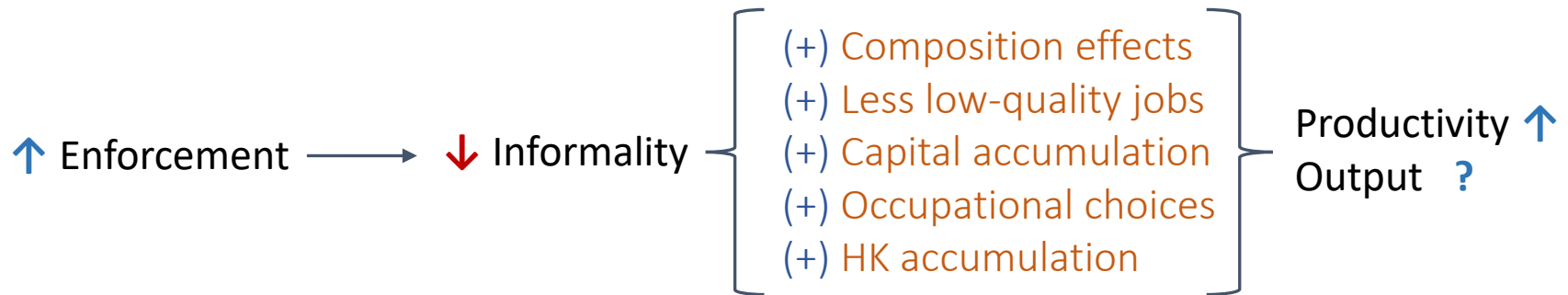
- Results show that on-the-job human capital is slower in informal jobs

Aggregate Productivity, Output and Growth

The aggregate effects of reducing informality crucially depend on the policy instrument used to achieve it. I will focus on **enforcement** and **entry costs**.

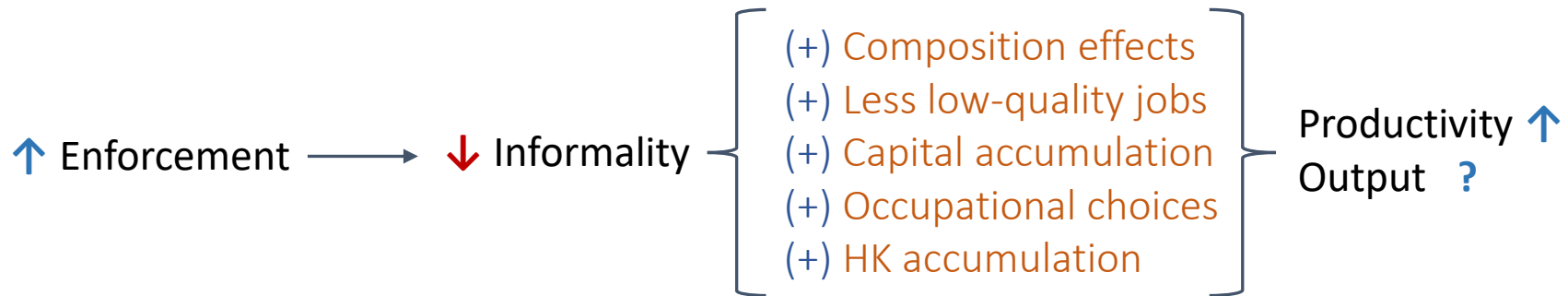
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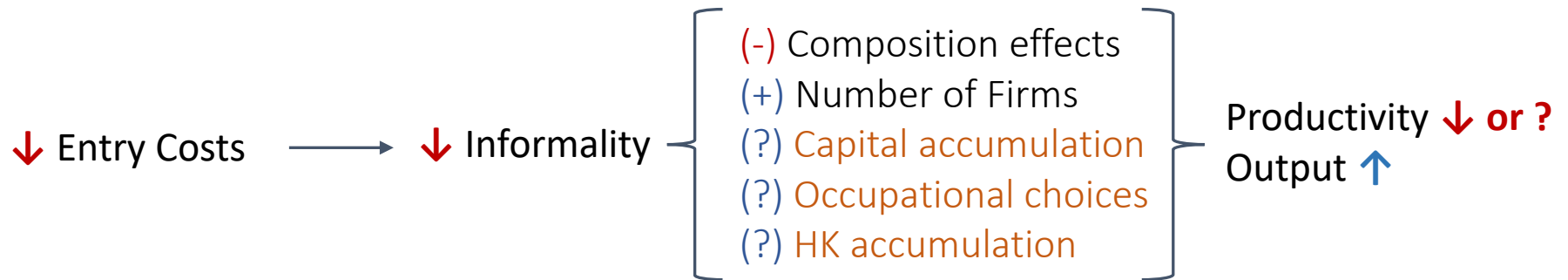


Greater enforcement can have adverse effects on welfare, and even output, due to higher unemployment/displacement effects. **Mixed results in the literature.**

Key dimension: how much employment reallocation there can be from low-productivity informal firms to more productive formal firms.

Open question: transition dynamics!

Aggregate Productivity, Output and Growth



Open questions:

- What is the role of other (formal sector) frictions in shaping these effects?
- Even without the positive composition effects, can we observe positive effects on occupational choices, K and HK accumulation?

Taxes: reductions in the tax burden have limited formalization effects

Example from Brazil 1: formalization policies

	Baseline	Entry costs	Payroll tax	Extensive mg.	Intensive mg.
<i>Informal labor (share)</i>					
All workers	0.351	0.353	0.227	0.224	0.298
Unskilled	0.425	0.425	0.280	0.268	0.357
Skilled	0.266	0.271	0.167	0.173	0.230
Informal firms (share)	0.688	0.435	0.608	0.211	0.741
Informal output (share)	0.199	0.129	0.147	0.034	0.219
<i>Wages</i>					
Skilled	1.000	1.038	1.147	1.009	0.991
Unskilled	1.000	1.004	1.104	0.915	0.998
Skill premium	1.427	1.476	1.482	1.575	1.417
Mass of firms	1.000	1.227	0.866	0.945	0.966
TFP	1.000	0.939	1.087	1.083	1.017
Output	1.000	1.042	1.009	1.032	0.984
Tax revenues	1.000	1.106	0.955	1.222	0.992
Welfare	1.000	1.055	1.044	0.933	1.002

Source: Ulyssea (2018)

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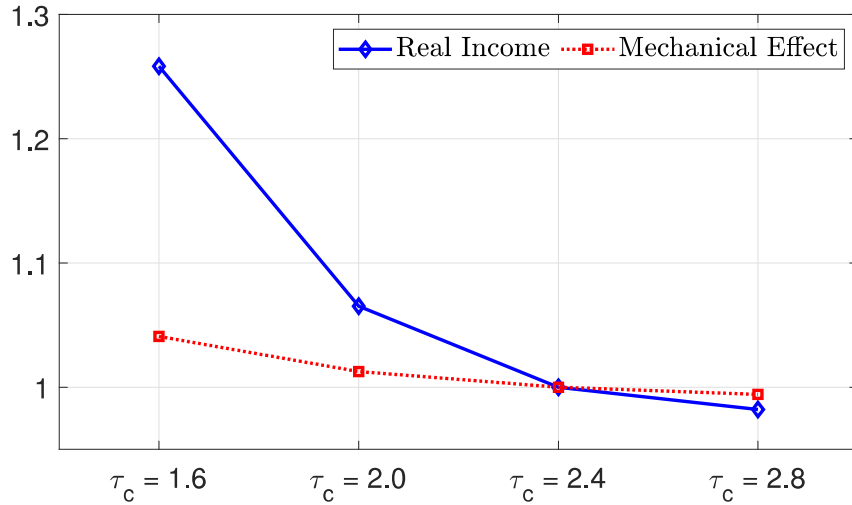
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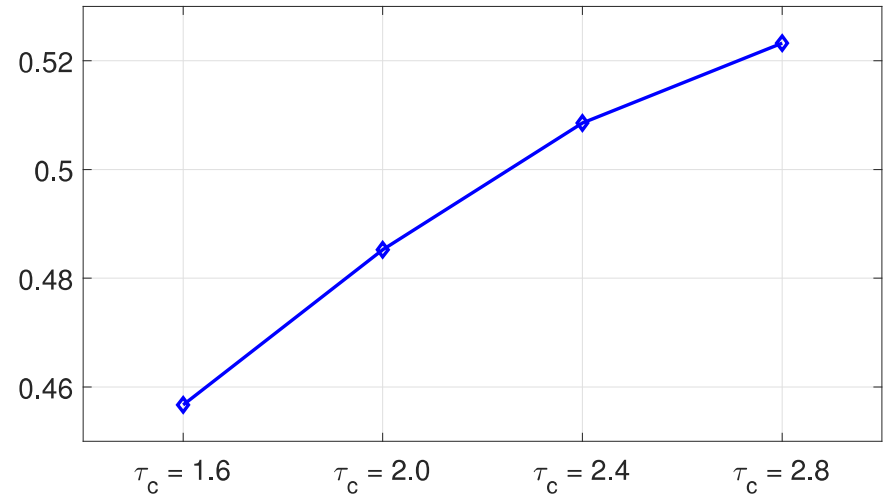
Example from Brazil 2: Trade

Figure 3: Real Income and Informality

Real Income and Mechanical Effects



Share Informal Employment



Source: Dix-Carneiro, Goldberg, Meghir and Ulyssea (2024)

Final Remarks

- The literature has made substantial progress in understanding the main determinants of **firms' choices** regarding informality.
- Despite the emphasis on firms' decisions, there remain many important unanswered questions.
 - The literature has **only started to explore the dynamics of firms' decisions** regarding the different margins of informality.
 - **Big open question**: Is informality a stepping-stone for entrepreneurs with high-growth potential but who might be constrained by other frictions?
- At the firm level, formalization alone seems to have no impact on firms' performance.
- It may, however, distort firms' incentives and the selection process, allowing less productive firms to survive and compete with more productive ones
- Despite absorbing a large fraction of the labor force, high informality leads to substantial resource misallocation and lower aggregate productivity.