



Labor Market Dynamics and Informality over the Business Cycle in LAC

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Motivation

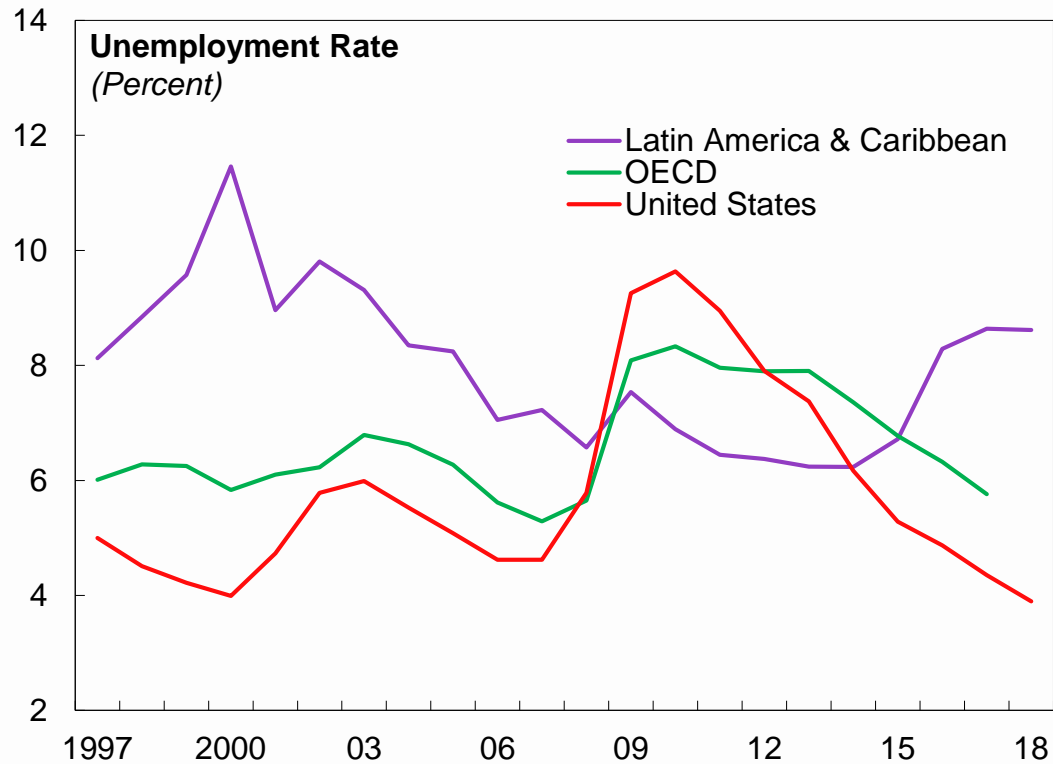
- LAC's strong economic performance during the commodity super-cycle led to significant improvements in real incomes, employment, and formalization.
- However, weak economic activity in recent years has slowed, and in some cases reversed, progress in key labor market outcomes.
- Against this backdrop, the chapter studies the cyclical response of labor markets in LAC.
- In doing so, it emphasizes the role played by informality and its determinants in explaining the behavior of key labor market outcomes.

Key messages

- The slow recovery in LAC may endanger improvements in real income, employment and formalization achieved during commodities boom
- Informality and labor participation are important margins of adjustment that buffer the impact of output shocks on unemployment.
- Informality declines with increases in income and education, but institutional aspects of labor markets are also important determinants of informality.
- Although informality buffers the impact of negative GDP shocks, it also lowers the speed of adjustment to a new equilibrium, thus hampering growth
- Employment protection and minimum wages in particular are behind the low speed of adjustment to shocks: since they also foster equity and protect workers, their reform involves difficult trade offs.

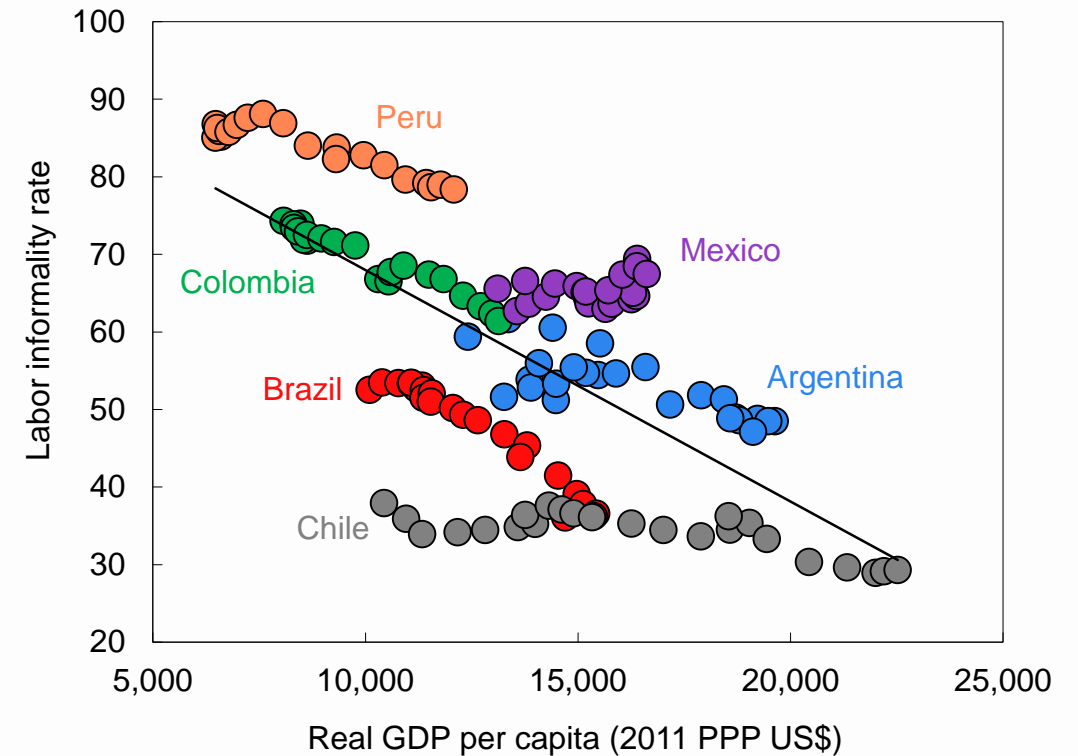
Labor market trends in LAC: falling informality and unemployment

Unemployment in LAC has been falling since the turn of the century, but has picked up again after the commodity price bust



Sources: IMF, World Economic Outlook database; World Bank, World Development Indicators database; and IMF staff calculations.

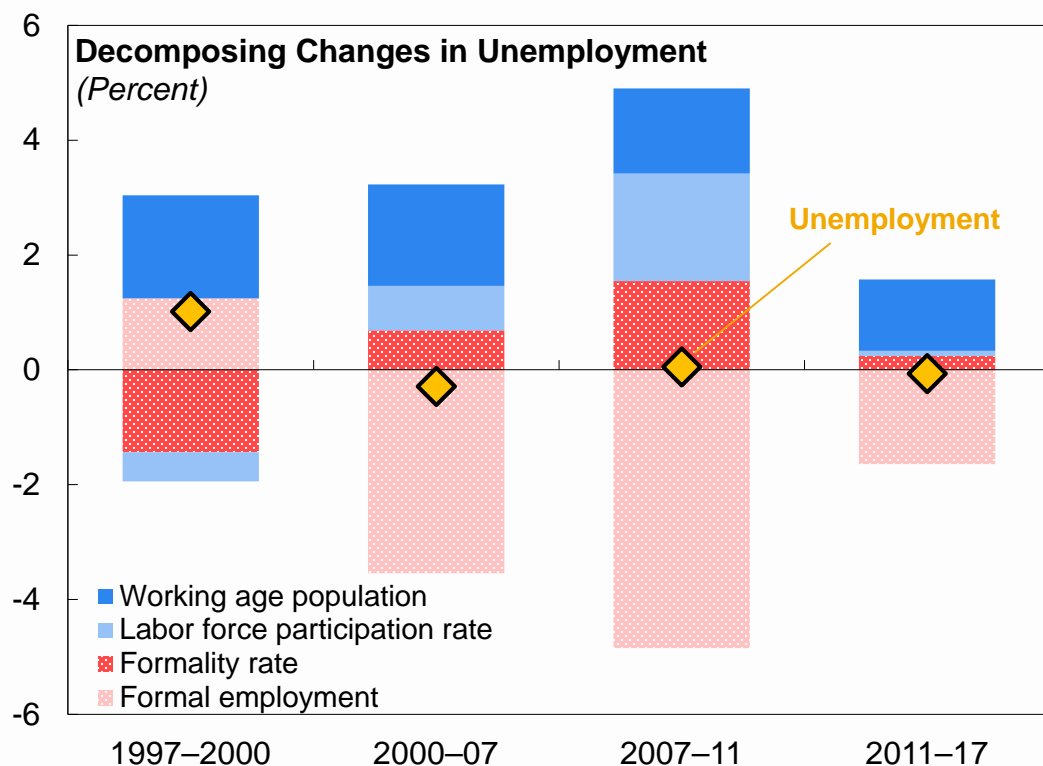
Informality fell in the 2000s, but in some countries the decline has stalled in recent years



Sources: World Bank, World Development Indicators database; and IMF staff calculations.

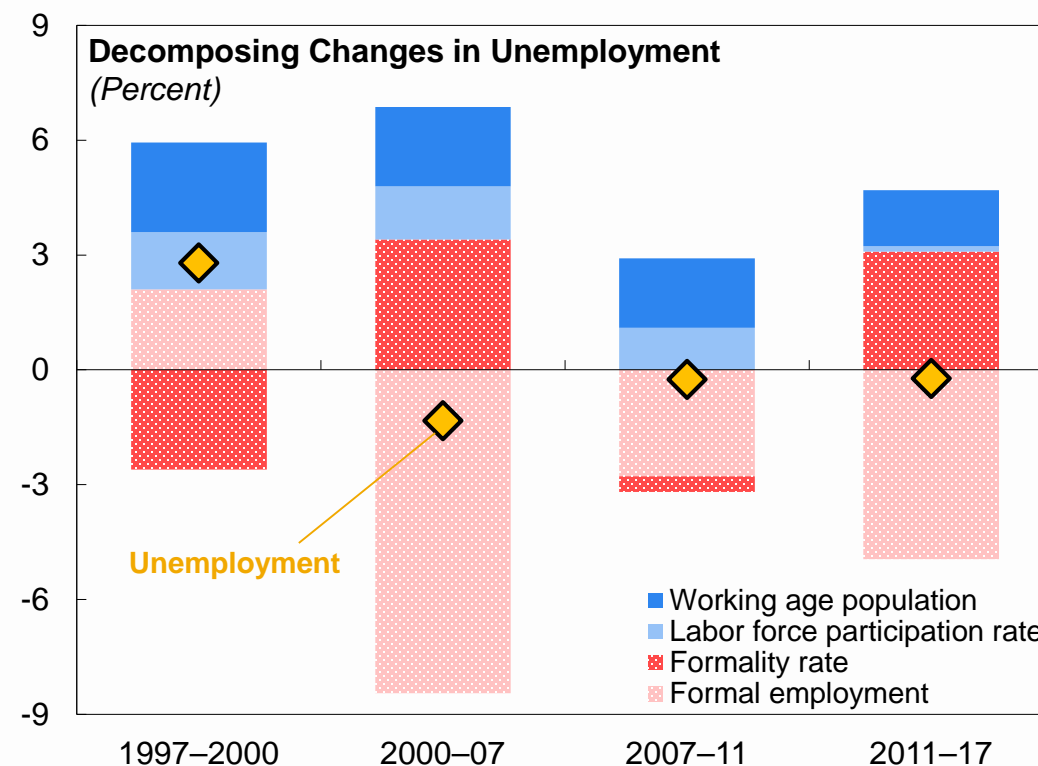
Unemployment does not fluctuate much, while informality and participation show larger changes

Chile: Slower formal job creation in recent years has been compensated by lower labor force participation and a slowdown in formalization



Source: David, Lambert y Toscani (2019).

Colombia: Formal job creation has been met with a strong increase in the formality rate, thus keeping unemployment relatively stable



Source: David, Lambert y Toscani (2019).

Estimation approaches (I)

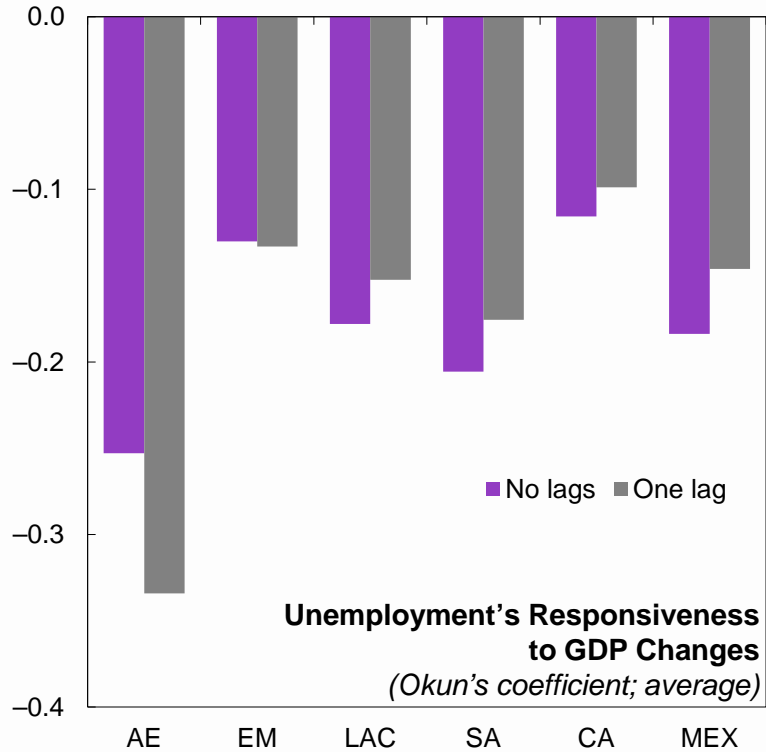
- The chapter uses the Common Correlated Estimator (CCE) proposed by Pesaran (2006):

$$\Delta Z_{it} = \alpha_i + \beta_i \Delta y_{it} + \theta_i \Delta y_{it-1} + \gamma_i \Delta y_{it-2} + \vartheta_{i,t}, \quad (1)$$
$$\vartheta_{i,t} = \mu_i + \sum_{m=1}^p \lambda_{im} f_{mt} + \varepsilon_{i,t}$$

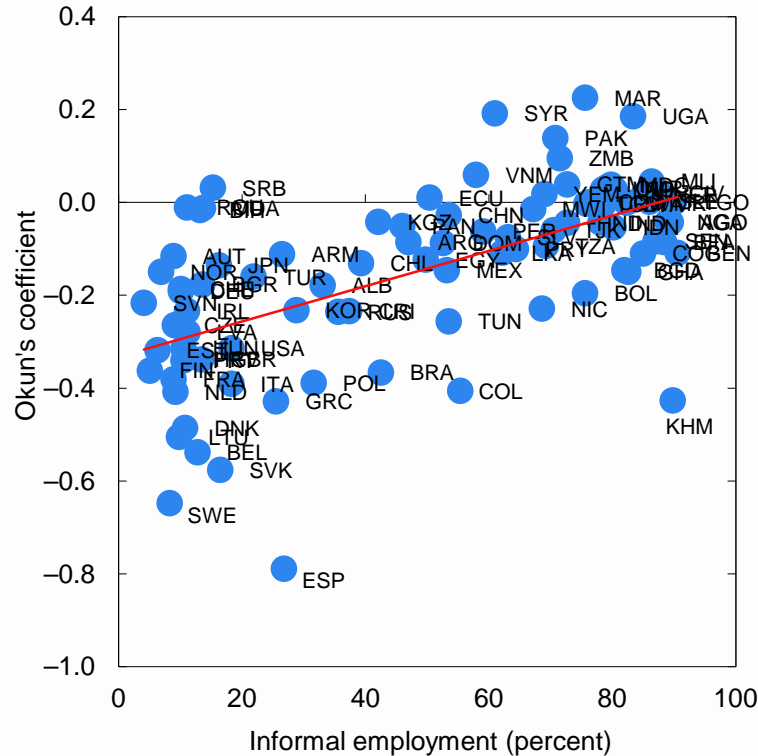
- Where ΔZ_{it} is the change in the labor market outcome (participation rates, unemployment, informality) of interest and Δy_{it} is GDP growth.
- The CCE estimator allows us to capture cross-country heterogeneity in the elasticities and takes into account common factors.

Unemployment is countercyclical, but its responsiveness to growth is lower in developing countries

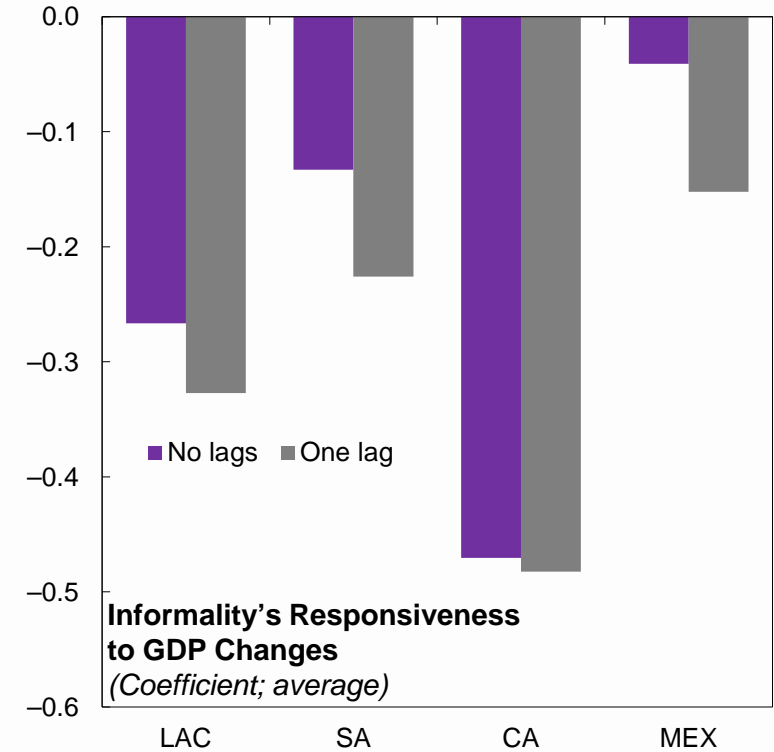
Okun's coefficient is smaller (in absolute values) in EMs and LAC compared to AEs...



... this is in part explained by higher levels of informality.



Informality acts countercyclically—declining during expansions and increasing during recessions



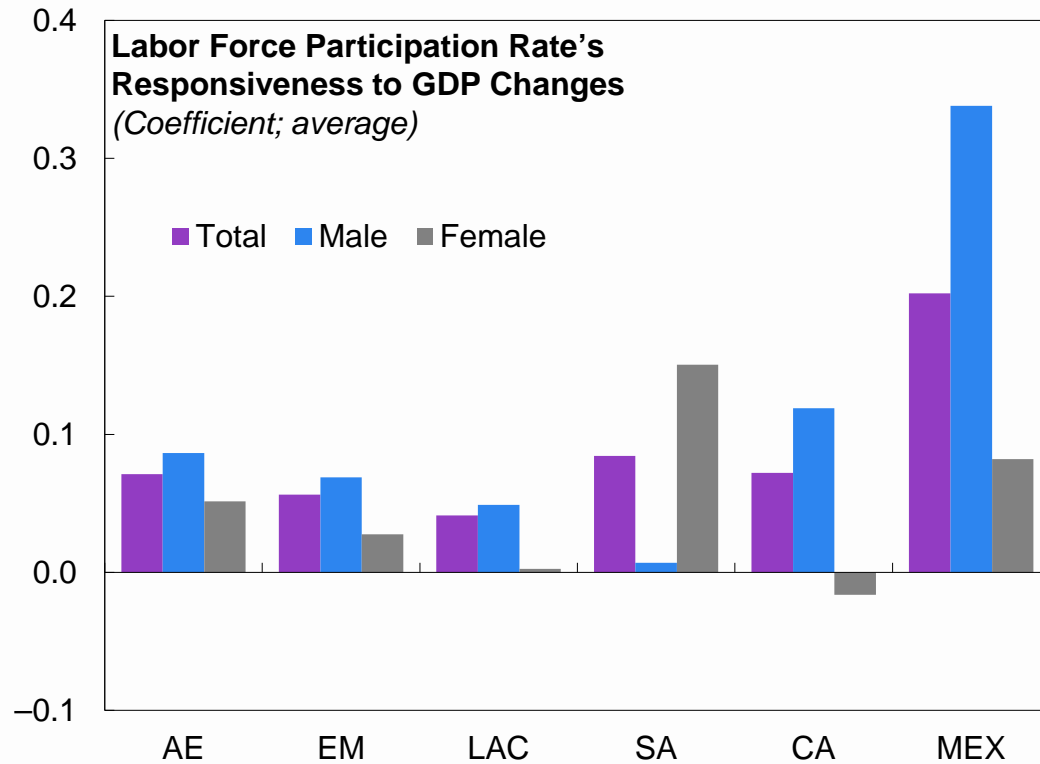
Sources: IMF, World Economic Outlook database; World Bank, World Development Indicators; and IMF staff calculations.

Sources: International Labour Organization (ILOSTAT) database; and IMF staff calculations.

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Participation rates are pro-cyclical; the link between female LFP and the cycle is more subtle

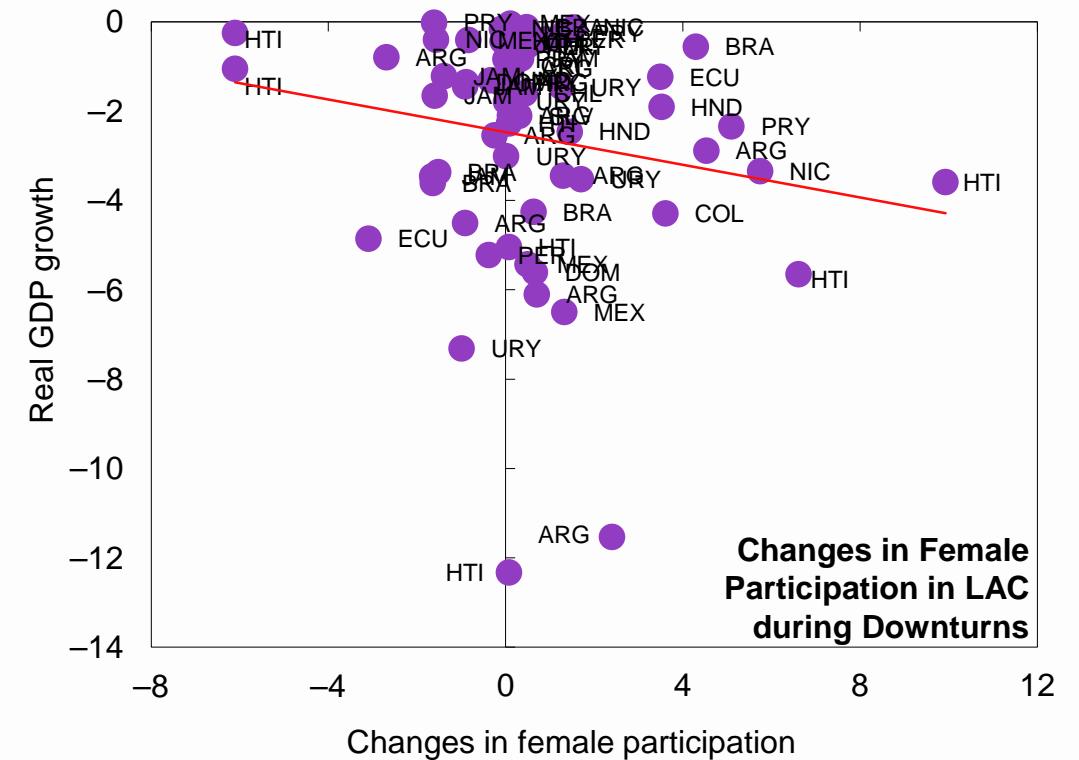
Total labor force participation is procyclical across income groups, average female participation in LAC is acyclical...



Sources: IMF, World Economic Outlook database; World Bank, World Development Indicators; and IMF staff calculations.

Note: AE = advanced economies; CA = Central America; EM = emerging markets; LAC = Latin America and the Caribbean; MEX = Mexico; SA = South America.

... but female participation is counter-cyclical during recessions in LAC



Sources: IMF, World Economic Outlook database; World Bank, World Development Indicators; and IMF staff calculations.

Estimation approaches (II)

- To study labor market adjustments to economic shocks we follow two approaches. The first uses aggregate data to estimate an error correction model that adapts equation (1):

$$\begin{aligned}\Delta e_{it} &= \alpha_i + \beta_i \Delta y_{it} + \lambda_i (e_{it} - \theta_i y_{it-1}) + \vartheta_{i,t}, & (2) \\ \vartheta_{i,t} &= \mu_i + \sum_{m=1}^p \lambda_{im} f_{mt} + \varepsilon_{i,t},\end{aligned}$$

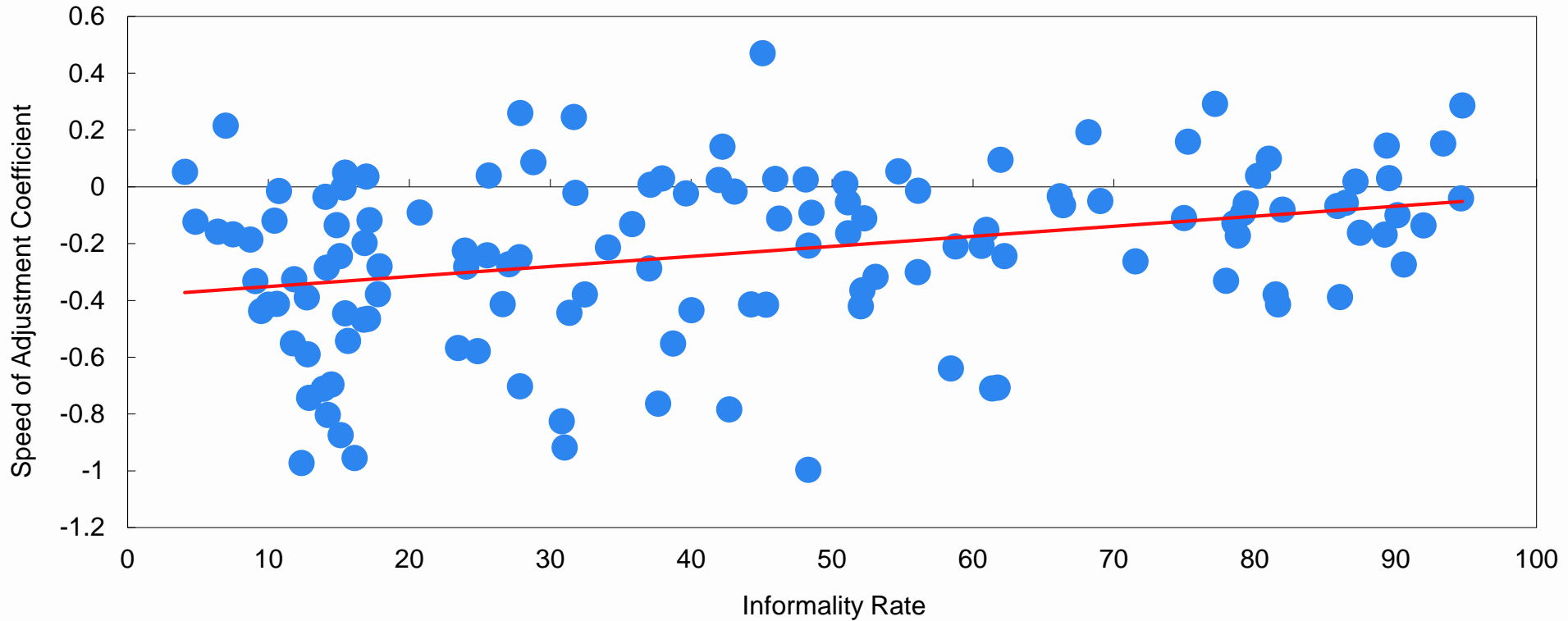
- The second approach uses sector-level data and follows the empirical strategy of Caballero, Cowan, Engel and Micco (2013). The estimating equation in this case is:

$$\Delta e_{ijt} = \alpha + \lambda_i (e_{ijt-1}^* - e_{ijt-1}) + \varepsilon_{i,t}$$

- Where the speed of adjustment parameter λ_i is assumed to be a function of country characteristics such as labor market regulations.

High informality associated to adjustment to economic shocks

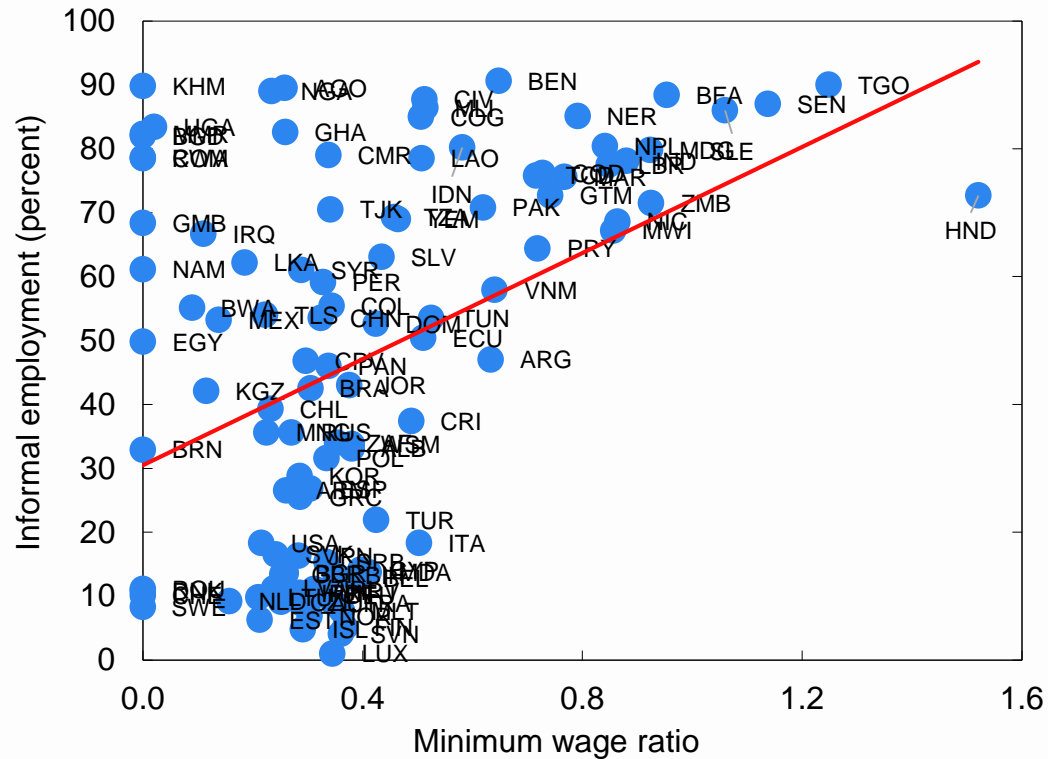
Higher informality levels are associated with a lower speed of adjustment coefficient



Sources: World Bank, World Development Indicators database; and IMF staff calculations.

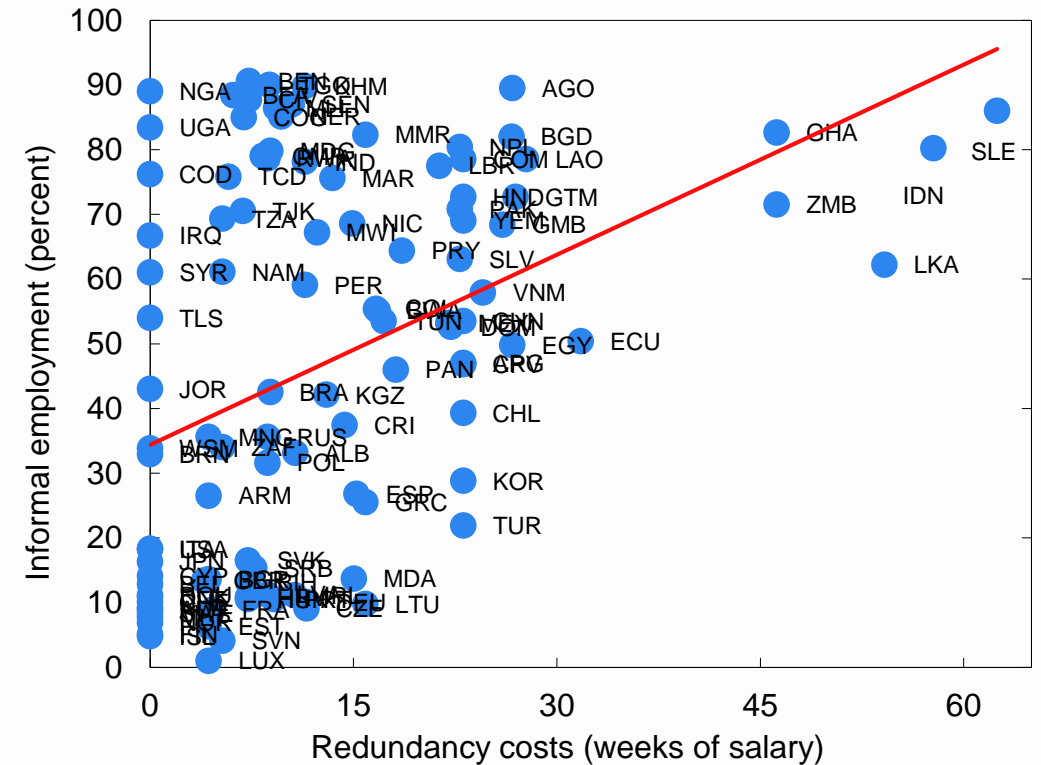
Informality is a symptom of structural features, including labor market regulations...

Informality is positively correlated with higher minimum wages...



Sources: International Labour Organization; World Bank, Doing Business Indicators, and IMF staff calculations

... and with higher redundancy costs

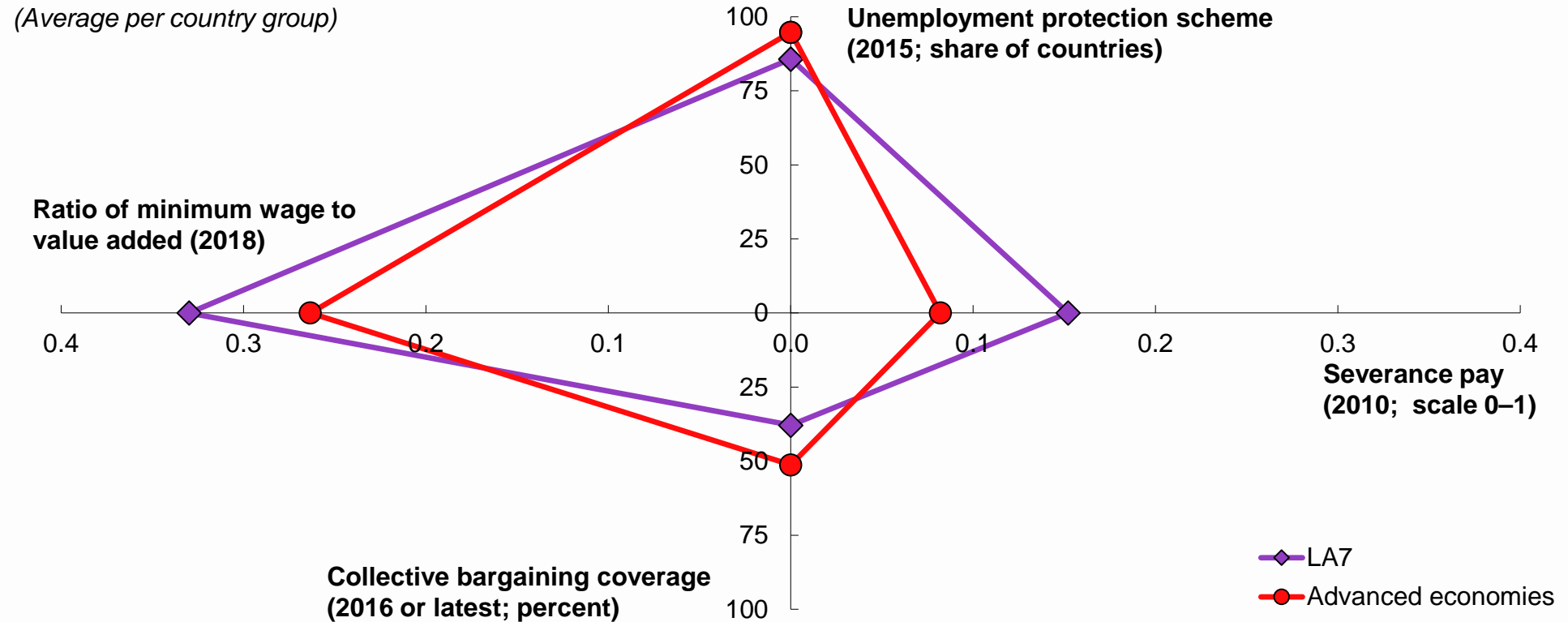


Sources: International Labour Organization; World Bank, Doing Business Indicators, and IMF staff calculations.

... and LAC countries tend to have more stringent regulations compared to AEs

LAC countries have, on average, higher minimum wages and severance pay than AEs

(Average per country group)



Sources: International Labour Organization; World Bank, Doing Business Indicators database; and IMF staff calculations.
 Note: LA7 = Argentina, Brazil, Chile, Colombia, Mexico, Peru, Uruguay.

In fact, stringent de facto labor regulations are associated with less microeconomic flexibility and slower growth

Labor Market Characteristics, Speed of Adjustment, and Growth

		Estimated Speed of Adjustment	Implied half life (in months)	Implied growth differential (low-high)
Average		0.50	12.00	-
LAC		0.48	12.91	-
Informality	Low	0.51	11.79	
	High	0.47	13.26	0.17pp
Job security	Low, High government effectiveness	0.54	10.56	
	High, High government effectiveness	0.43	14.61	0.47pp
	Low, Low government effectiveness	0.52	11.39	
	High, Low government effectiveness	0.49	12.32	0.11pp
Minimum wage/Labor productivity	Low, High government effectiveness	0.55	10.56	
	High, High government effectiveness	0.39	16.85	0.74pp
	Low, Low government effectiveness	0.51	11.72	
	High, Low government effectiveness	0.49	12.48	0.09pp

Conclusions and Policy Takeaways

- The results suggest that gauging the cyclical position of Latin American labor markets requires tracking not only unemployment but also the informality rate.
- Informality is a complex issue that poses difficult macro/micro trade-offs.
 - Dampens the immediate effects of negative shocks and insulates individuals from the costs of unemployment absent unemployment insurance.
 - But, it can make the effects of shocks protracted and it can hamper growth.
 - From a micro-perspective, informal employment exhibits lower wages/productivity and can exclude workers from social benefits.
- Reducing entry costs to formality appears to work better than punishing informality
 - Policies aimed at reducing informality are more effective when combined with a strong productivity agenda.

Thank You

Additional slides

Informality and Labor Market Regulations

	(1)	(2)	(3)	(4)	(5)
Job security	0.148*** (0.0347)		0.154*** (0.0356)	0.0123 (0.0331)	
Job security * Government effectiveness				0.102** (0.0481)	
Government effectiveness				-0.547*** (0.0648)	-0.557*** (0.0606)
Minimum wage/Labor productivity		0.0704* (0.0417)	0.0961** (0.0398)		0.0390 (0.0281)
Minimum wage/Labor productivity * Government effectiveness					0.392** (0.154)
Constant	0.307*** (0.0468)	0.112 (0.205)	-0.185 (0.206)	0.703*** (0.0511)	0.502*** (0.143)
Observations	108	104	102	105	101
R-squared	0.146	0.027	0.179	0.620	0.574

Source: IMF staff calculations.

Note: Standard errors in parentheses.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Additional slides

CCE Error-Correction Model of Employment—Average Coefficients

	(1)	(2)	(3)
	Number of lags of the cross-sectional averages		
	No lags	1 lag	2 lags
Lagged log employment	-0.205*** (0.021)	-0.208*** (0.025)	-0.216*** (0.027)
Lagged log GDP	0.078*** (0.015)	0.085*** (0.016)	0.089*** (0.020)
GDP growth	0.122*** (0.022)	0.112*** (0.020)	0.121*** (0.023)
Implied long-run elasticity	0.3818*** (0.0842)	0.4064*** 0.0922	0.4138*** 0.1051
Observations	3320	3201	3081
Number of countries	129	129	129

Sources: International Labour Organization (ILOSTAT) database; World Bank, World Development Indicators database; and IMF staff calculations based on David, Pienknagura, and Roldos (2019).

Note: Standard errors in parentheses.

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Additional slides

Microeconomic Flexibility, Labor Market Regulations, and Government Effectiveness

Dependent variable	Employment growth							
	UNIDO	UNIDO 10S+OECD	UNIDO	UNIDO	UNIDO	UNIDO	UNIDO	UNIDO
Sample	(1)	(4)	(3)	(4)	(5)	(6)	(7)	(8)
Employment gap	0.501*** (0.0427)	0.459*** (0.0410)	0.502*** (0.0405)	0.514*** (0.0467)	0.536*** (0.0434)	0.525*** (0.0438)	0.541*** (0.0145)	0.518*** (0.0201)
Employment gap * LAC			-0.0255* (0.0143)					
Employment gap * Informality				-0.0596*** (0.0216)				
Employment gap * Job security					-0.0374*** (0.00561)	-0.0223*** (0.00654)		
Employment gap * Job security * High government effectiveness						-0.0678*** (0.0134)		
Employment gap * (Minimum wage/Labor productivity)							-0.131*** (0.0175)	-0.0542*** (0.0185)
Employment gap * (Minimum wage/Labor productivity) * High government effectiveness								-0.335*** (0.0532)
Employment gap * High government effectiveness						0.0469*** (0.0157)		0.0973 (0.121)
Constant	0.00173*** (0.000611)	0.00460*** (0.000675)	0.00186*** (0.000618)	0.000832 (0.000688)	0.00148** (0.000616)	0.00144** (0.000617)	0.00200*** (0.000604)	0.00188*** (0.000706)
Year-country fixed effects	YES	YES	YES	YES	YES	YES	YES	YES
Observations	27988	30895	27647	20123	27056	26694	27647	27585
Number of groups	1604	1693	1586	1141	1553	1549	1586	1582

Source: IMF staff calculations based on David, Pienknagura, and Roldos (2019).

Note: Murphy-Topel robust standard errors in parentheses.

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Additional slides

Labor Market Regulations and Labor Productivity Growth

Dependent variable	Labor productivity growth					
	(1)	(2)	(3)	(4)	(5)	(6)
Sector's share in country's total value added, $t-1$	-0.156*** (0.0174)	-0.175*** (0.0180)	-0.176*** (0.0183)	-0.174*** (0.0180)	-0.154*** (0.0178)	-0.153*** (0.0174)
Sectoral labor share, $t-1$		-0.132*** (0.0327)	-0.0466 (0.0519)	-0.0366 (0.0546)		
Country's job security * Sectoral labor share, $t-1$			-0.0884** (0.0423)			
Country's rel. minimum wage * Sectoral labor share, $t-1$				-0.267** (0.122)		
Country's job security * Sectoral capital share, $t-1$					0.0249 (0.119)	
Country's rel. minimum wage * Sectoral capital share, $t-1$						0.00348 (0.377)
Constant	0.0455*** (0.00159)	0.0628*** (0.00459)	0.0629*** (0.00462)	0.0624*** (0.00459)	0.0568*** (0.00359)	0.0564*** (0.00350)
Country-Year Fixed Effects	YES	YES	YES	YES	YES	YES
Sectoral Capital Share control	NO	NO	NO	NO	YES	YES
Observations	26,552	26,539	25,977	26,539	25,856	26,418
R-squared	0.196	0.197	0.199	0.197	0.199	0.197

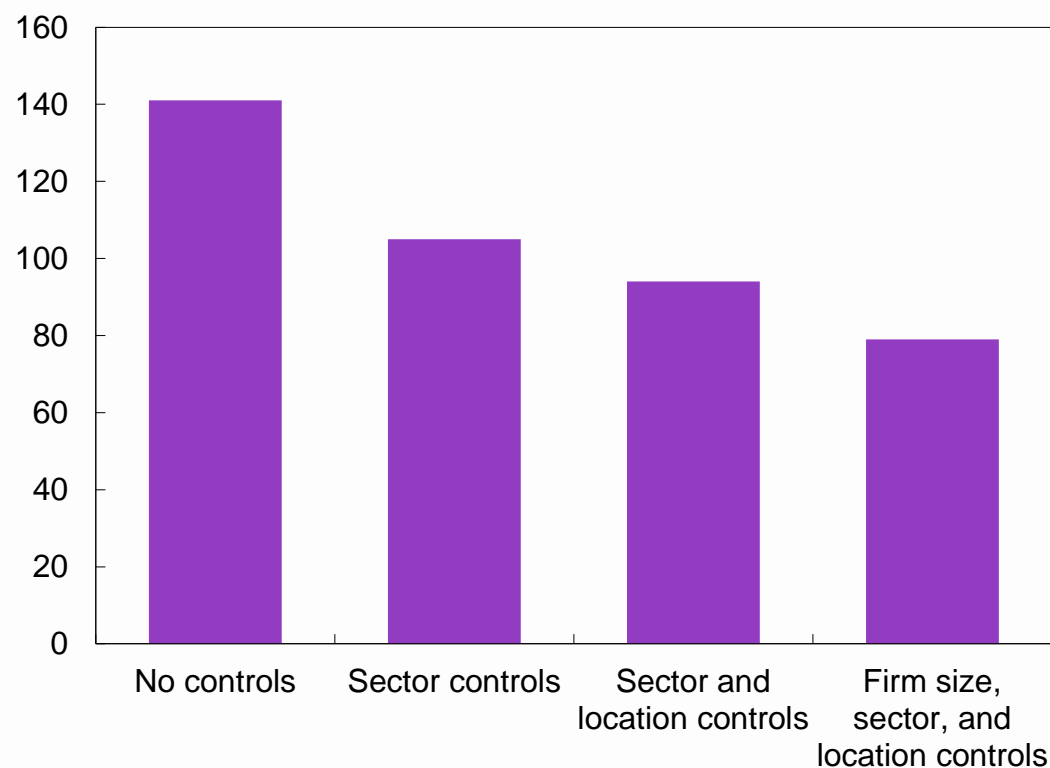
Source: IMF staff calculations based on David, Pienknagura, and Roldos (2019).

Note: Standard errors in parentheses.

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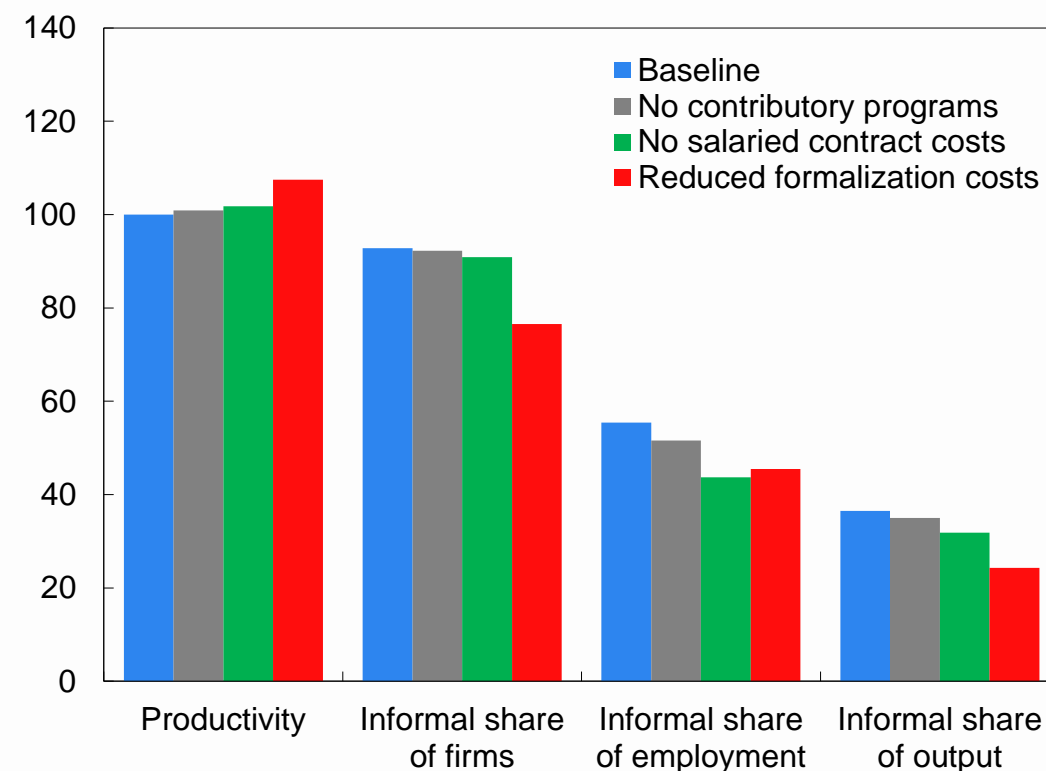
Informality and Productivity: The Case of Mexico (Alvarez and Ruane, 2019)

Value Added per Worker Premium in Formal Firms
(Percent)



Sources: Mexican Economic Census 2013; and IMF staff calculations.
Note: Regression coefficient on formal sector dummy reported. All coefficients are significant at the 95 percent significance level.

Gains from Reducing Informality Distortions
(Percent)



Sources: Mexican Economic Census 2013; and IMF staff calculations.