

Firms, Growth and Development: Some Open Questions

STEG/PEDL Opening Lecture

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Some Background

- Just finished co-editing (with Pascaline Dupas and Rohini Pande) the *Handbook of Development Economics*, 6th edition.
- Table of Contents → see next slide
- Here I will focus on a subset of chapters – those that touch on questions of structural transformation, growth and development.
- Focus on some open questions (list by no means exhaustive!)

Overview of Handbook Content

(chapter titles and order subject to change)

1. Overview and Introduction

2. Persistent Barriers to Development

- 2.1 Geography and Economic Development. Pascaline Dupas
- 2.2 Searching for Fish in Trees? Local Context, Intervention, and Economic Development. Jacob Moscona, Nathan Nunn, and Jim Robinson
- 2.3 Politics and Policy When State Capacity is Low. Kate Casey
- 2.4 Armed Conflict: Causes, Consequences, Policies. Dominic Rohner

3. Aggregate Trends and their Implications for Economic Development

- 3.1 The Changing Nature of Globalization and its Implications for Development. Penny Goldberg and Michele Ruta
- 3.2 Technology and Economic Development. Daron Acemoglu, Ufuk Akcigit and Simon Johnson
- 3.3 Skipping the Factory: Service-Led Growth and Structural Transformation in the Developing World Michael Peters, Youdan Zhang and Fabrizio Zilibotti

4. Microeconomic Foundations of Economic Development

Markets and Market Failures

- 4.1 Wedges: A Microeconomic Perspective on Misallocation. Lauren Falcao Bergquist, Danial Lashkari, and Eric Verhoogen
- 4.2 Human Capital Markets. Jishnu Das and Cauê Dobbin
- 4.3 Poverty Traps. Oriana Bandiera, Robin Burgess, Antol Heil, and Munshi Sulaiman
- 4.4 Economic Development and the Environment. Kelsey Jack and Nick Ryan

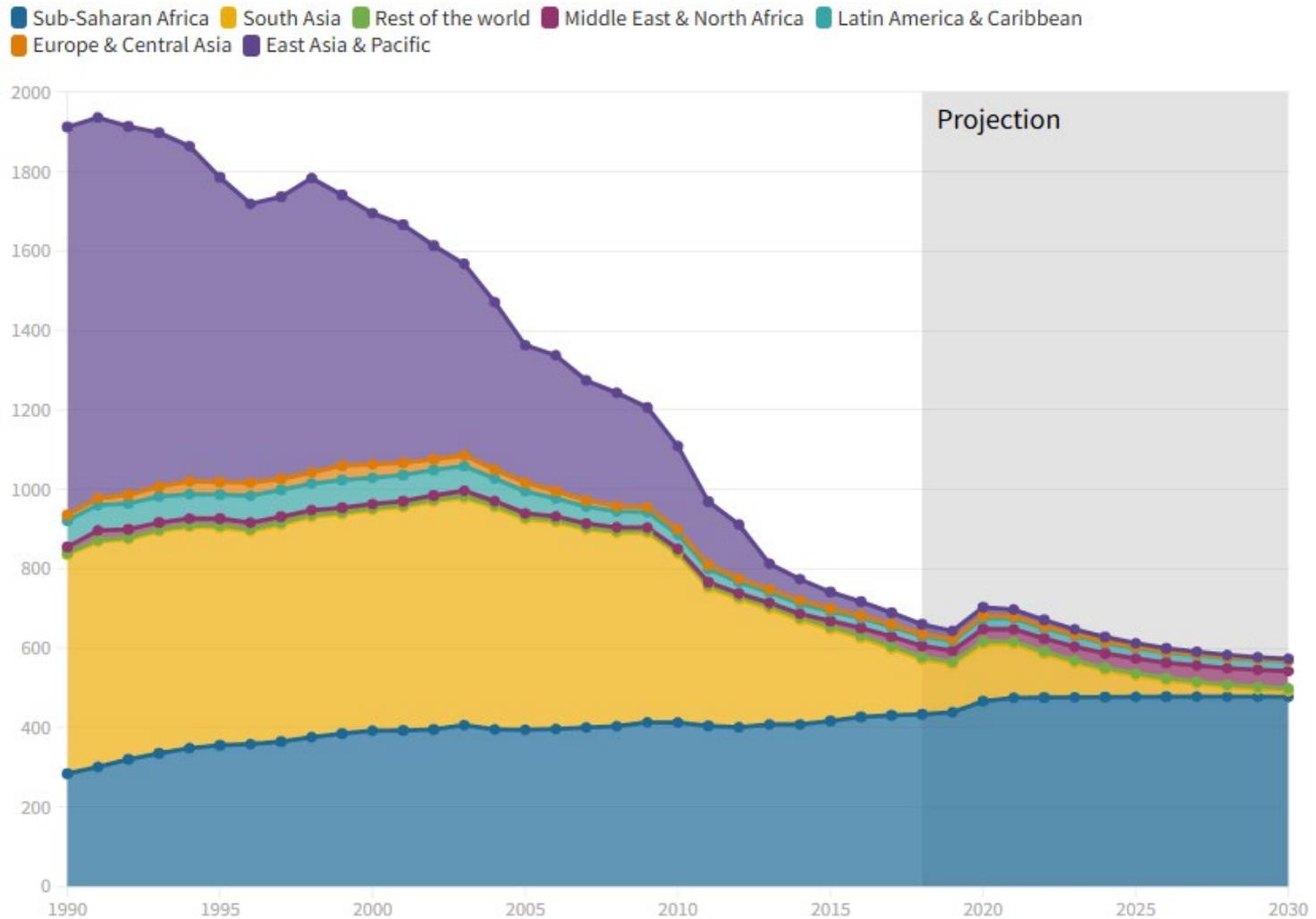
People

- 4.5 Human Capital and Development. Philippe Aghion, Ingvild Almås, and Costas Meghir
- 4.6 Gender Norms and Development. Erica Field, Maddie McKelway, and Alessandra Voena
- 4.7 Psychology and Development: Lessons from Cognitive and Social Psychology. Emily Breza and Supreet Kaur
- 4.8 Social Protection: Policymakers' Views and Empirical Evidence. Rema Hanna, Ben Olken, and Alexa Weiss

Some High-Level Takeaways

- Enormous progress in the past few decades
- Progress slower in Africa and Middle East (reasons?)
- Progress (mainly growth) will likely slow down, and may even get reversed
- Past progress/growth had shifted the focus of the development community to:
 - Growth for whom? → Distributional Issues
 - At what cost? → Sustainable Development
- But now, renewed focus on GROWTH
 - Where will growth come from in the future (especially in LICs)?
- But there is more to a single aggregate growth number. Most of the world's poor now live in middle-income countries!

People in Extreme Poverty (millions)



Source: Yonzan, Lakner, and Gerszon Mahler (2020), Figure 2.

Note: Extreme poverty is defined as those living under \$1.90-a-day.

Road Map

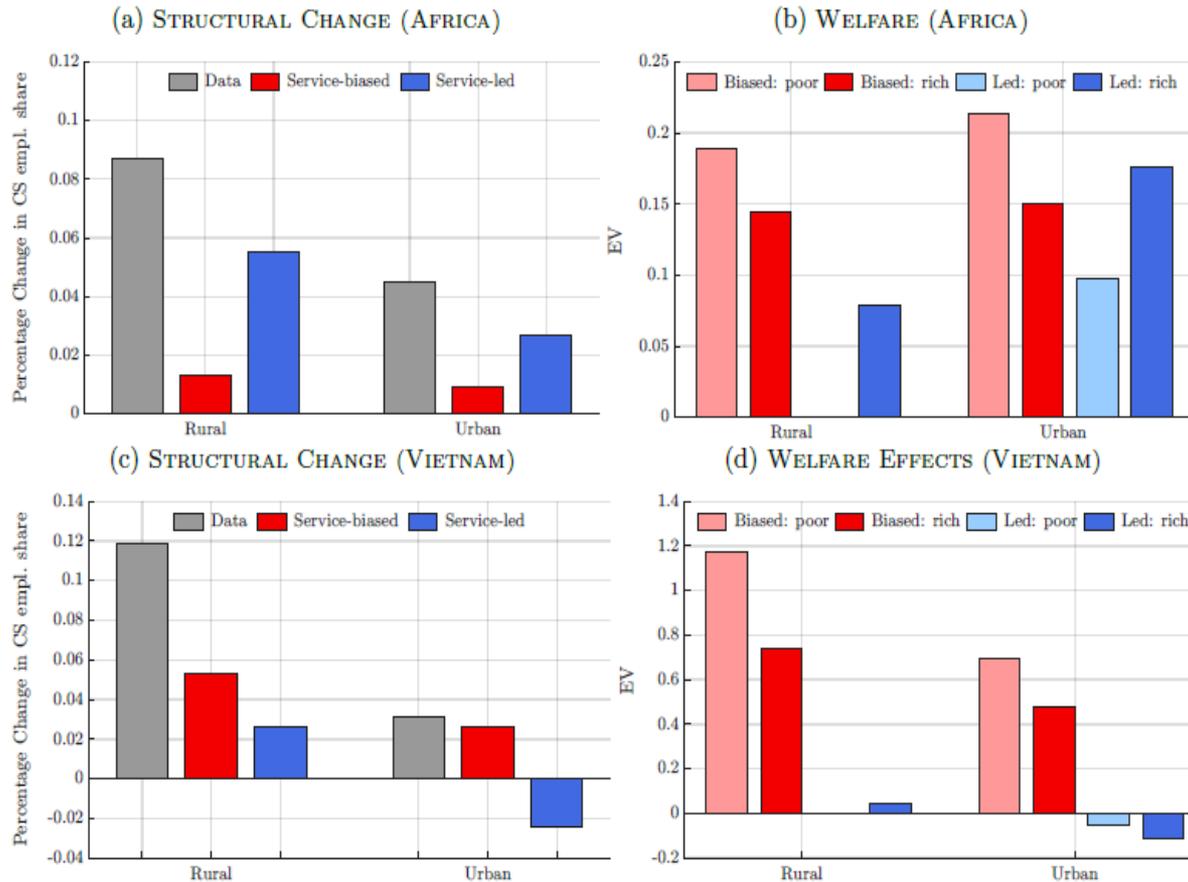
- Structural Transformation and Development: The role of the service sector
- Technology and Development
- Informality
- Misallocation (→ Gender-Based Distortions)
- Markets vs. Firms (→ Industrial Policy)

Structural Transformation and Development

- Traditional model: AG → MF → SE
- In the past few decades: MF was the “engine of growth” (in East Asia, Europe, North America)
 - Trade played a crucial role, mainly by facilitating the adoption of new technologies (Goldberg and Ruta, *Handbook Chapter*)
 - Channels: Market size; access to quality inputs and capital goods; quality upgrading; skill upgrading; assortative matching; technology transfer; quid pro quo arrangements
 - Great example of how excellent micro work based on firm-level data informed macro questions
- Still very interesting, but at this point, economic history...
- Structural changes (new technologies, climate change) plus policy and geopolitical shifts make this model unlikely in the future.
- Future? Peters et al. → **Service-Led** (as opposed to Service-Biased) Growth
 - And Services here are Consumer Services!
 - Fan et al. (*ECMA 2023*) → India
 - Peters et al. (*Handbook Chapter*) → Africa

Service-Led Growth

Figure 7: SERVICE-LED GROWTH: STRUCTURAL CHANGE AND WELFARE EFFECTS



Notes: The left panels show the change in the CS employment share in the data (gray) and the counterfactual changes under service-biased growth (red, allowing only A_{rt}^T to change) and service-led growth (blue, allowing only A_{rt}^{CS} to change). The right panels report the associated welfare changes, measured as percent changes in income. The red bars correspond to service-biased growth and the blue bars to service-led growth. Light bars show the effects for the poor (the 25% of the local income distribution) and dark bars show the effects for the rich (the 95%). Panels (a) and (b) correspond to our calibration for our sample of African countries. Panels (c) and (d) correspond to Vietnam.

Some Open Questions

- First, striking differences between Vietnam and Africa. Reasons? Role of international trade/exports?
- Difference between short-run income boost and sustained growth → development
- For the latter, spillovers important. Big open question: Will SE-Led Growth have the same positive spillovers MF-Led Growth has had?
- Gollin, Jedwab and Vollrath (*JEG 2016*):
 - Similar results on emerging importance of consumer services → Urbanization without Industrialization
 - But in their literature review, emphasize that spillovers documented for MF, highly uncertain for SE
 - Expected productivity growth lower
- Peters et al → Take analysis further: Growth is service-LED in India and many countries in Africa
- Caveat: Productivity in CS not observed, many other data and measurement challenges. Rely heavily on structure of the model. While ingenious, would be nice to examine robustness of estimates.

Some Open Questions (contd.)

- Distributional Effects of Service-Led Growth

Fan et al. (*ECMA 2023*) and Peters et al. (*Handbook Chapter*):

- Urban vs. Rural
- Rich vs. Poor

- Additional Dimension → Gender

- “Gendered” Structural Transformation: What does Service-Led Growth imply for the labor market prospects of women given the traditional comparative advantage of women in SE?
- Puzzling Obs.: In India, Service-Led Growth, but FLFP remains very low and if anything, has declined.
- Already several interesting papers on this general topic (e.g., Chiplunkar and Kleineberg (*WP 2024*), Gottlieb et al. (*WP 2025*); Ngai et al. (*WP 2024*)).

Mechanisms

- But main question/agenda for future research:
 - Mechanisms? (→ connects also to the other chapters)
- Peters et al.:
 - Agglomeration
 - Technology
 - Reduction of Informality

(Also: Potential role of business services and trade in such services (but too small to matter))

Technology and Development

- Importance of technology → theme that runs through multiple chapters of the Handbook
 - Dupas: Geography and Development
 - Moscona et al: “Inappropriate Technology”, importance of non-classical determinants
 - Acemoglu et al: Technology → Essential for Devo
 - Goldberg & Ruta: Technology/Knowledge transmission → one of the most important benefits of open markets
 - Peters et al: Can increase productivity in informal sector
 - Other chapters: Big improvements in education and health (i.e., increased productivity of services in general).

Some Open Questions

- “Technology”, but what is “technology”? **Which “technologies” foster ST and Development?**
- Premise: Developing countries far from the frontier. But not always the case. Examples:
 - Mobile money (M-Pesa in Kenya)
 - Digital technologies
- Body of work on effects of digital technologies on various outcomes. Effects positive. But transformative?

Technology and Development- Open Questions

- Results mixed:
 - Hjort and Poulsen (*AER 2019*): Large effects of Broadband Internet on employment, productivity, and incomes in Africa. Mechanism: Reduction of information and communication frictions → firm entry, productivity increase, exporting.
 - Jensen (*QJE 2007*): Mobile phones reduce price dispersion. But transformative effects?
 - Bergquist et al. (*WP 2025*): Relatively small GE effects of digital search and match platform in Uganda (but significant reduction of trade frictions)
 - Chiplunkar and Goldberg (ongoing work on Mexico): 3G Internet adoption
 - Large effects on FLFP; positive employment effects
 - Surprising finding: Seems to lead to formalization of economy; more people (esp. men) move to jobs with benefits; mid-size and larger firms expand.
 - Very preliminary hypothesis: New technologies reduce search costs and labor market frictions. This does not lead just to higher productivity in the informal service sector, but also formalization.

Technology and Development- Open Questions

- **Why don't firms adopt advantageous technology?**
 - **Micro-Incentives:** Lack of skill/human capital. Credit Constraints. Incentives within the firm misaligned, organizational frictions. Example: Atkin et al. (*QJE 2017*) on soccer balls in Pakistan.
 - **Macro-Incentives:**
 - **Appropriate Technology?** Work on AG by Moscona and Sastry (*WP 2025*). Also, *Handbook Chapters* by Acemoglu et al, Moscona et al. Work on pharmaceutical innovation by many others.
 - **Demand-side conditions?**
 - Market may be too small (Goldberg and Reed, *ECMA 2023*)
 - Literature on quality and technology upgrading through trading (see Goldberg and Ruta, *Handbook Chapter*, for an overview).
 - But counterexample: Atkin on Mexico (*AER 2016*): People drop out of school to take jobs in the export-oriented sector.

Technology and Development- Open Questions

- **How do firms get access to technologies they WANT to adopt but are not available to them?**
 - **In the past:** Through Trade, FDI, GVC participation, licensing agreements, quid-pro-quo arrangements → MF (Goldberg and Ruta, *Handbook Chapter*)
 - **In the future???**

Informality and Development

- Emerging as a big issue in Development research
- Informality means different things in different contexts. Perhaps most relevant here, definition as it applies to firms → small enough to stay under the government's radar
- Anathema to Development:
 - Tax Evasion
 - Size-dependent distortions
 - BUT: Can also serve as social protection when labor market regulation is excessive
 - Dix-Carneiro and Kovak (*AER 2017, JIE 2019*), Ponczek and Ulyssea (*EJ 2022*): Informality = Employment Buffer
 - Dix-Carneiro et al (*ECMA forthcoming*): Employment, but not Real Income Buffer.

Informality and Development (contd.)

- Consensus: Informality fosters low productivity (though there is overlap in productivity distributions (Ulyssea: *AER* (2018), *ARE* 2020) → size-dependent distortions
- Question: How do we reduce informality?
 - Reduce labor market regulation?
 - Stricter enforcement?



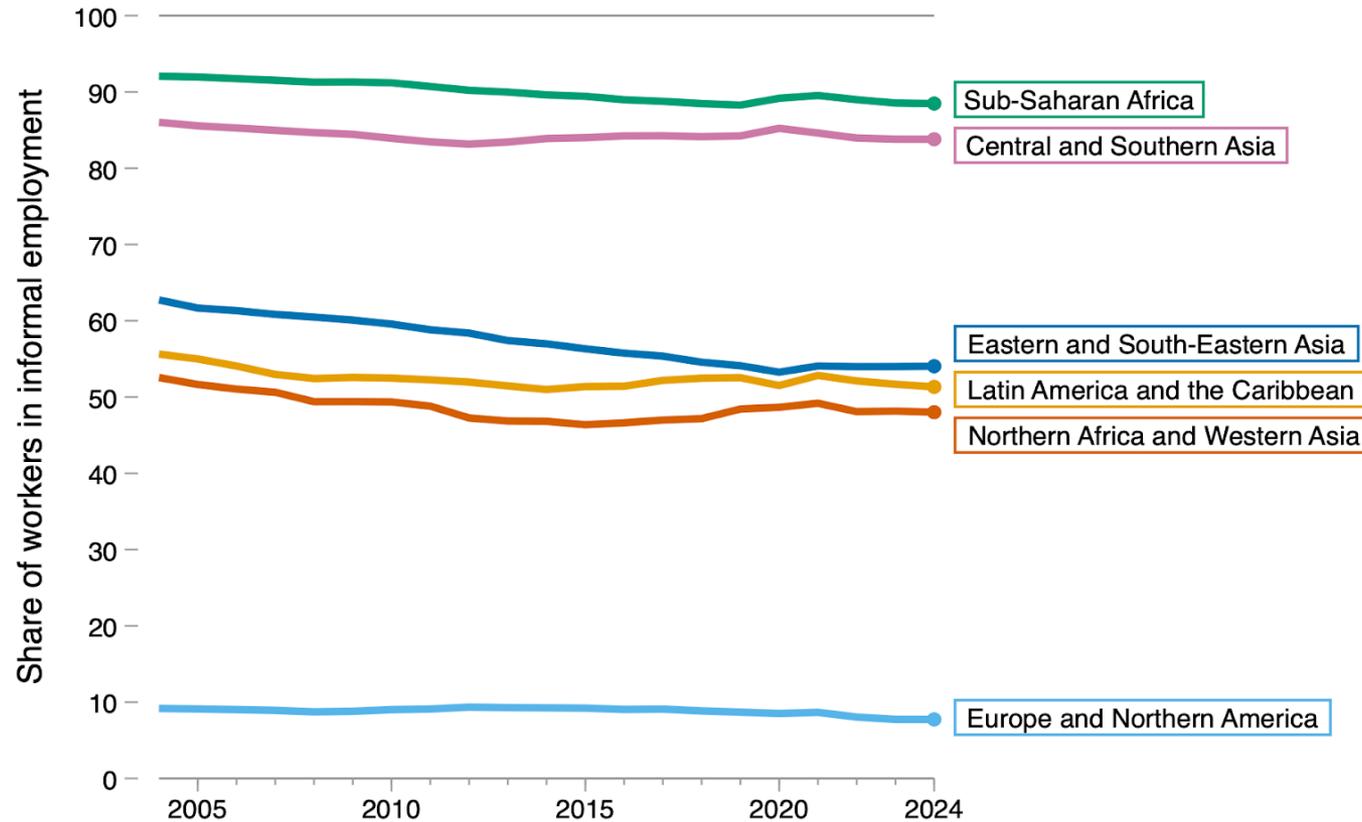
Social cost too high → politically untenable

- No clear evidence on effective interventions to reduce informality (de Mel et al, *AEJ: Applied*, 2013).

Informality and Development (contd.)

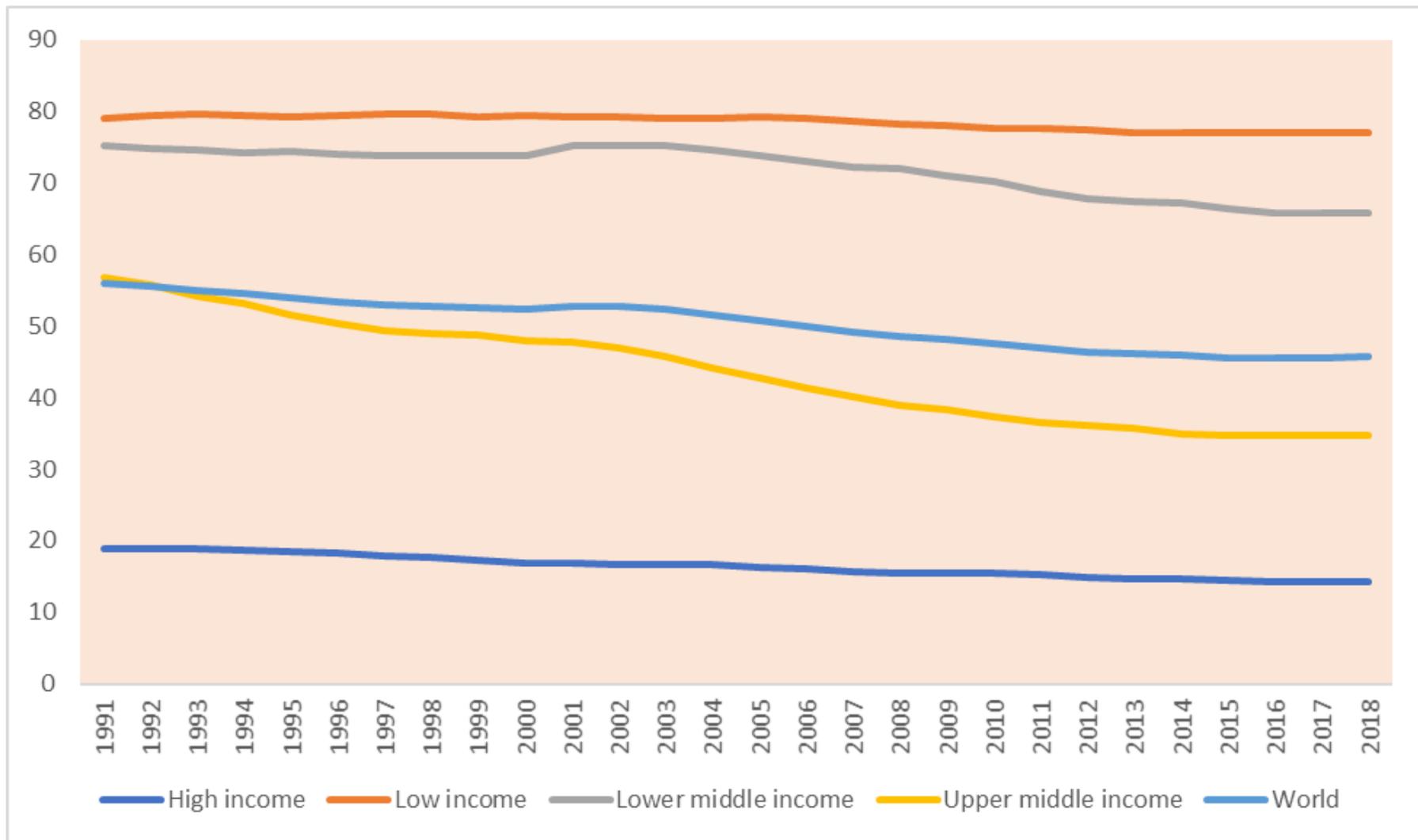
- How about growth: Does growth lead to more formalization?
 - Mechanisms – Causality?
 - But let's focus on the correlation first. Does growth go hand in hand with formalization?
- **A puzzle:** Despite growth, worldwide informality has not decreased.
- Stark contrast between cross-country and time-series comparisons. WHY?

The Evolution of Informality over Time



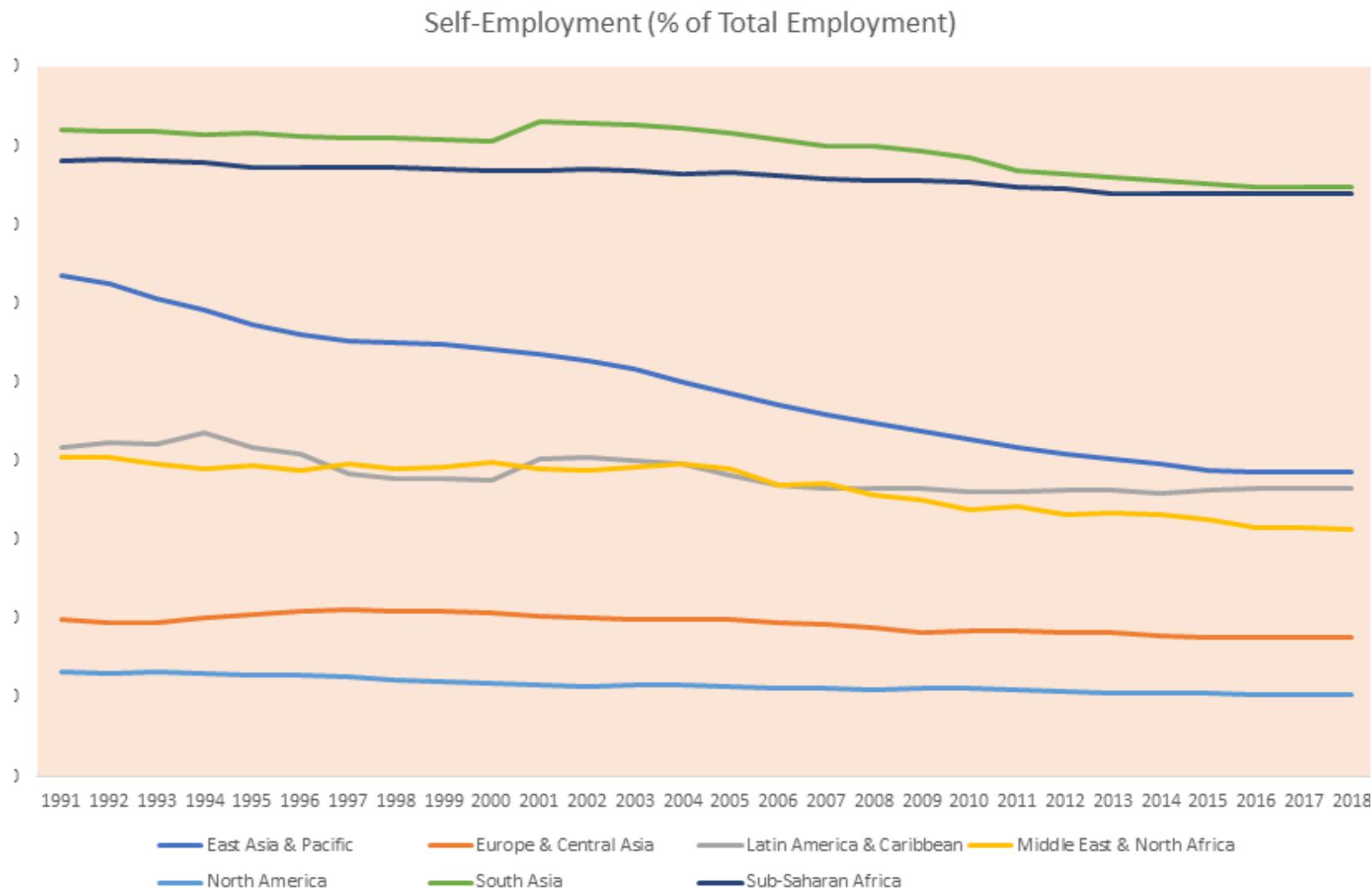
Data source: Our World in Data

Self-Employment over Time by Income



Source: ILO

Self-Employment over Time by Region



Source: ILO

Informality and Development (contd.)

- Hypotheses:
 - Perhaps the SOURCE of the growth matters; MF vs. SE.
 - Perhaps in settings with extensive labor market regulation, transition to formality inhibited.
- Some relevant work:
 - McCaig and Pavcnik on Vietnam (*AER 2018*): Export-oriented growth in MF; traditional structural transformation, and reduction of informality
 - Dix-Carneiro et al on Brazil (*ECMA forthcoming*): Trade liberalization reduced informality in MF, but hardly so in SE. Informality decline very small in the aggregate given the dominance of the service sector
 - Bertrand et al on India (*ECMA 2025*): MF Growth driven by expansion of contract (i.e., informal work). But Indian growth has been service-led.

 Relationship between growth and informality unclear. But so far, service-led growth does not seem to have contributed to reduction in informality.

Informality and Development (contd.)

However:

- Possible that technology (esp. digitization) increases productivity in the informal sector (*Peters et al., Handbook Chapter*)
- Also, some new evidence that technologies that reduce search and matching costs (e.g., Internet, mobile phones) reduce labor market frictions and informality
 - VERY preliminary work on Mexico (Chiplunkar et al., *WP 2026*): Access to 3G increases the fraction of men in full-time work and jobs with benefits; looking at firm-level data, employment in medium- and large-firm increases, number of large firms increases. Very surprising!

Informality and (Good) Jobs

Question: Are jobs in the informal sector “bad”?

Not so clear.

- Big research and policy agenda at the WB: JOBS
- Many people want stability, job security, benefits and promising career trajectories → formal jobs
- But they also want to be working for themselves (Felix et al., *WP 2026*).
- Sharing economy may call for rethinking informality (while ensuring that taxes are paid so that state capacity is not compromised).

Informality and the Household

- Potentially interesting research agenda
- But requires modeling household decisions
- Very interesting paper by Samaniego de la Parra and Sharma (*WP 2025*) on Mexico → joint household search model
- In general, scope for combining firm- with household decision models to understand how people choose between formal vs. informal sectors, and whether informal jobs are undesirable.

Misallocation and Development

- Importance of misallocation emphasized in Hsieh and Klenow (*QJE 2009*) and follow-up work
 - focus on FIRMS (and size-dependent distortions)
- More recently from trade side: Atkin and Donaldson (*HIE 2022*); Atkin and Khandelwal (*ARE 2020*).
- How important is it relative to productivity growth?
 - This question is becoming less relevant today as productivity growth uncertain and probably slower than in the past
- Need to utilize a country's existing resources.

Gender-related Distortions and Development

- One of the most important resources: People. And 50% of people are women.
- Are their talents fully utilized? Or is there talent misallocation?
- Evidence of substantial talent misallocation
 - [Global Gender Distortions Index \(GGDI\)](#): Productivity losses range from 5% to 25% due to demand-side and supply-side distortions
 - Chiplunkar Goldberg (*ECMA 2024*): substantial distortions in entrepreneurship in India (mainly in business expansion, not entry into informal sector)
 - Ashraf et al. (*WP 2025*): Evidence of misallocation from a big multinational

Potentially Exciting Research Agenda

- Open up the black box of demand-side and supply-side distortions
- Rich micro literature on norms and sources of discrimination.
- Scope for linking the micro and macro. Potential use of RCTs to investigate which interventions are most effective in reducing gaps. Then examine their macroeconomic significance.
- Example: Macchi and Raisaro (*WP 2026*):
 - RCT in Uganda shedding light into specific labor market frictions generating gender gaps
 - Micro work → next step: put results into a macro framework to quantify the aggregate impacts of micro frictions

Markets and Development

- So far, focus on FIRMS not MARKETS (with a few important exceptions, e.g., work on AG)
- Most of the work focuses on size-depending distortions (overlap with informality and misallocation literatures)
- But less attention paid on specific markets, in particular the demand conditions in such markets.
- Two important literatures (not covered today):
 - Climate Change (and in particular energy markets)
 - Industrial Policy

Industrial Policy and Development

- Many studies on advanced countries
- Also many studies on China
 - Shipbuilding: Kalouptsidi (*ReStud 2018*), Barwick et al. (*ReStud 2025*)
 - EVs: Barwick et al. (*WP 2025*)
- Many opportunities for similar work for other countries as countries are trying to navigate the new economic landscape
 - Example: Kee and Xie (*WP, 2025*), “Nickel, Steel and Cars: Export Ban and Domestic Value-Added in Indonesia”

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THANK YOU!