

Labour formalization and declining inequality in Argentina and Brazil in the 2000s. A dynamic approach

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Motivation

- Inequality and informality are still characteristics of Latin America. However, countries exhibited positive labour market and income distribution trends over the past decade.
- These positive dynamics have been noteworthy in Argentina and Brazil, reversing the 1990s trend of increasing informality and precariousness.
- These improvements in labour conditions are particularly relevant since 80% of household incomes comes from the labour market.

Objetives

- **Analyse the process of labour formalization in Argentina and Brazil, its causes and its interrelations with inequality trends over the 2000s.**

- **In particular,**
 - Evaluate the scope of the formalization process: all workers or some particular groups of workers?

 - Discuss the causes of formalization and its relation with labour institutions.

 - Analyse the links between formalization and the evolution of labour income inequality.

Outline

- Data, approach and methodology
- Overview of informality and inequality in Latin America during the 2000s
- Labour formalization flows in Argentina and Brazil. A dynamic perspective
- Formalization, public policies and the labour market flexibility debate
- Formalization and income distribution
- Concluding remarks

Data and Approach to Informality

- Microdata from household surveys:
 Argentina. *Encuesta Permanente de Hogares (EPH).*
 Brazil. *Pesquisa Mensal de Emprego (PME).*
- **Pool of panel data.** Two successive quarters. 2003-2011
- **Coverage:** urban areas. Wage earners with positive labour incomes.

Empirical identification of formality/informality:

- **Argentina:** a wage earner is formal if his/her employer pays social security contributions.
- **Brazil:** a wage earner is formal if he/she has signed a labour contract.

Methodology

1. Analysis of occupational flows

1.1 Decomposition of inflows to formality. Two channels:

- *“In situ”* Formalization: a worker becomes formal in the same occupation between t and $t+1$.
- Entries into a formal occupation coming from a labour status other than a formal job (informal or independent job, unemployment or inactivity).

1.2 Econometric analysis

Duration models. Estimation of hazard rates from the Proportional Cox Model.

Methodology (cont.)

2. Estimation of wage gaps associated with informality and its evolution

2.1 Heckman's Two-Step Estimator

Effects of the covariates in the centre of the distribution.

2.2 Unconditional Quantile Regression

Impacts of covariates along the entire unconditional income distribution.

Methodology (cont.)

3. Theil dynamic decomposition between formal and informal workers:

- **Between effect:** distributive impacts of changes in income gaps between formal and informal workers
- **Within effect:** impacts of changes in wage dispersion within each group of workers
- **Composition effect:** impacts of changes in the proportion of formal and informal workers in total employment

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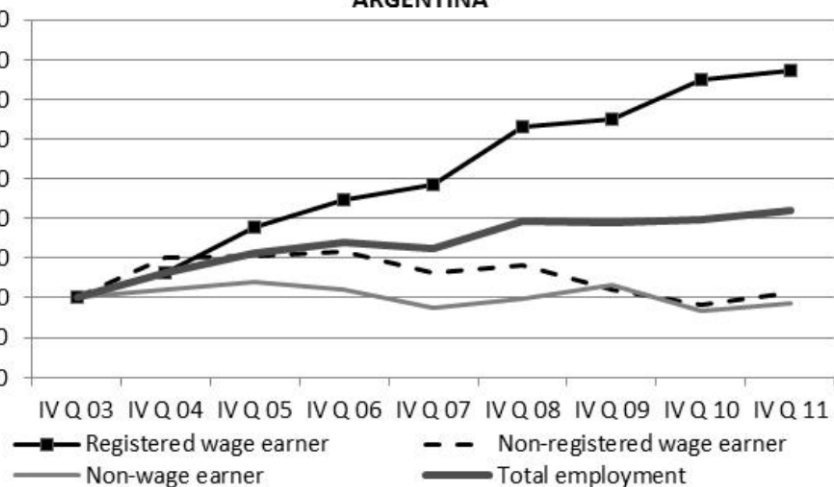
Evolution of informality and hourly wage inequality

Latin American countries, ca. 2000-2009

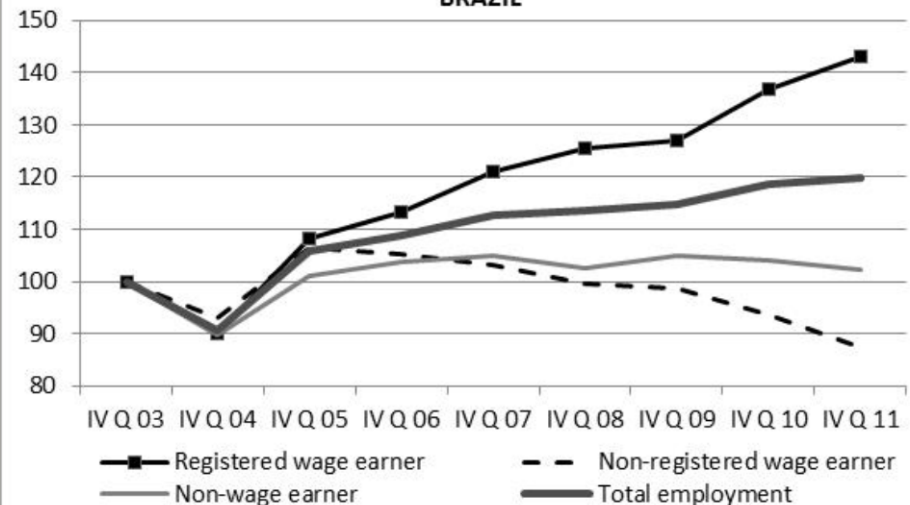


Evolution of the number of jobs by occupational category. Index III quarter 2003=100

ARGENTINA



BRAZIL



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Two channels of labour formalization

Quarter t	Quarter t+1	
	ARGENTINA	BRAZIL
<i>Formalization In the same job</i>	60.1	53.8
Non-registered wage earner	44.6	42.3
Prof. Own account	3.4	1.5
Non-Prof. Own account	6.2	7.0
Employer	5.4	2.7
Non-paid family worker	0.4	0.2
<i>Formalization by changing occupation</i>	9.2	10.1
Non-registered wage earner	6.9	7.6
Prof. Own account	0.5	0.2
Non-Prof. Own account	1.5	2.1
Employer	0.2	0.2
Non-paid family worker	0.1	0.1
<i>Unemployed</i>	14.7	15.7
<i>Inactive</i>	16.0	20.3
TOTAL	100	100

The anatomy of “in situ” formalization

- This process reached all categories of workers.
- However, the groups that presented higher formality rates at the beginning of the period were benefited more intensely  widening of the initial formality gaps
 - Prime-age workers
 - Men
 - With the highest skills
 - Working full-time
 - In large companies
 - With high tenure

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Which were the factors associated with formalization?

- **A more foreseeable labour market** as a result of sustained economic growth. It could have favoured long term contracts and, in turn, formalization.
- **Sustained employment growth** might have lowered the expected probability of layoffs and the probability of employers having to face the costs of firing a formal worker.
- **Higher costs of non-formalization** as a result of strengthened and improved labour inspection.
- Policies to **simplify/incentive formalization**.
- Policies to **increase the efficiency and formalization of small enterprises**.

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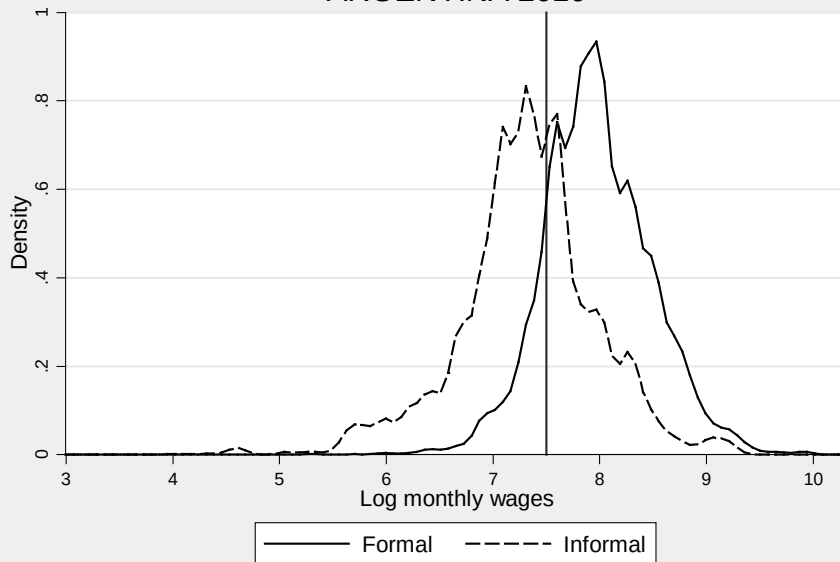
Gini coefficient of hourly wages

Formal and informal wage earners

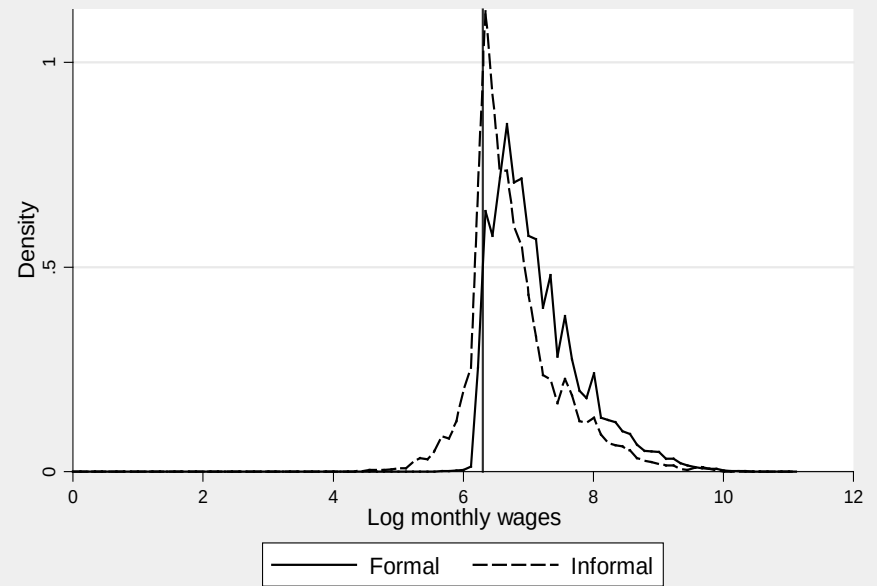
	ARGENTINA			BRAZIL		
Wage earners	2003	2011	Var.	2003	2011	Var.
Registered	0.3683	0.3280	-10.9%	0.5101	0.4721	-7.4%
Non-registered	0.4237	0.3771	-11.0%	0.5363	0.4807	-10.4%

Kernel density functions and Minimum Wage

ARGENTINA 2010



Brazil 2011



Wage gaps associated with informality: Heckman's 2S and Quantile Regression

Country/Year	Heckman's two-step	Unconditional Quantile Regression								
		q10	q20	q30	q40	q50	q60	q70	q80	q90
ARGENTINA										
2011	-0.406***	-0.762***	-0.702***	-0.651***	-0.535***	-0.384***	-0.301***	-0.205***	-0.141***	-0.0530***
	[0.0122]	[0.0584]	[0.0184]	[0.0150]	[0.0151]	[0.0192]	[0.0233]	[0.0111]	[0.0213]	[0.00844]
2003	-0.374***	-0.641***	-0.602***	-0.578***	-0.517***	-0.406***	-0.328***	-0.215***	-0.127***	-0.0748**
	[0.0182]	[0.0415]	[0.0229]	[0.0476]	[0.0192]	[0.0201]	[0.0303]	[0.0190]	[0.0262]	[0.0381]
BRAZIL										
2011	-0.165***	-0.172***	-0.148***	-0.139***	-0.109***	-0.112***	-0.106***	-0.100***	-0.123***	-0.134***
	[0.00462]	[0.0189]	[0.00513]	[0.00323]	[0.00471]	[0.0117]	[0.00683]	[0.00822]	[0.00852]	[0.0112]
2003	-0.222***	-0.305***	-0.262***	-0.228***	-0.186***	-0.167***	-0.159***	-0.163***	-0.138***	-0.128***
	[0.00484]	[0.0140]	[0.00732]	[0.00675]	[0.00255]	[0.00748]	[0.00681]	[0.00282]	[0.0134]	[0.00946]

Distribution of workers who transit to formality by deciles of wages of origin and destination

- Those who became formal initially belonged to the upper deciles of the *informal workers' income distribution* and transited to the lower deciles of the *formal wage earners' distribution*.
- However, when considering the *global wage distribution*, it can be seen that formalization took place more intensely in the middle part of the distribution.
- The contrast between the two behaviours reflects the fact that, as a whole, informal workers are concentrated in the lower tail of the wage distribution.

Theil- index dynamic decomposition

	Effect (%)			Total
	Between	Within	Composition	
ARGENTINA	-19.4	89.8	29.6	100
BRAZIL	10.2	85.0	4.8	100

Concluding remarks

- Strong process of labour formalization in Argentina and Brazil. It took place with high employment growth and recovery of labour institutions.
- Formalization spread to all workers, although with different intensities.
- Formalization has been equalizing.
- These distributive impacts are expected to grow as formalization continues and reaches the group of informal workers with lower incomes.
- Informality and inequality continue to be important issues. Therefore, formalization and labour institutions need to be further strengthened. Need to complement with a comprehensive social protection system and productive policies.