Informality, Trade, and Development

Part I: Overview

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Motivation

Two observations:

• Developing Countries: Firms are either absent or small and informal
  ➢ Peru (80%); Chile (35%); India (95%)....

• The “informal sector” near absent from theoretical and empirical literature in International Trade (and Economics more generally)
  ➢ Empirically, absent from the data
  ➢ Theoretically, absent from conceptual frameworks
Road Map

A. The Face of Informality
   a. Definitions and Stylized Facts
   b. Consequences for Development and Policy Implications

B. Trade and Informality
   a. The Role of Trade: Existing Evidence
   b. A General Equilibrium Model of Trade with Informality (→ Lecture 2)

C. The New Face of Informality
   a. Technology, Changing Firm Boundaries, and the Gig-economy
   b. Implications for policy
      – Nature of Work
      – Social Protection
   c. Convergence between developing and developed countries?

D. Concluding Thoughts: Rethinking Informality?
A. The Face of Informality

a. Definitions

• Informal firms: those that do not register with tax authorities, invisible to governments.

• Informal workers: not covered by labor regulations (no formal contract), and therefore have no benefits such as social security.

Note: Usually “self-employed” are included in informal sector definitions.
The Face of Informality

Three Facts

**Fact 1:** Informality/Self-Employment are negatively correlated with development.
Informal employment, by income group

- Nepal: 98
- Senegal: 89
- Mean (Chad): 81
- Vietnam: 75
- Côte d’Ivoire: 91
- Kyrgyz Republic: 57
- Kosovo: 40
- Mean (Pakistan): 68
- Paraguay: 71
- Mean (Turkey): 46
- Ethiopia: 36
- Togo: 63
- Mexico: 57
- Brazil: 36
- Bulgaria: 19

Source: WDR 2019 team, using household and labor force survey data from the World Bank’s International Income Distribution Data Set
Fact 2: Informality/Self-Employment have been stable over time despite global economic growth, and despite improvements in the regulatory environment. They remain high in Emerging and Developing Economies.

Example: India
- Average growth around 7% per year in last decades
- Over 95% of firms are informal
- 60-70% of labor force are estimated to be informal
Self-Employment over Time by Region

Source: ILO
The Face of Informality

Fact 3: (Informal) firms in developing countries are small. They never die, and they never grow (Hsieh and Klenow).
Distribution of Firm Size as Measured by Number of Workers

Source: Hsieh and Olken (JEP 2014)
b. Consequences of Informality

Intimately connected to the question of why we care.

• Generally, informal firms are considered an anathema to development because:
  – Small size and inefficiency $\rightarrow$ size-dependent distortions
  – Tax avoidance hinders provision of public goods
    ➢ Recent paper by Bachas, Fisher-Post, Jensen, Zucman (2022)
  – Workers have no security, no benefits

• BUT: Informality may provide more *flexibility* that is particularly valuable when the economy faces adverse shocks.
Tax Revenues by Income Group

Source: WDR19 team analysis based on International Centre for Tax and Development (ICTD) and UNU-WIDER Government Revenue Dataset 2017.
In the following I focus on:

- Informality and Efficiency
- Informality as a Buffer
Informality and Inefficiency

**Question**: Are ALL small informal firms less efficient than formal firms and as such, an impediment to growth?

**Answer**: Evidence is mixed. But most economists think “YES’’
On one side:

• Tybout (JEL 2000): NO
  ➢ No evidence that dispersion of firm productivity is higher in developing countries
  ➢ No evidence that small firms are less efficient
  ➢ Small firms operate at optimal scale given markets they serve

• Echoed in Foster and Rosenzweig paper (JEP, March 2022) on fArms.
On the other side:

- La Porta and Shleifer, Hsieh and Klenow, and follow-up literature:
  - higher productivity dispersion in developing countries
  - small firms inefficient; never grow; never die

- Hsieh and Olken (JEL 2014): Average (and likely also marginal) products of K and L lower in small firms. Consistent also with Harrison and Rotemberg (2006 policy change in India)

- Large literature on heterogeneous firms in trade documents that larger firms more efficient (in the revenue sense).

- Fernandes, Freund and Pierola (2016): Exports in many developing countries are driven by a small number of “superstar” firms.
Ratio of the Value Added by Informal Firms to Value Added by Formal Firms

Median = 0.15

Source: La Porta and Shleifer (2014)
Three views of informal firms

1) **Survivors:** Informal firms too small and inefficient; informality is a means of survival (dual view)

2) **Parasites:** Informal firms could break even as formal firms, but choose not to formalize to avoid regulations and save on taxes (McKinsey view)

3) **Held-back entrepreneurs:** Informal firms would formalize if they did not face high costs of entry and regulation (romantic view)
Important, because each view has different policy implications

- **LaPorta and Shleifer** → Dual View
- **Hsieh and Olken** → No view entirely supported by the data
- **Ulyssea** → All three types co-exist (in Brazil!). Reflect heterogeneous firms optimally responding to the institutional environment
Firm Productivity and Revenue Distributions
Formal vs. Informal Firms (Brazil)
Source: Ulyssea, AER 2018

(a) Productivity: Log(VA/Worker)

(b) Size: Log(Revenues)
The three types of informal firms in the data

- **Baseline Expected Value of Entry Net of Entry Costs: Informal Sector**
- **Baseline Expected Value of Entry Net of Entry Costs: Formal Sector**
- **Counterfactual Expected Value of Entry Net of Entry Costs: Formal Sector**

Firm's Value Function Net of Entry Costs

Firm's pre-entry productivity signal

- **Survival View**
  - \( v_1 \) with 48.8%
- **Parasite View**
  - \( v_2 \) with 41.9%
- **De Soto's View**
  - \( v_3 \) with 9.3%
In Sum:

• Strong evidence that share of “survivors” is large
• Strong evidence that share of “held-back entrepreneurs” is small
• Some evidence that share of “parasites” is substantial.
Informality as a Buffer

Question: Does informality provide firms and workers with *de facto* flexibility in highly regulated environments, helping them to cope with adverse shocks?

Answer: Evidence suggests **YES**

→ Brazilian Trade Liberalization of the early 1990s
Effects of Trade Liberalization on Formal Sector Employment and Earnings

Tariff reductions complete

Earnings

Employment

Tariff reductions complete
# Effects of Trade Liberalization on Non-Employment and Informality

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<td>Panel A: Not-employed</td>
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<td>Regional Tariff Reduction ($RTR$)</td>
<td>0.301***</td>
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<td>Panel B: Informal</td>
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Source: Dix-Carneiro and Kovak (2017)
Informality Seems to Be an Employment Buffer

Effects of Trade Opening on Non-Employment

Source: Ponczek and Ulyssea (2017)
To Sum Up:

• Many informal firms are less efficient than formal firms (→ survivors). Driving them out of the market through enforcement would promote growth, but might create a big social problem.

• Many informal firms are as efficient as formal firms, but remain informal to evade taxes (→ parasites). Enforcement would promote growth and boost fiscal capacity.

• Informality serves as an employment buffer when firms and workers are faced with adverse shocks (but evidence is on “relative” effects based on Diff-in-Diff)

• How do we trade off these considerations?

• What is the appropriate policy response towards small and informal firms?

→ Need integrated framework to address these questions → DGMU (2021)
B. Trade and Informality

a. Existing Evidence on the Role of Trade

Two strongly held views among practitioners:

1) Strong prior that trade contributes to growth and structural transformation. As economies grow, the share of the informal sector declines.
   • At odds with macroeconomic evidence from several countries.
   • But consistent with evidence in McCaig and Pavcnik on Vietnam
   • McCaig and Pavcnik (2017): Trade liberalization in Vietnam aided a structural transformation process in which labor moved from the informal agricultural to formal manufacturing sector
   • But evidence based on diff-in-diff (variation across industries) \( \rightarrow \) relative, not absolute effects.
2) Strong prior that trade increases informality as domestic firms try to cut costs to cope with intensified import competition

- Goldberg and Pavcnik (2004): Evidence from Colombia and Brazil mixed. Effects of trade liberalization on informality depends on extent of domestic labor market regulation.
- Approach based on diff-in-diff: (variation across industries). Again, captures only relative effects.
- But again, approaches based on diff-in-diff (regional variation)

In sum: Empirical evidence of effects of trade/trade liberalization on informality mixed. But approaches so far have employed diff-in-diff.
b. A GE Model of Trade with Informality

Dix-Carneiro, Goldberg, Meghir, Ulyssea
(DGMU, 2021)

We develop a structural equilibrium model of a small open economy that features:

• Heterogeneous firms choose to operate in the informal sector (but can be caught) or in the formal sector (and are subject to regulations).

• Search and matching frictions in the labor market
  → unemployment and wage dispersion
DGMU (contd.)

• Rich institutional setting: minimum wages, hiring/ring costs, payroll and revenue taxes, government enforcement.

• Taxes and labor market regulations that are imperfectly enforced → informality.

• Trade plays an important role in the model

• Model is dynamic (firing costs; transition rates from U to I twice as large as transition rates from U to F)

• Focus on steady state, and not transitional dynamics
• We estimate the model using several data sources, including matched employer-employee data from formal and informal firms and workers in Brazil.

• Unique data availability and quality. Allows the direct observation of informality for workers and firms.

• We use the estimated model to perform counterfactual simulations to evaluate the effects of various policies directed towards the informal sector.
DGMU - Insights

1. Openness reduced informality in the TRADEABLE sector (generate McCaig and Pavcnik result for Vietnam), BUT:

2. Effect of openness on aggregate informality ambiguous (generate fact in aggregate data; Key: NON-TRADABLES)

3. Openness generates significant TFP gains. Real incomes go up, despite rise in unemployment
   - Note difference between domestic TFP and Welfare in the presence of misallocation (see Berthou, Chung, Manova, and Sandoz (2022))

4. Stricter enforcement increases TFP, but reduces real income and welfare

5. The same TFP increase achieved through stricter enforcement can be achieved through trade liberalization. But in the latter case real incomes go up.

6. Informality is an employment buffer, but NOT a welfare buffer.
Summary

• Eliminating or suppressing informality is associated with big productivity gains. But these gains come at the expense of welfare.

• Opening up to trade and growth do not reduce informality by themselves. Consistent with its persistence over the past decades. But they do increase TFP.

• Informality is an employment buffer, but not as welfare buffer.

• Strict enforcement may still seem worthwhile to increase state capacity (→ taxes). But how?
New Technologies and Informality

• Enforcement has proven difficult

• Technology may offer a new solution
  ➢ Digitization makes everything visible

• But technology has also changed the nature of firms and work

• May lead to reassessment of traditional view of “informality”
C. The New Face of Informality

a. Technology, Changing Firm Boundaries, and the Gig-Economy

- Digital technologies allow firms to scale up or down quickly, changing firm boundaries.

- New business models—digital platform firms—are evolving from local start-ups, often with few employees or tangible assets.

- Individuals and firms need only a broadband connection to trade goods and services online.

- This “scale without mass” may bring economic opportunity to millions of people who do not live in industrialized countries or even industrial areas.
Recent Technological Advances Accelerate Firm Growth

Source: WDR19 team analyses based on Walmart Annual Reports, Statista.com, NetEase.com
Technology Is Changing the Nature of Firms

New Superstar Firms: digital platforms operating globally, existing in the cloud

Source: WDR19 team analysis based on data from Safaricom, KCB Bank Group, AirBnb, Marriot International Inc., Financial Times.
b. Implications for Policy

• Changing Nature of Work
  – Labor markets are becoming more fluid
  – Self-employment on the rise
  – No long-term contracts
  – No benefits
  – Fewer regulations
  – More flexibility in work schedules
  – COVID may accelerate these trends
Implications for Policy

• **Social Protection**
  – Formal wage employment contracts have been the most common basis for social protection (insurance, minimum wage, severance pay)
  – The changing nature of work is shifting demands for social protection from employers to the state.
c. Convergence Between Developing and Developed Countries?

- Gig economy blurs the lines between formality and informality
- Challenges faces by workers participating in the gig economy in advanced countries similar to those faced by informal workers in developing countries
- Uncertainty, no job security, no social protection
- But higher flexibility
- Such flexibility particularly valuable to women
Concluding Thoughts: Rethinking Informality?

Traditional Thinking:

- Policy makers have traditionally tried to curb informality
- At the same time, political economy has dictated support for SMEs
- Economists have emphasized the role of large firms in development
- But trade can achieve the efficiency gains even when informality is not suppressed
Rethinking Informality?

New Thinking?

• Digitization may lead to elimination of tax evasion (all transactions become visible)

• Informality/Self-employment associated with inefficiency. But small size/self-employment may be consistent with efficiency and growth if new technology allows people to connect to platforms

• This new economy combines the efficiency advantage of large firms with the flexibility afforded by short-term work arrangements
  — Flexibility can be advantageous to both firms and workers

• Developing countries may have a comparative advantage in this new economy as they have always grappled with the challenges of a large informal sector.
THANK YOU!