Research Issues on Productivity and Informality

UMD-WB-LACEA Conference on Informality in Latin America

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Symbolic representation of three domains of public policy (ignore macro)

1. <u>Entrepreneur-worker relations</u> = $L(L_{CSI}, L_{JS}, L_{MW}, L_{NCSI}, L_{ENF}) = L(.)$

L_{CSI} = contributory social insurance programs

L_{JS} = job stability regulations

L_{MW} = minimum wages

Legally joined; "the Bismarckian regime" **cornerstone of social protection in LA**

L_{NCSI} = non-contributory social insurance programs

L_{ENF} = institutions enforcing the Bismarckian regime

2. <u>Taxes and transfers</u> = $T(T_{PIT}, T_{CIT}, T_{VAT}, T_{SR}, T_{ENF}) = T(.)$

T_{PIT} = personal income taxes

T_{CIT} = corporate income taxes

T_{VAT} = value added taxes

T_{SR} = special tax regimes for small firms (including one-person firms)

T_{ENF} = institutions enforcing taxes

Three enforcement domains

3. <u>Market conditions</u> = $M(M_{FTI}, M_{COM}, M_{PDP}, M_{ENF}) = M(.)$

M_{FTI} = policies on foreign trade and investment

M_{COM} = policies on domestic competition

M_{PDP} = policies on productive development (industrial policies, innovation, entrepreneurship)

M_{ENF} = institutions enforcing commercial and credit contracts

The Regulatory Environment

$\mathbb{E}$ { L(.), T(.), M(.) } = *de facto* rules of the game, given the <u>design</u> and <u>functioning</u> of institutions charged with
regulating markets, promoting economic activity, providing social benefits and enforcing laws.

TFP

<u>Factors of production</u>: individuals I_1, I_2, ,... I_n with human capital H_1, H_2, ..., H_n

K are capital goods

so (I.H, K) are factors of production

<u>Technology</u> = **T** = set of technologies; firms chose from **T**, with firm-specific productivity P_i.

TFP = $a_1 P_1$ + $a_2 P_2$ + ... + $a_n P_n$; a_i = share of (I.H, K) in firm i (${a_i}$s summarize resource allocation, with $\sum a_i = 1$.)

TFP depends on the number (n), size (a_i) and productivity (P_i) of firms; self-employed are one-person firms.

Y = income levels: $Y_1, Y_2, \ldots, Y_n$

SP = social protection: $SP_1, SP_2, \ldots, SP_n$, who is covered by which programs depending on the design and enforcement of programs in L(.). Those covered by L_{CSI} programs are formal.

KEY RELATION

$$[(I.H, K) ; \mathbf{T} ; \mathbf{E}\{ L(.), T(.), M(.) \}] \quad \longrightarrow \quad [\mathbf{TFP}(n, a_i, P_i) \text{ and } \mathbf{SP, Y}]$$

- "A Theory of Everything"; we have learnt a lot, but we still do not understand fully how ⟶ works in each country.

- Three central ideas:

  ✓ social (**SP, Y**) and economic (**TFP**) outcomes are jointly determined

  ✓ the formal-informal composition of firms and the labor force is endogenous to $\mathbf{E}\{.\}$

  ✓ there are important similarities in the $\mathbf{E}\{.\}$s of Latin American countries, particularly in L(.), but differences matter.

2. Regulations: design vs. enforcement

- Given (I.H,K) and $\mathbf{T}$, research over the last 20 years has shown that Latin America's $\mathbf{E}\{.\}$s result in:

  - ✓ very large n
  - ✓ distribution of a_i strongly biased towards smallness
  - ✓ much larger differences in P_i across firms in narrowly-defined sectors than in OECD countries
  - ✓ dysfunctional firm dynamics (large and mostly useless firm churning, little firm growth)

  > LA's **TFP** performance over the last three decades has been very disappointing.

- Evidently, many factors in $\mathbf{E}\{ L(.), T(.), M(.) \}$ are responsible for these outcomes. Identifying "the" cause is a fool's errand.

- What is the role of informality? Patterns of resource misallocation are <u>not random</u>; they are highly correlated with the biases produced by the design and functioning of policies in L(.) and T(.):

  - ✓ salaried contracts taxed by the "Bismarckian regime"
  - ✓ non-salaried contracts subsidized by L_{NCSI} programs
  - ✓ small firm size subsidized by T_{SR}
  - ✓ firm growth taxed by enforcement of L(.) and T(.) regulations proportional to size;
  - ✓ sometimes, entry into the "Bismarckian regime" taxed by CCT-like programs.

- Observation 1: Even if L(.) regulations were perfectly enforced, there would still be informality and misallocation. Firms with workers without L_{CSI} (i.e., informal firms) need not be illegal.

    - ✓ it depends critically on the underlined design of L(.). Only Brazil and Argentina obligate all workers to contribute to L_{CSI}.
    - ✓ in most countries, one-person firms are excluded, and in some, firms with non-salaried workers are also excluded.
    - ✓ there are many informal firms ($\approx$ 66% in Mexico) that are not violating L(.) regulations.

- Observation 2: the border between self-employment and the family firm with 2/3 non-salaried workers is critical for TFP:

    - ✓ around 50% of the labor force is employed there, sometimes more ($\approx$ 60% in Colombia, 70% in Peru), and
    - ✓ about 90% of firms are in that size range and their P_i relative to the P_i of firms producing similar goods is very low.

- Observation 3: the impact of stricter enforcement of L(.) regulations on TFP is ambiguous.

    - ✓ in countries with exclusions in L_{CSI}, it may depress TFP (increases relative price of salaried vs. non-salaried labor)
    - ✓ stricter enforcement of badly-designed regulations puts us in a very second-best world, with sharp trade-offs.

- Observation 4: Special tax regimes, T_{SR}, are prevalent and most likely depress TFP because:

  - ✓ they allow firms with very low P_i to be profitable and "legal", and obstruct the growth of small, high productivity firms,
  - ✓ they generate large differences in the MRP of the same worker depending on the tax regime.

- Observation 5: "Formalization programs" solve the problem of enforcing L(.) and T(.), but may leave intact the TFP problem:

  - ✓ what matters for TFP is that $MRPL_i = MRPL_j$; $MRPK_i = MRPK_J$, and that firm dynamics are Schumpeterian.
  - ✓ the label of the firm is irrelevant.

- Observation 6: the role of imperfect enforcement of commercial and credit contracts in M(.) has been under-researched:

  - ✓ it may induce firms to not incorporate, limiting access to clients and credit, and
  - ✓ even if L(.) and T(.) are perfectly designed and enforced, it may induce patterns of resource misallocation associated with informality: large n, skewed distribution of a_i and many firms with low P_i.

- **BOTTOM LINE**: the research agenda on the intersection of informality and TFP needs to focus more on:

  - ✓ the border between "self-employed" and the "micro-firm", and the relevance of <u>design</u> vs. <u>enforcement</u> of L(.) regulations,
  - ✓ the impact of special tax regimes and "formalization" programs on TFP, and
  - ✓ the impact of the legal contracting environment in M(.) on firm behavior.

3. Human capital

- Consider again the "Key relation":

[(I.H, K) ; $\mathbf{T}$; $\mathbf{E}$\{ L(.), T(.), M(.) \}] ⟶ [**TFP**(n, a_i, P_i) and **SP, Y**]

A lot of work has emphasized the mapping from H to **TFP.**

- However, in a context of large misallocation, with patterns partly determined by the formal-informal divide, it is also critical to focus on a parallel mapping:

[(I.H_t, K_t) ; $\mathbf{T}$; $\mathbf{E}$\{ L(.), T(.), M(.) \}] ⟶ [**TFP**(n, a_i, P_i) and **SP, Y** ; H_{t+1}]

- The point here is that the "distortions/frictions/imperfections" in $\mathbf{E}$\{.\} that result in the formal-informal divide can:

  ✓ depress the incentives to accumulate human capital before workers enter the labor force, and
  ✓ reduce the opportunities to accumulate human capital while workers are in the labor force.

- <u>Observation 1</u>: the technologies deployed by informal firms are less intensive in skilled workers.

  - ✓ the greater the share of informal employment (or in "formalized" firms through special regimes), the more the demand for skilled workers falls, depressing the returns to education.
  - ✓ the Tinbergen-Murphy-Katz race between technology and education is biased because technology is a weighted average of the technologies deployed by formal and informal firms; skill-intensive technologies advance more slowly.

- <u>Observation 2</u>: large labor churning (the other side of the coin of large firm churning) which reduces the possibilities of learning-on-the-job and acquiring firm specific capital; it also flattens the returns to experience.

- <u>Observation 3</u>: informal firms invest less in labor training.

  - ✓ If the firm has three workers, and one is sent to a 'skill up-grading' course, it loses 1/3 of its labor force.
  - ✓ in any event, why invest in labor training if the expected life of the firm is short.

- **BOTTOM LINE**: We need more research to understand the mapping from $\mathbb{E}\{.\}$ to H and, in turn, the impact of that on TFP.

  - ✓ "fixing" $\mathbb{E}\{.\}$ may contribute to increase H, in parallel to improving education and training programs.

4. Conclusions

- "Socially inclusive growth" cannot be achieved under the formal-informal divide.

- We have learnt a lot about informality, but we still do not have a consensus. This is very problematic, particularly for policymakers, whose preferred option is to ignore it or assume that it will fade away once "growth resumes".

- A lot of the attention has focused on the implications of informality for social protection, for good reasons.

- However, we also need to focus on its implications for TFP. One cannot have sustainable social protection systems in countries with stagnant TFP.

- A general equilibrium view (the "Key Relations) is of the essence, in parallel to careful analysis of individual policies; this is a major research challenge, taking us beyond careful identification of the impact of individual policies to systemic interactions.

- We need to understand better to what extent policies like stricter enforcement of L(.) regulations and formalization programs are effective; and we need to study more the impact of $\mathbf{E}\{.\}$ on human capital.

- We also need to propose policies that are commensurate with the size of the problem.

Thank you.