An Unexpected Convergence:
Informality, the Gig-Economy, and Digital Platforms

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Coase in 1937

“The Nature of the Firm”, *Economica* 1937

— Why does the economy feature a number of firms instead of consisting exclusively of a multitude of independent, self-employed people who contract with one another.

— Coase’s Answer: *Transactions Costs* (incl. information and communication, bargaining, contract enforcement costs)
  
  ➢ Incentive to internalize production of goods and services required to deliver a product

— Explains also *Size of Firm*
Coase Today

Two observations:

• Developing Countries: Firms are either absent or small → Informality

• Changing Nature of Firms Worldwide
  ➢ Drastic reductions in information and communications costs and international integration
  ➢ Wider Firm Boundaries. Firms are outsourcing more and more tasks to the market
  ➢ Emergence of Gig Economy and Digital Platforms
  ➢ Changing Nature of Work

Thesis of this Talk: These developments represent an unexpected convergence between developed and developing countries regarding the nature of firms and work.
Road Map

A. Informality in Developing Countries
   a. The Face of Informality
   b. Consequences
   c. Approaches to Reducing Informality

B. Technology and Changing Firm Boundaries
   → the Gig Economy and Digital Platforms

C. Implications
   a. Nature of Work
   b. Social Protection
   c. Growth and View of Informality
A. Informality

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 the informal sector definitions.
a. The Face of Informality

Five Facts

**Fact 1:** Informality/Self-Employment are negatively correlated with development.
Source: LaPorta and Shleifer (JEP 2014)
Source: WDR 2019 team, using household and labor force survey data from the World Bank's International Income Distribution Data Set
The Face of Informality
Five Facts

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.
Self-Employment over Time by Income

Source: ILO
Self-Employment over Time by Region

Source: ILO
Recent Experience in India

- Average growth in last decade around 7%
- Informality remains at around 90%
- Paper by Ghani, Kerr, and Segura (2015): Manufacturing employment growth in India is driven by increase of informal sector
Manufacturing employment in India

Source: Ghani, Kerr, and Segura (2015)
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)
The Face of Informality
Five Facts

Fact 4: Women are overrepresented in the informal sector.
The Face of Informality in Lao PR

The Face of Informality in Mozambique

The Face of Informality
Five Facts

Fact 5: Informal firms face higher water and power shortages. Water shortages are more of a problem than power outages.
The Face of Informality in Lao PR

![Bar chart showing experienced power outage and water outage in Lao PDR.](chart.png)
b. Consequence 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
  – Tax avoidance hinders provision of public goods
  – 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.
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 2018 paper 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

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)
The three views (contd.)

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
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
Effects of Trade Liberalization on Non-Employment and Informality

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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)
Informality Seems to Be an Employment Buffer

Effects of Trade Opening on Informality

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 a buffer when firms and workers are faced with adverse shocks.

• 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 (2019)
Dix-Carneiro, Goldberg, Meghir, Ulyssea (DGMU, 2019)

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.

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

- Taxes and labor market regulations that are imperfectly enforced → informality.
DGMU (contd.)

- 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 (contd.) - Results

1. **Trade Liberalization**: Large effects on trade flows and exchange rate. Small effects on allocations, informality, productivity, real income.

2. **Eradicating Informality**: Large increases in welfare. Strong gains in productivity, small changes in unemployment.

3. **Productivity Shocks**:
   - Negative: Effect on welfare and unemployment is larger without informality. Consistent with informal sector working as a buffer during bad times.
   - Positive: Does not reduce informality. Better economic conditions allow low productivity informal firms to enter and survive.
DGMU (contd.) - Results

• Main Implication: Big Returns from Reducing Informality (at the steady state).
  
  o Caveats:
    
    o No transitional dynamics
    o Results may be specific to Brazil

• But how?
Potential Policy Responses

• Domestic
• Trade
Domestic

- **Stricter enforcement**: force the “parasites” to formalize. Increases efficiency. But also eliminates survivors at potentially high social and welfare cost.

- **Policies supporting small businesses**: ineffective if small businesses inefficient

- **Reducing the entry costs to formal sector (registration)**:
  - BUT: in Ulyssea 2018, this would make a small difference
  - Experiments suggest minimal effect of registration
    - Brazil: De Andrade, Henrique, Bruhn, and McKenzie (2013)
    - Sri Lanka: De Mel, McKenzie, and Woodruff (2013)

- **Reducing regulatory and bureaucratic costs; taxes**: Promising according to simulations by Ulyssea 2010, 2018.
Trade

- Intensified competition and growth of exports expected to lead to reallocation of resources towards larger firms

→ Evidence:
Evidence on Trade and Informality is mixed

- **Goldberg and Pavcnik: Colombia and Brazil**
  - Unilateral trade liberalization; Mercosur
  - No effects of trade reform on informality in Brazil
  - Effects on informality in Colombia only prior to a labor market reform

- **McCaig and Pavcnik: Vietnam**
  - Bilateral trade liberalization with US
  - Rise in Exports
  - Structural transformation. Resources move to formal sector

- **Dix-Carneiro and Kovak: Brazil**
  - Unilateral trade liberalization
  - Increase in unemployment in short run, strong increase in informality in the long-run
  - Informality fall-back sector – otherwise higher unemployment
Counterfactual Simulations in DGMU

• Lax Labor Regulations/Less Bureaucracy:
  Not Effective

• Lax Labor Regulations + Trade Openness + Growth:
  Not Effective

• Enforcement
  Seems the only way.
Summary So Far

• Eliminating informality is associated with big productivity and welfare gains.

• This is despite the fact that informality acts as a buffer during bad times.

• Opening up to trade, deregulation, and growth do not reduce informality by themselves. Consistent with its persistence over the past decades.

• Strict enforcement seems worthwhile despite social cost of eliminating “survivors”.
New Technologies and Informality

• Enforcement has proven difficult

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

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

• May lead to reassessment of traditional view of “informality”.
B. Technology and Changing Firm Boundaries

• 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, Marriott International Inc., Financial Times.
Many Examples in Developing Countries

- Taobao Villages:  
  - 3 in 2009; 2118 in 2017; 490000 online shops
- Indiez in India; Wonderlabs in Indonesia  
  - Online freelancing: connect talent to tech projects
- Asuku in Nigeria: Connects experts to businesses in Africa
- Crew Pencil in South Africa: Movie Industry
- Tutorama in Egypt: Connects students to local tutors
- Yandex in Russia: Connects drivers to demand
How Big is the New Economy?

• Hard to obtain reliable estimates.

• Many freelancers also hold a traditional job (e.g. in the U.S., 2/3 of the freelancers use freelancing to supplement traditional job income).

• Worldwide, share of people engaged exclusively in freelancing is estimated around 0.5% of global active labor force.

• In developing countries, around 0.3%.

• Still very small, but growing.
C. Implications

a. Changing Nature of Work

– Labor markets are becoming more fluid
– Self-employment on the rise
– No long-term contracts
– No benefits
– Fewer regulations
Implications

b. 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.
Implications

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
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
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
Rethinking Informality?

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

• New Challenges:
  – Social Protection
  – Taxation
  – Competition / Market Power of Large Platforms
THANK YOU!