

The Long Shadow of Informality: Challenges and Policies

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Development Economics • Prospects

Four Questions

- 1 Who are informal firms and workers?** *Less productive and concentrated in labor-intensive sectors (esp. agriculture and low-end service sectors).*
- 2 How can informality hold back the recovery from the pandemic?** *Less, and less effective, macroeconomic stimulus; muted response to formal-economy expansion.*
- 3 Which development challenges are associated with informality?** *Higher poverty and inequality, poorer human capital and infrastructure, lower productivity and wages.*
- 4 How can policymakers address the challenges posed by informality?** *Comprehensive policy package aimed at long-term development outcomes and tailored to country-specific circumstances.*

Reasons for Informal Activity

Necessity

Regulatory Avoidance



Definitions of Informality

Country-Specific

Legal activities		Criminal activities
Not market-based	Market-based	
<ul style="list-style-type: none"> • Home production • ... 	Formal economy	Informal economy
		<ul style="list-style-type: none"> • Smallholder farmer • Street vendor • Babysitter • Moonlighting plumber • ...

What about gig workers?

Measures of Informality

The Largest Database Yet

Model-based estimates (Output informality)

- Dynamic General Equilibrium
36 advanced economies; 122 EMDEs; 1990-2018.
- MIMIC
36 advanced economies; 122 EMDEs; 1993-2018.

Labor force survey-based estimates (Employment informality)

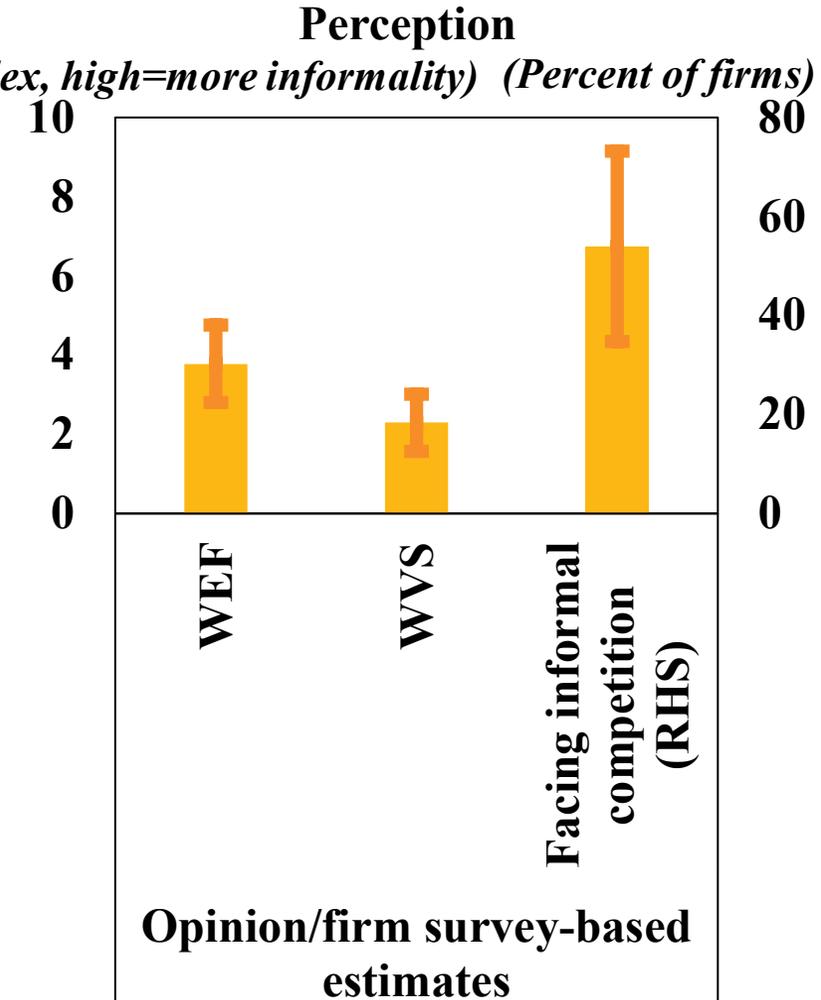
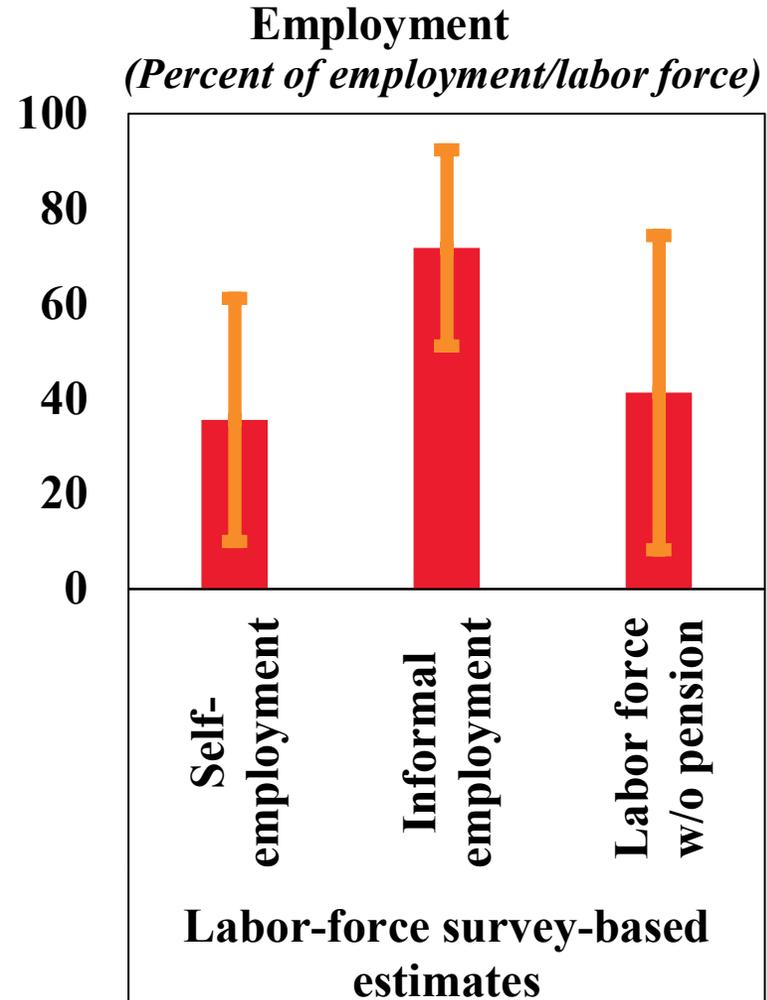
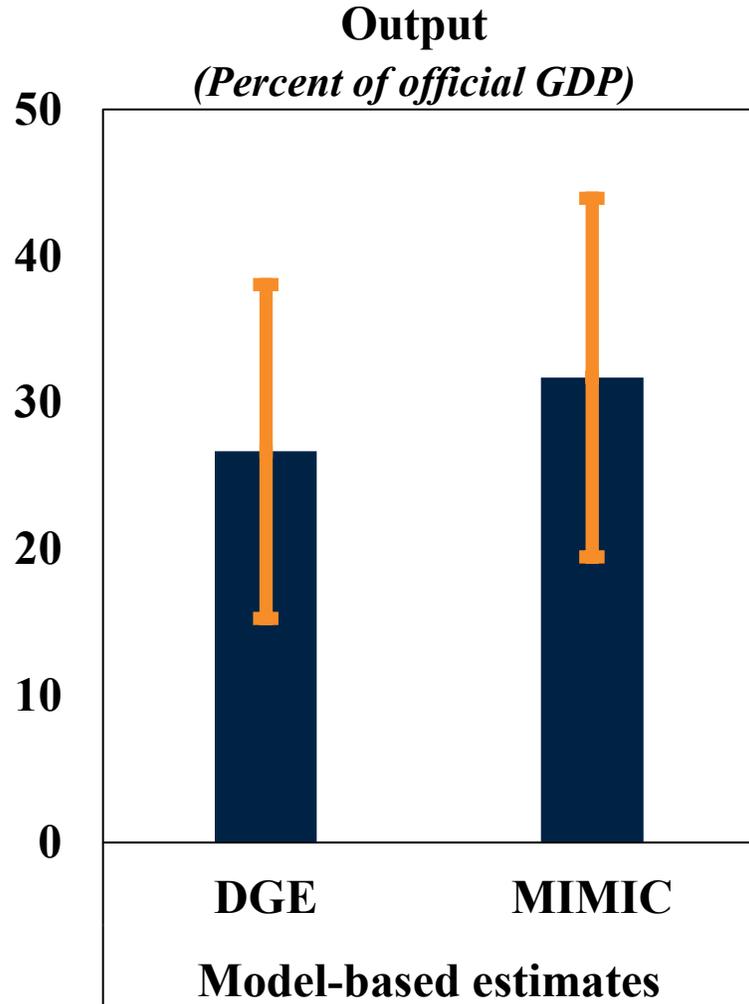
- Self-employment
36 advanced economies; 143 EMDEs; 1990-2018.
- Informal employment
72 EMDEs; 2000-18.
- Employment outside the formal sector
76 EMDEs; 1999-2018.
- Labor force without pension coverage
31 advanced economies; 104 EMDEs; 1990-2010.

Firm/opinion survey-based estimates (Perceptions of informality)

- World Value Survey
26 advanced economies; 68 EMDEs; 1994-2010.
- World Economic Forum
36 advanced economies; 118 EMDEs; 2008-18.
- World Bank Enterprise Survey
Up to 9 advanced economies; 132 EMDEs; 2006-18.

Measures of Informality

Three Dimensions of Informality

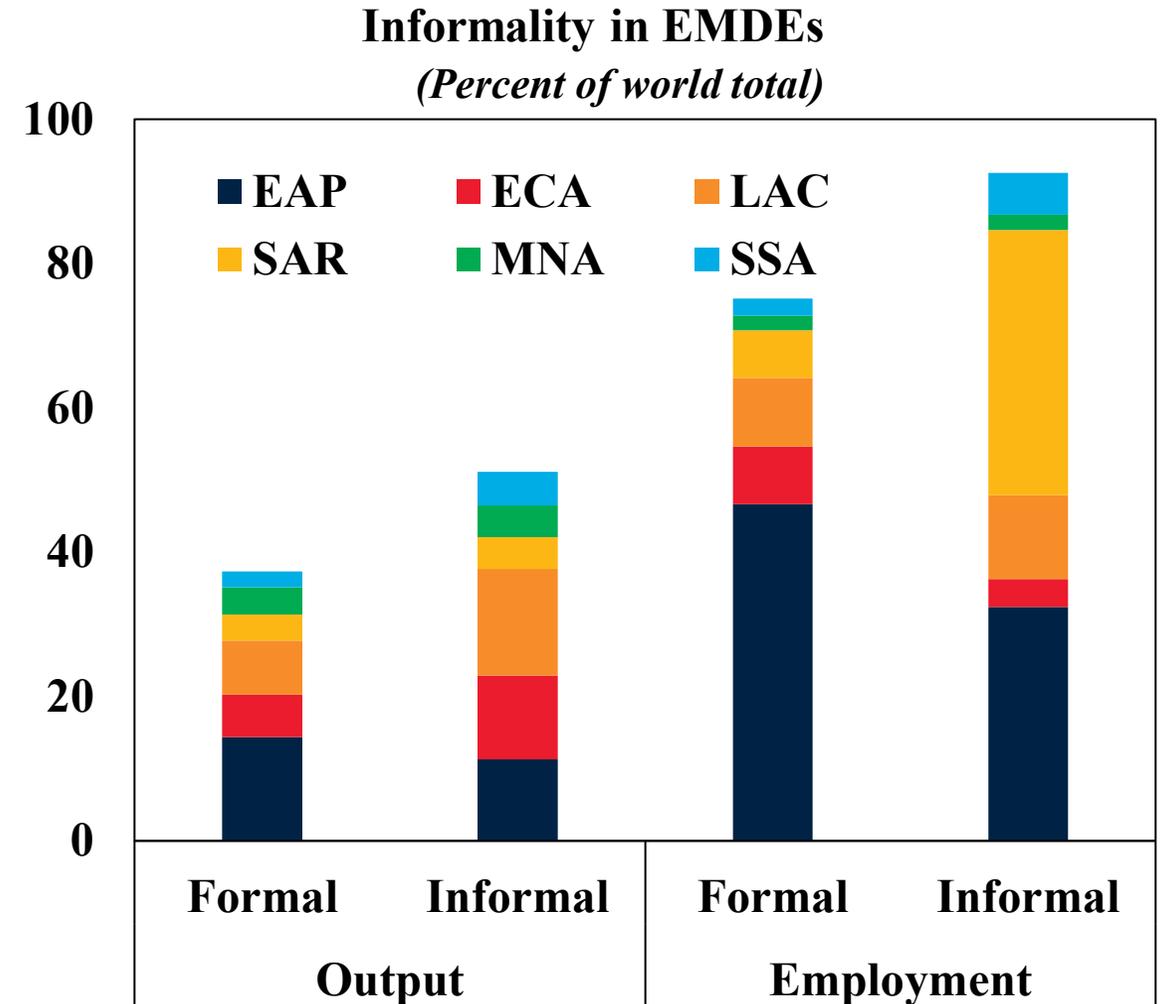
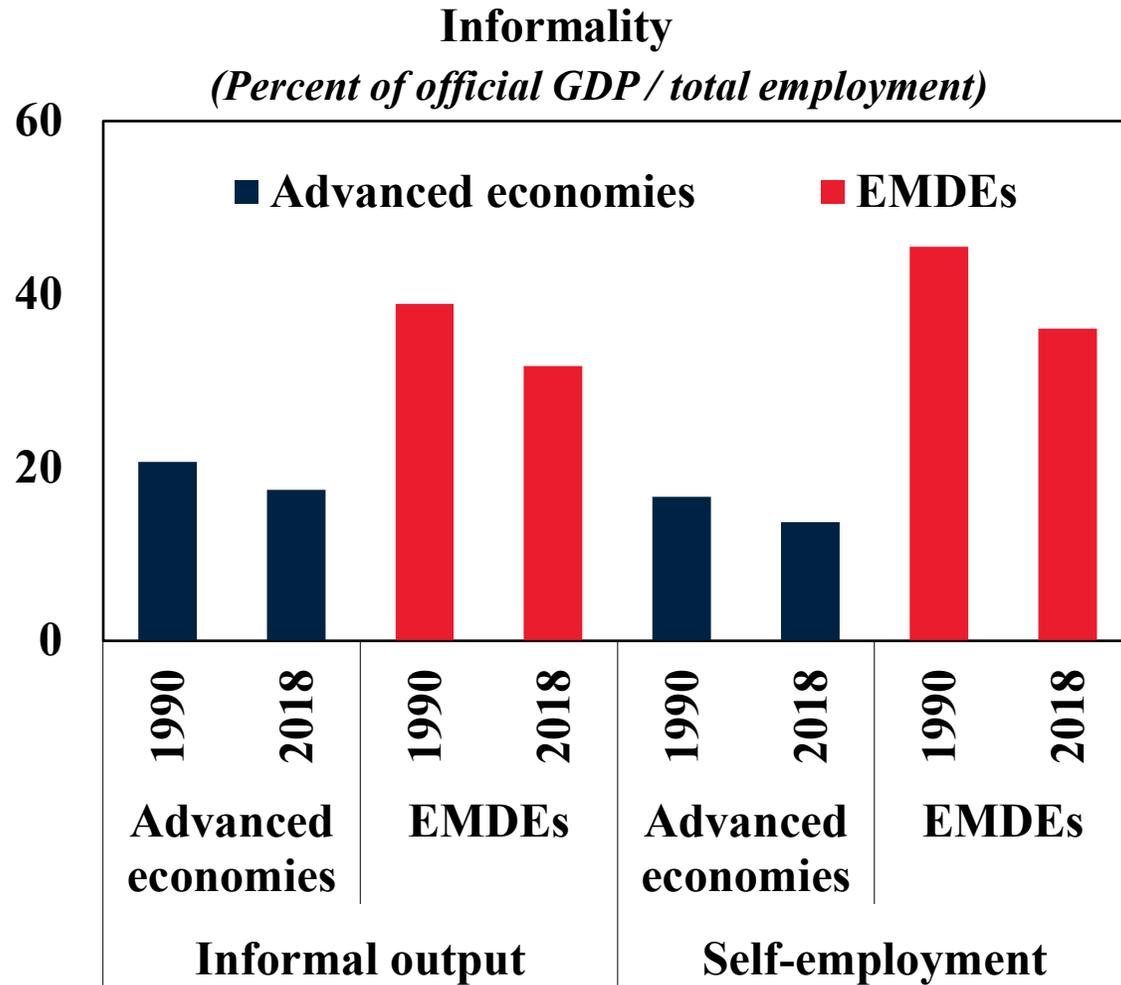


Sources: Ohnsorge and Yu (2021); World Bank.

Notes. Bars show simple averages with whiskers showing one standard deviation around the mean. Data are for the period 1990-2018. Left Panel. Bars for DGE-based and MIMIC-based informal output shares (in percent of official GDP). Center Panel. Bars for self-employment (in percent of employment), informal employment (in percent of employment), and labor force without pension (in percent of labor force). Right Panel. Bars for World Economic Forum (WEF) index (1-7=most informal), World Value Surveys (WVS) (Cheating on taxes is justifiable), and percent of firms competing against informal firms (World Bank Enterprise Surveys).

Informality

Widespread in EMDEs



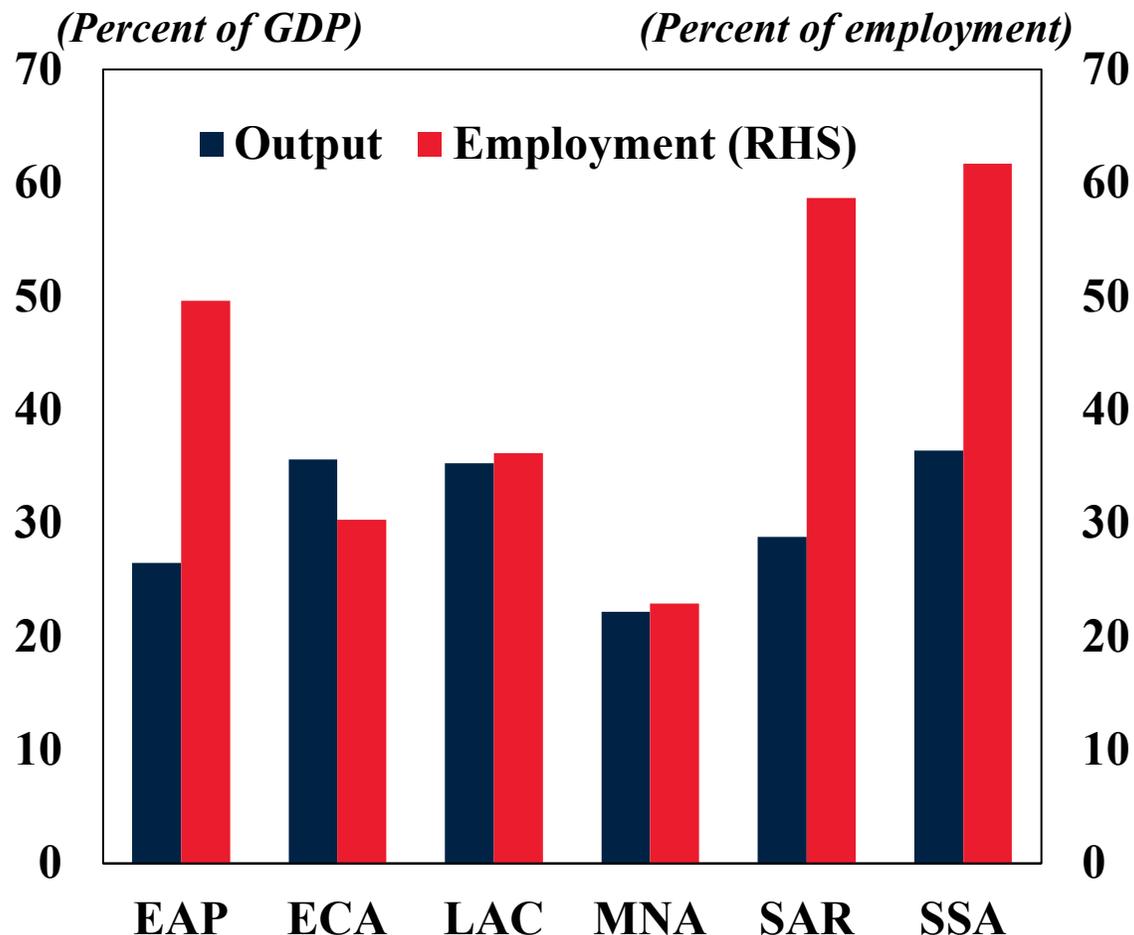
Source: Ohnsorge and Yu (2021).

Left Panel. Bars show simple averages for DGE-based informal output shares (in percent of official GDP) and self-employment shares (in percent of total employment). EMDEs= Emerging markets and developing economies. Right Panel. Data are averaged over 2010-18. Formal output refers to official GDP and informal output is DGE-based estimates. Formal employment is obtained as total employment minus informal employment (represented by self employment). EAP, ECA, LAC, MNA, SAR, and SSA refer to, respectively, East Asia and Pacific, Europe and Central Asia, Latin America and the Caribbean, Middle East and North Africa, South Asia, and Sub-Saharan Africa.

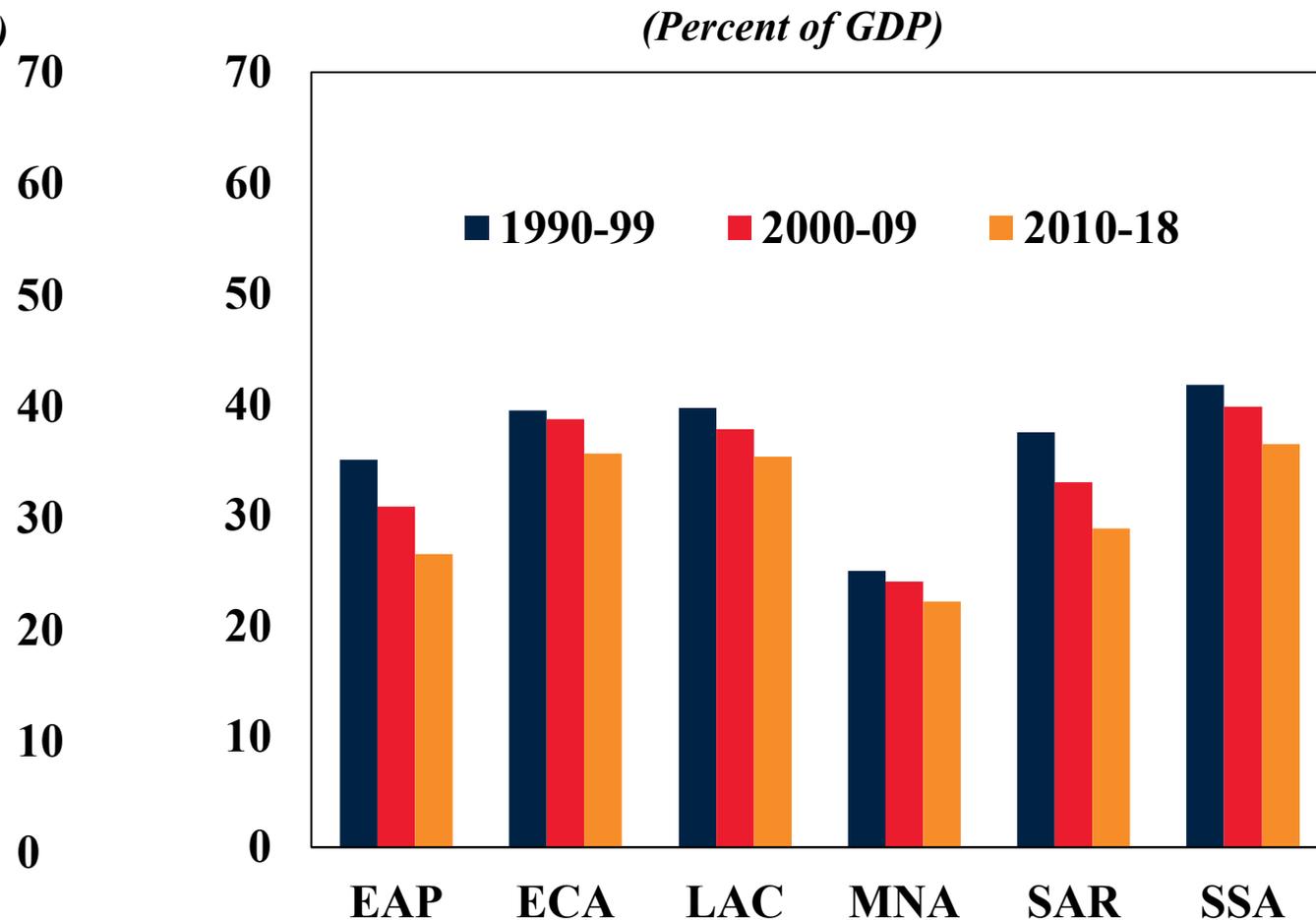
Informality in EMDEs Regions

Pervasive Everywhere, Despite Decline Since 1990

Informality by EMDE region



Output informality over time by EMDE region



Source: Ohnsorge and Yu (2021).

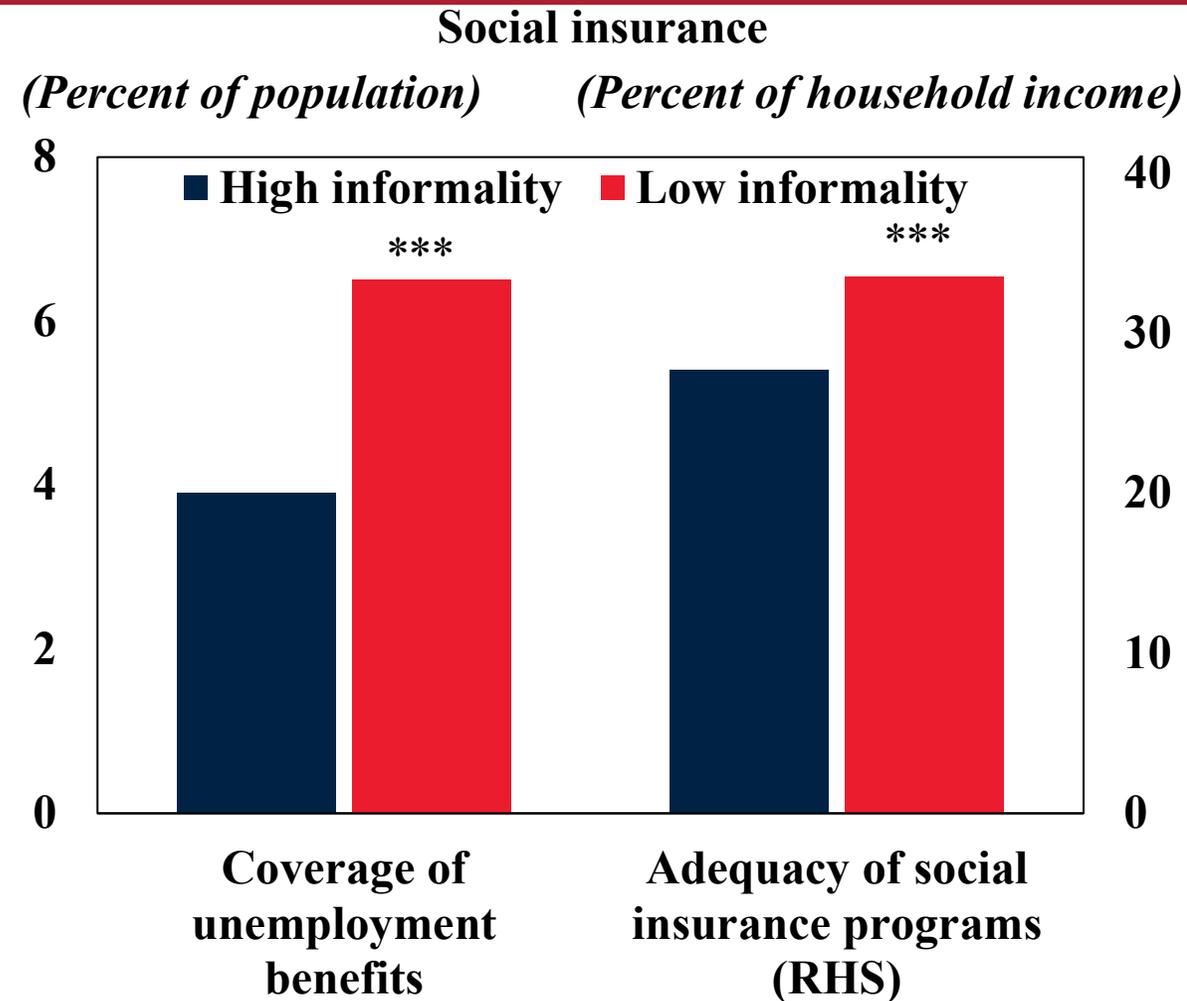
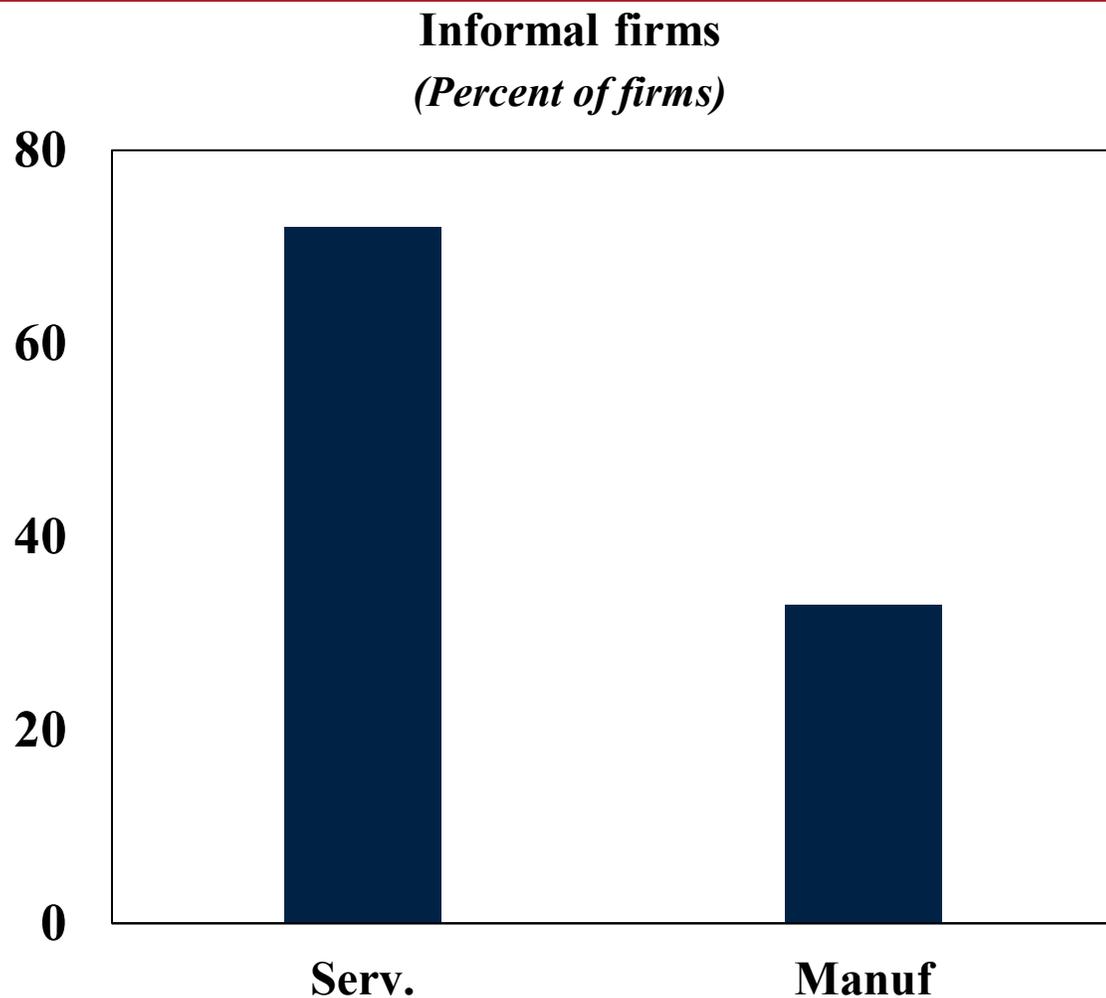
Left Panel. EAP = East Asia and Pacific; ECA = Europe and Central Asia; EMDEs = emerging market and developing economies; LAC = Latin America and the Caribbean; MNA = Middle East and North Africa; SAR = South Asia; SSA = Sub-Saharan Africa. Blue (red) bars show the average share of DGE-based informal output (self-employment shares) during 2010-18. Red bars show the simple average share of self-employment during 2010-18. Right Panel. Simple averages are shown in bars for DGE-based estimates on informal output in percent of official GDP.

Four Questions

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Informality as Amplifier of COVID-19 Damage

More Likely to Endure Income Losses

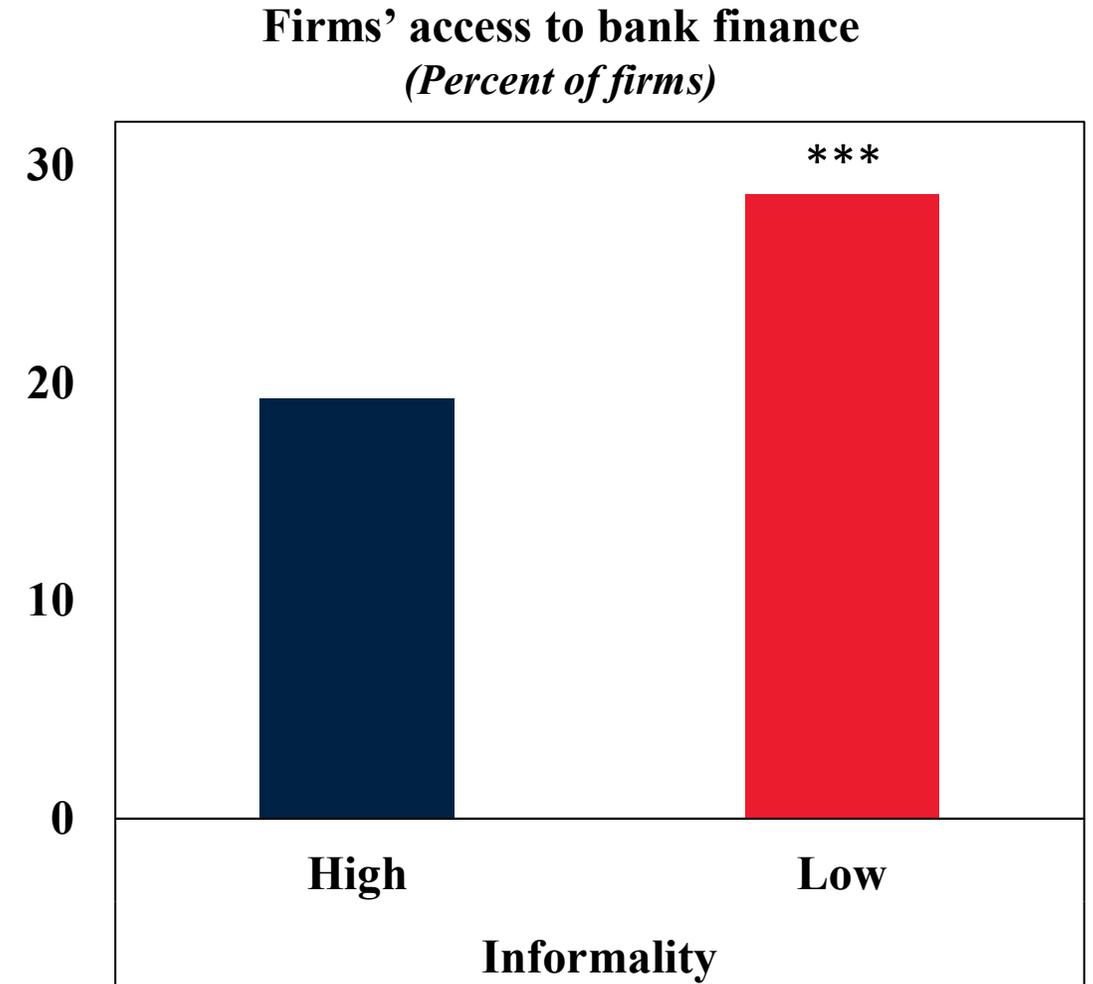
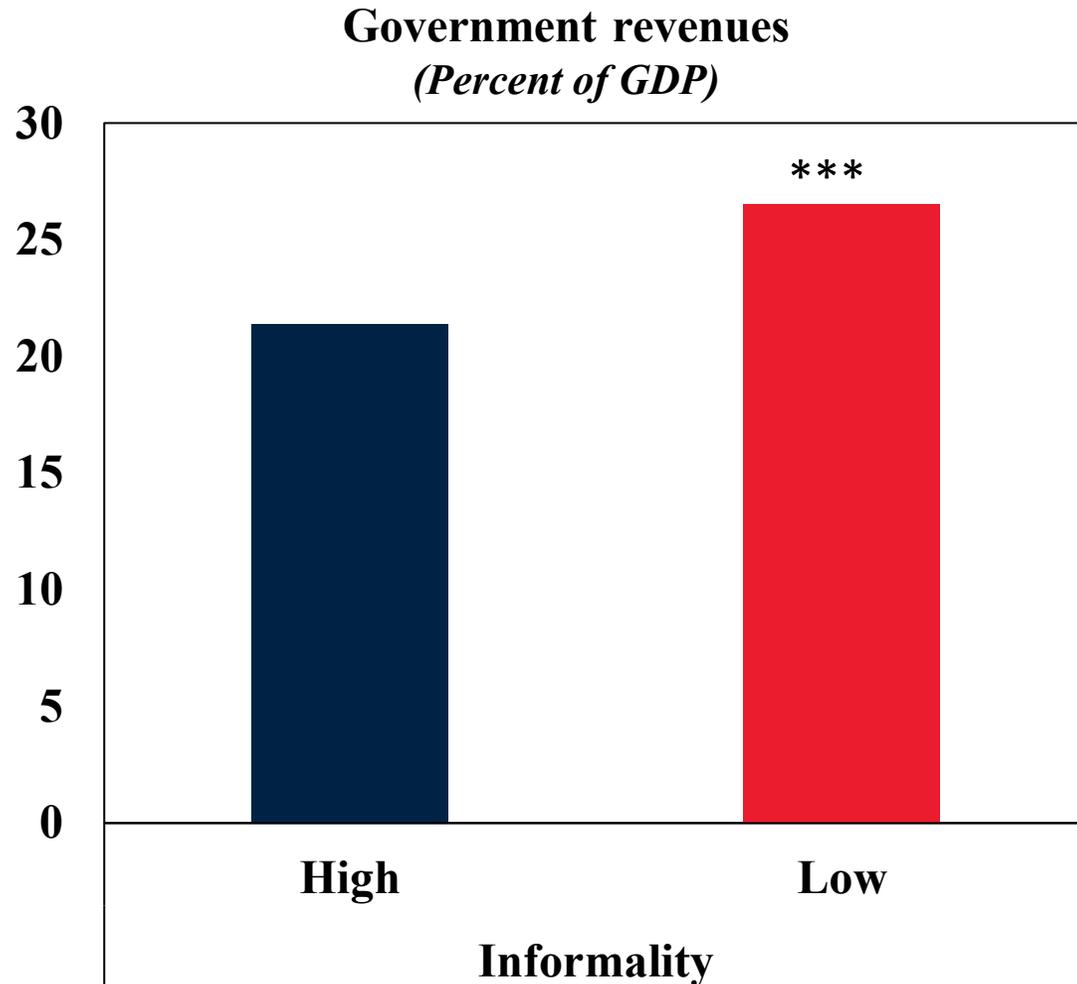


Source: Ohnsorge and Yu (2021).

Left Panel. Bars show the percent of firms in service or manufacturing sector that are also informal. Right Panel. *** indicates the group differences are not zero at 10 percent significance level. Bars are simple group mean for EMDEs. “High informality” are the top one-half of EMDEs by DGE-based informal output and “low informality” are the bottom one-half EMDEs over 1990-2018. Adequacy of social insurance programs are measured in percent of total welfare of beneficiary households.

Less (Effective) Macroeconomic Stimulus

Lower Government Resources, Shallower Financial Systems



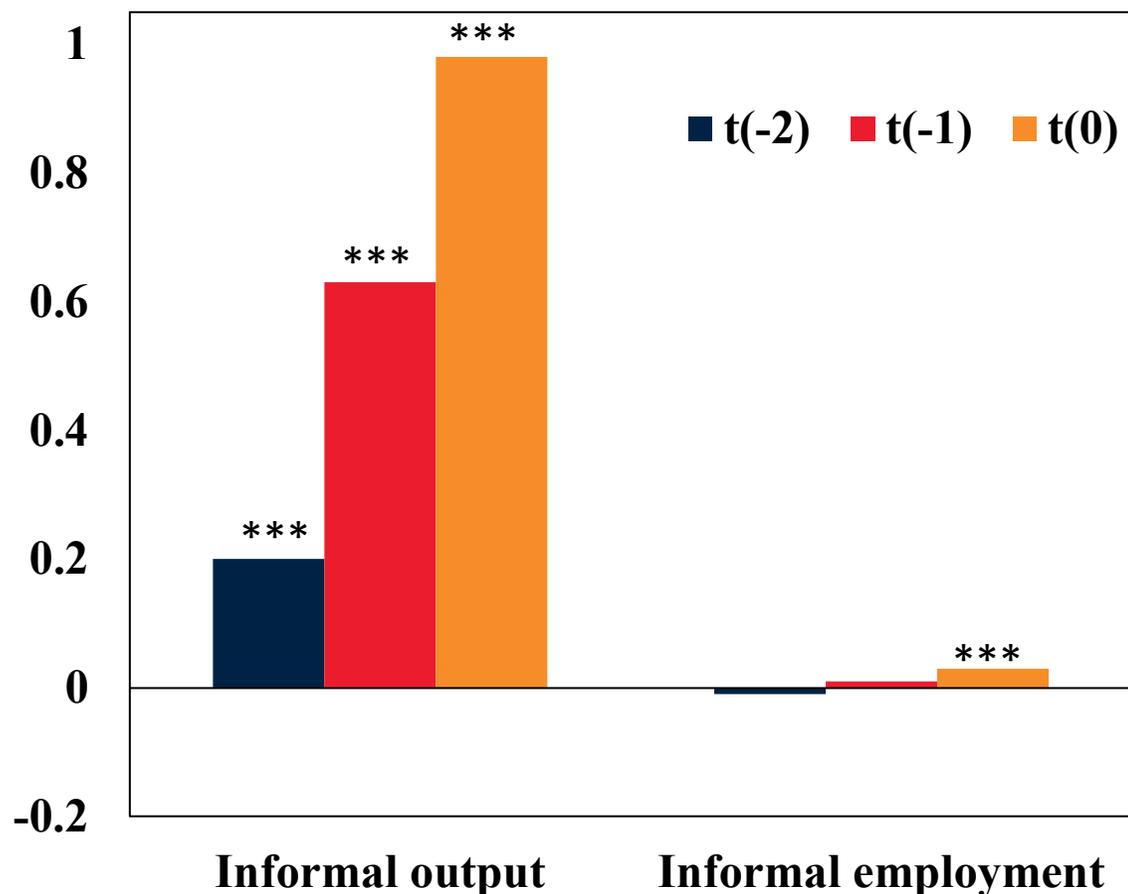
Source: Ohnsorge and Yu (2021).

Notes: "High" and "Low" are the half of EMDEs with the highest and lowest informality by the share of informal output (as measured by the dynamic-general-equilibrium methodology) in percent of official GDP. *** indicates significantly (at 10 percent level) higher values. Left Panel. Fiscal indicators are 2000-18 averages and in percent of GDP. Sample includes about 70 nonenergy exporting EMDEs with populations above 3.5 million people. Left panel. Data are for 1990-2018. Bars show estimated coefficients when DGE-based estimates on informal output are used as the dependent variable and movements in official GDP are instrumented by government expenditures and traded-related terms. Right Panel. Bars are group means for EMDEs over the period 2000-18, capturing the share of firms using banks to finance investment .

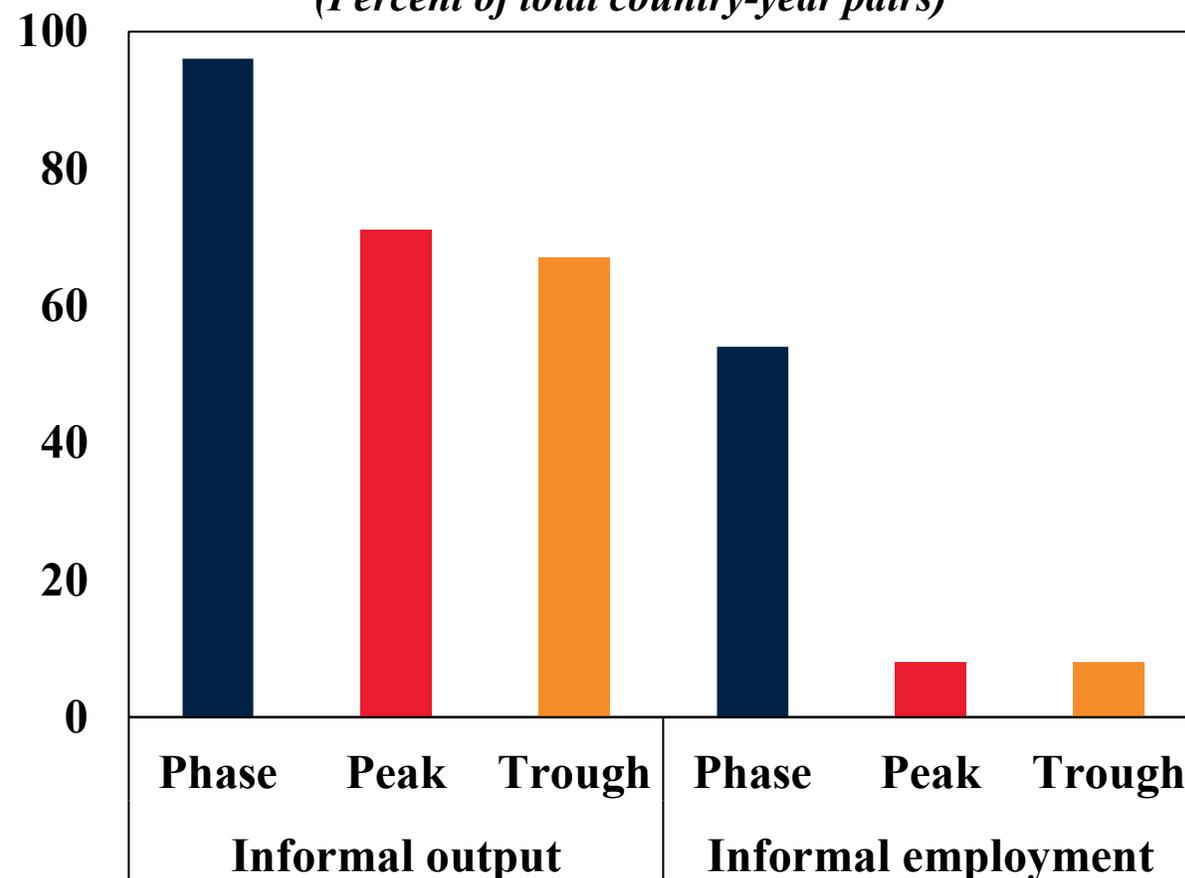
Informal Output and Employment

Informal Output Comoves with Formal Output, Informal Employment Does Not

Correlations with formal output
(Correlation)



Coincidence of formal and informal business cycle phases and turning points
(Percent of total country-year pairs)



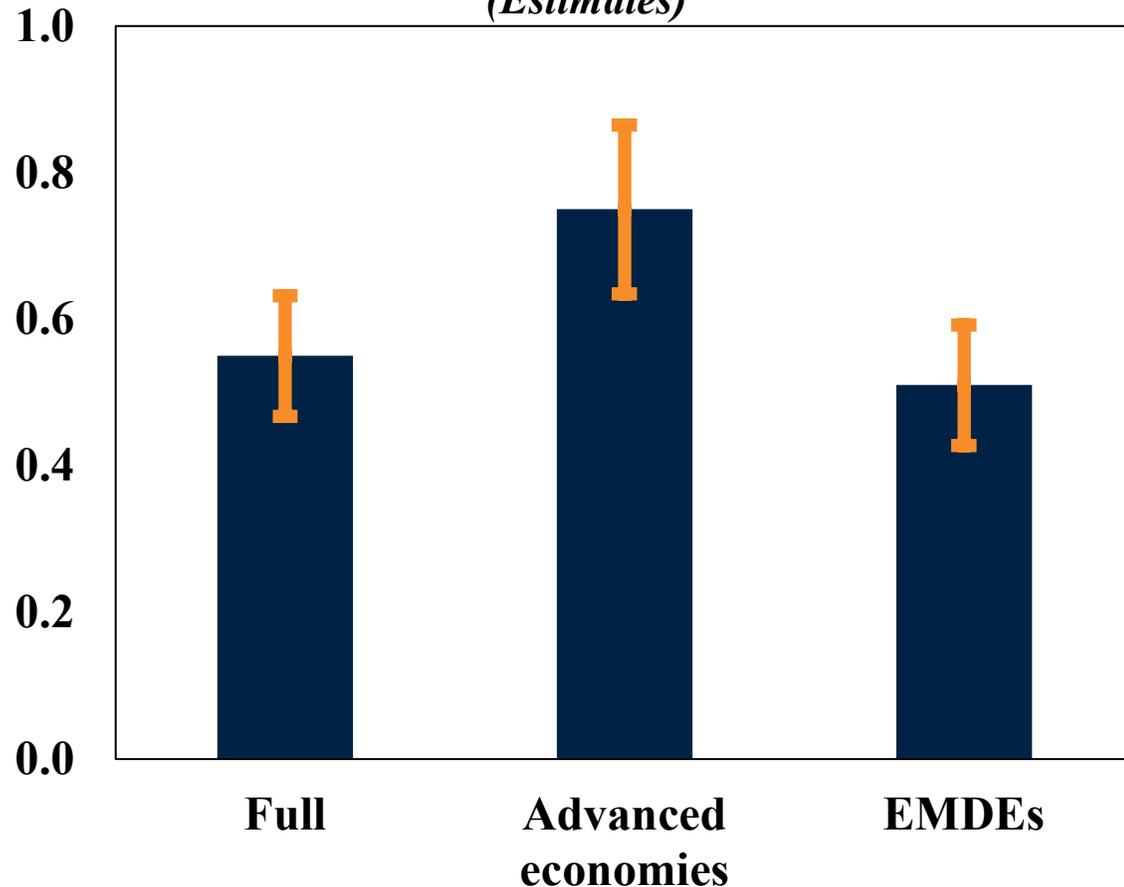
Source: Ohnsorge and Yu (2021).

Notes. Informal output are proxied by dynamic-general-equilibrium model-based estimates. Informal employment are proxied by self-employment. Left Panel. The bars show the correlation between the cyclical components of formal economy output (in year t(-2), t(-1) and t(0)) and the cyclical components of informal economy output. “***” indicates statistical significance level at least at 10 percent. Right Panel. The bars show the percentage of cases where formal and informal economy business cycles are in the same phases. Business cycle phases and turning points (i.e., peaks and troughs) are defined as in Claessens et al. (2012).

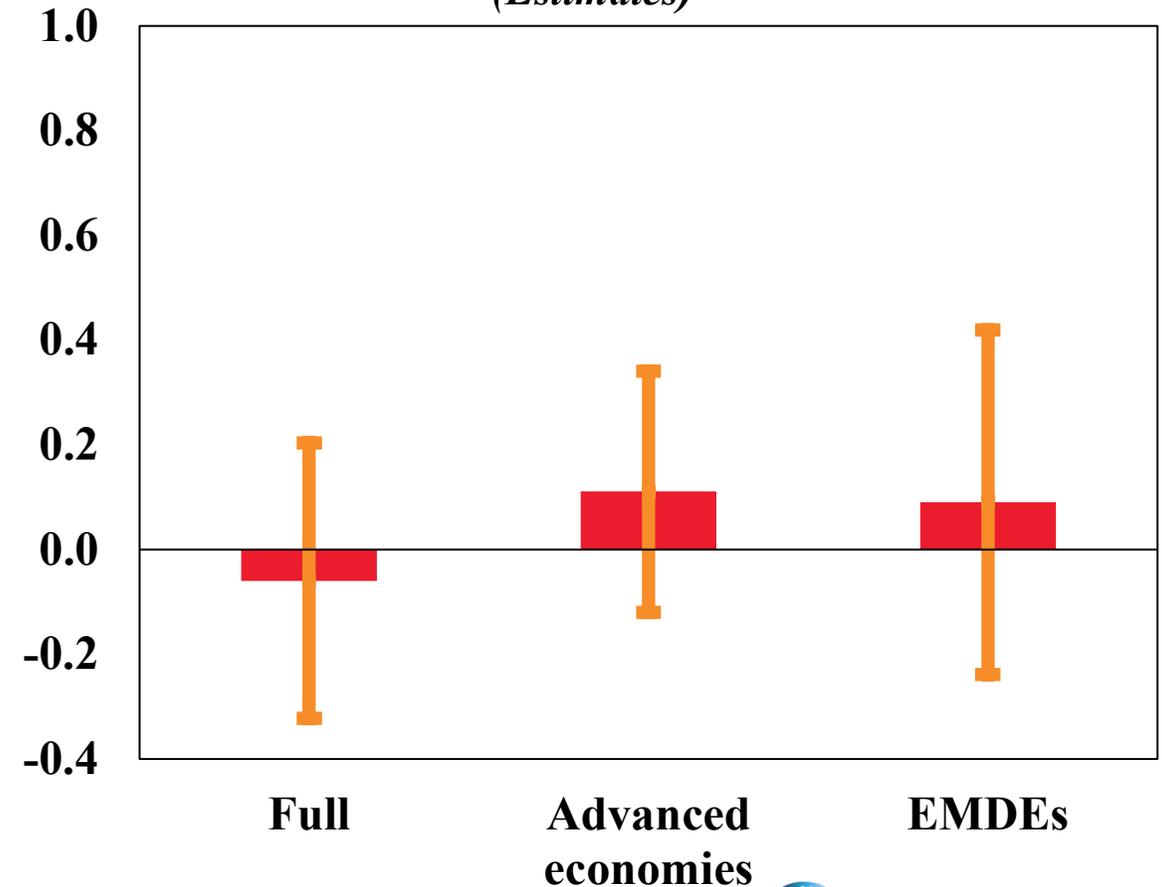
Formal Economy Business Cycles

“Cause” Movements in Informal Output, but not in Informal Employment.

Impact of movements in formal output on informal output
(Estimates)



Impact of movements in formal output on informal employment
(Estimates)



Source: Ohnsorge and Yu (2021).

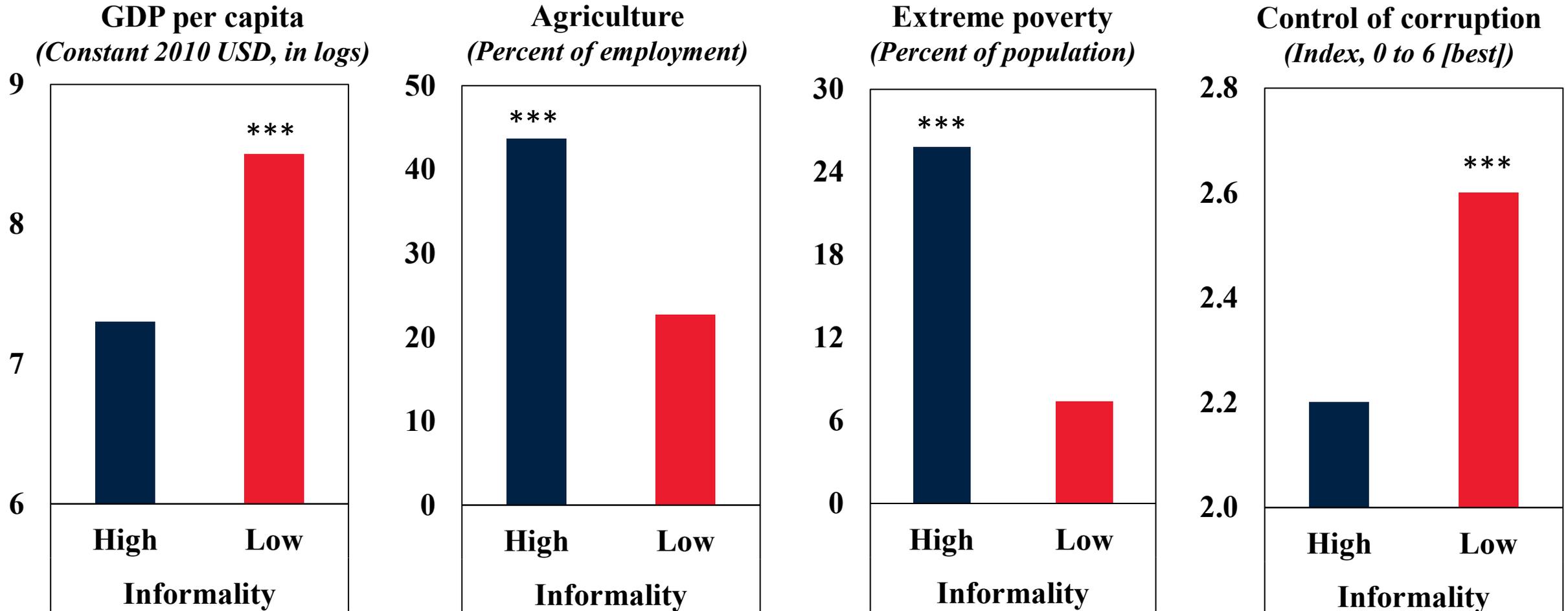
Left Panel. Data are for 1990-2018. The coefficient estimates (bars) and 90 percent confidence intervals (whiskers). The coefficient estimates measure the impact of a 1 percent increase in formal output above trend on the deviation of informal output (measured as DGE-based informality). Right Panel. Data are for 1990-2018. The coefficient estimates (bars) and 90 percent confidence intervals (whiskers). The coefficient estimates measure the impact of a 1 percent increase in formal output above trend on the deviation of informal output (measured as self-employment).

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- 3 Which development challenges are associated with informality?** *Higher poverty and inequality, poorer human capital and infrastructure, lower productivity and wages.*
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Correlates of Informality in EMDEs

Lack of Development; Large Agriculture; Extreme Poverty; Weak Governance

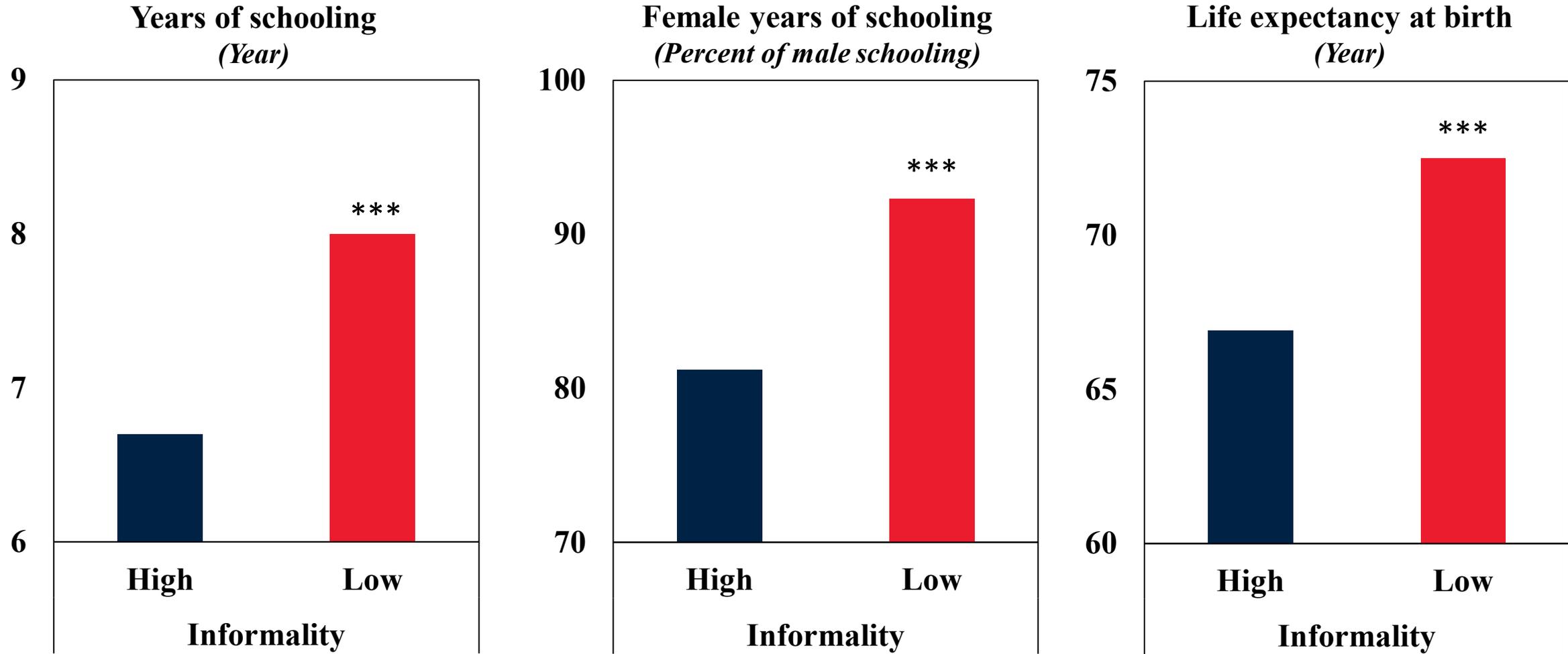


Sources: *International Country Risk Guide (ICRG)*; Ohnsorge and Yu (2021); World Development Indicators.

Notes. “High informality” and “Low informality” refer to EMDEs with above-median and below-median DGE-based informal output over 1990-2018. Bars show averages of respective groups over 1990-2018 (unless otherwise specified) and *** denotes significant at 10 percent. First Panel. GDP per capita is in constant 2010 USD and expressed in logs. Second Panel. Employment in agriculture in percent of total employment. Third Panel. Extreme poverty defined at \$1.90 a day (2011 PPP) from latest year available. Fourth Panel. Control of corruption from ICRG indicators.

Human Development When Informality Is High

Less Education Attainment; Lower Life Expectancy

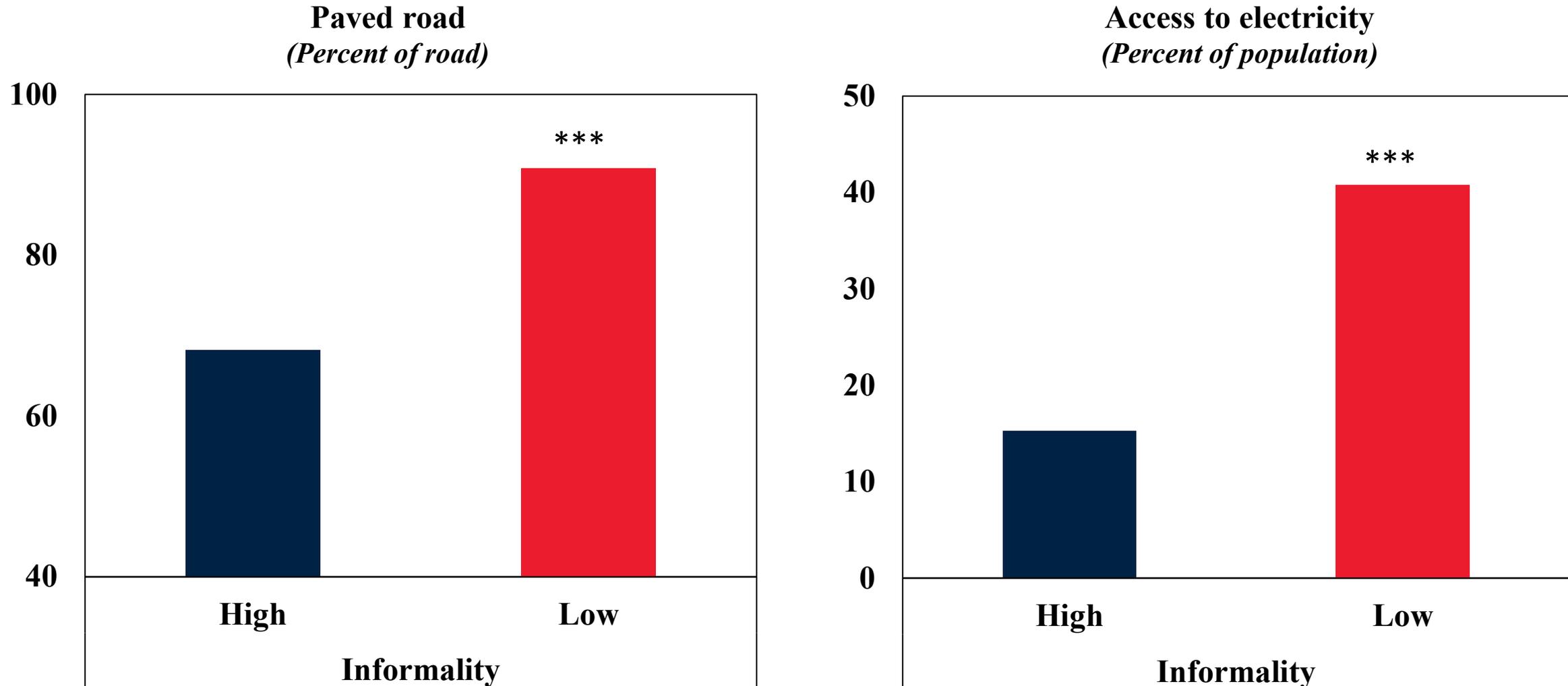


Sources: Ohnsorge and Yu (2021); Sachs et al. (2018); Sachs et al. (2020); World Bank (World Development Indicators).

Note. "High informality" ("Low informality") are emerging market and developing economies (EMDEs) with above-median (below-median) dynamic general equilibrium model-based informal output measure over the period 1990-2018. *** indicates significantly (at 10 percent level) higher values. Bars show simple averages for the latest year available.

Public Infrastructure When Informality Is High

Lack of Paved Roads and Access to Electricity

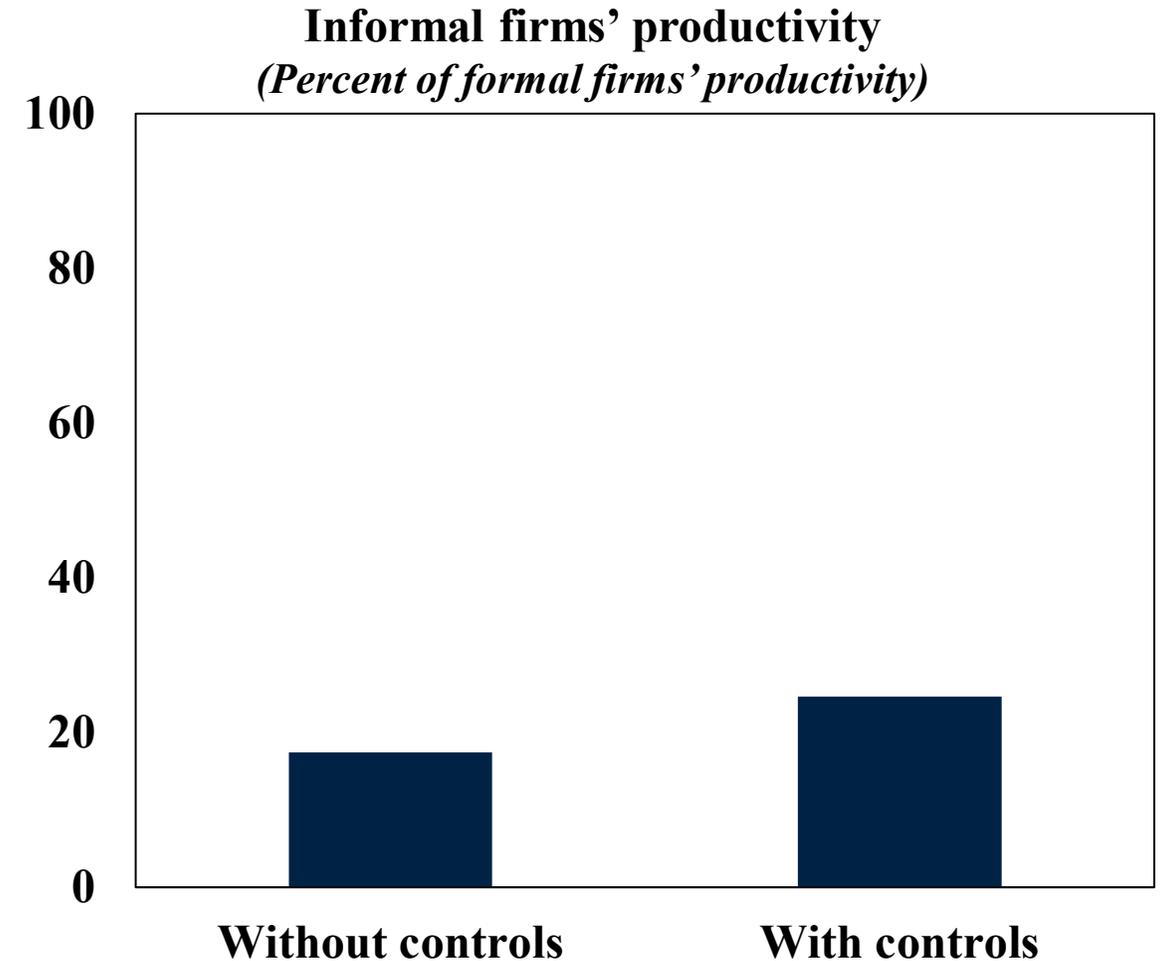
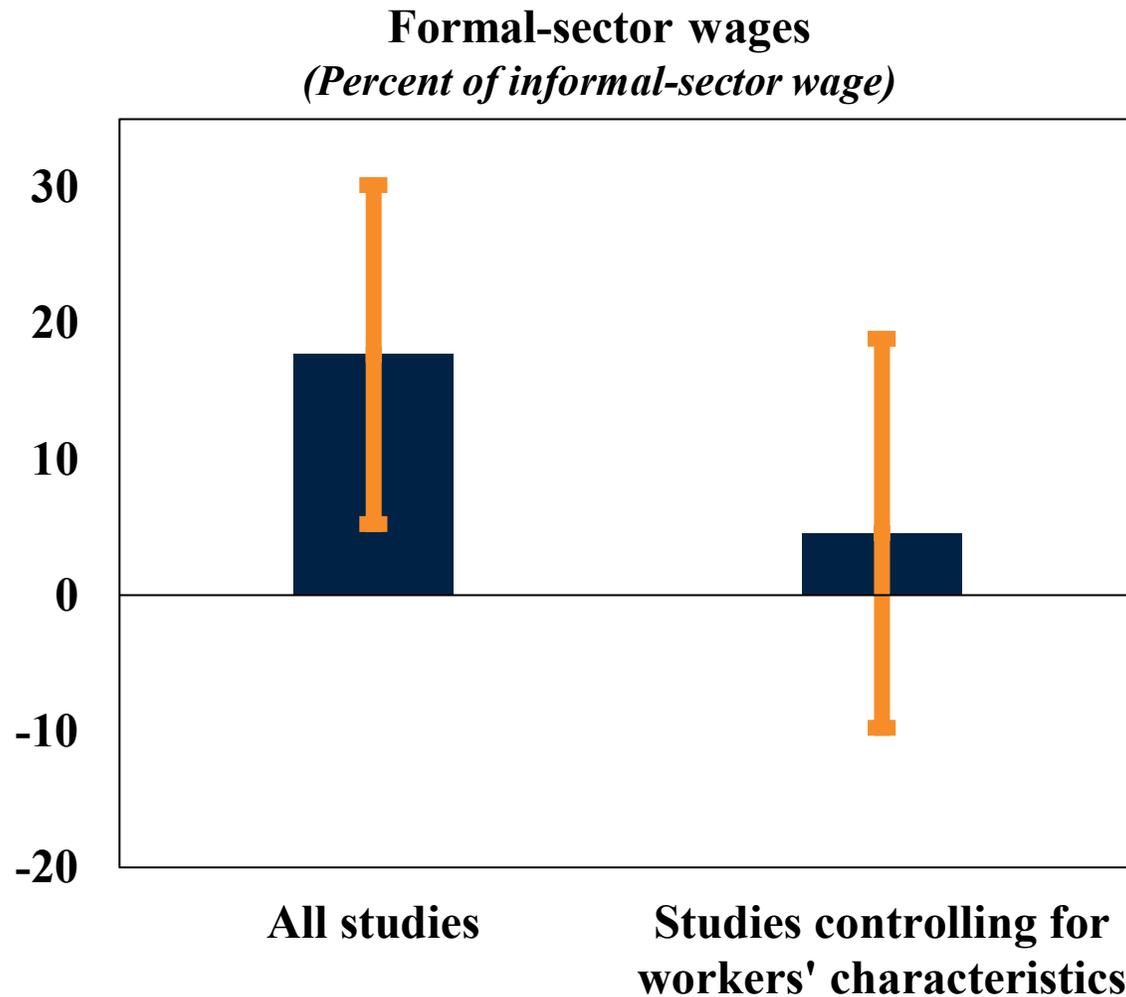


Source: Ohnsorge and Yu (2021).

Notes. "High informality" ("Low informality") are emerging market and developing economies (EMDEs) with above-median (below-median) dynamic general equilibrium model-based informal output measure over the period 1990-2018. *** indicates significantly (at 10 percent level) higher values. Left Panel. Bars show simple averages for 1990-2018. Right Panel. Bars show simple averages for the latest year available.

Informal Workers and Firms

Lower Paid, Lower Productivity

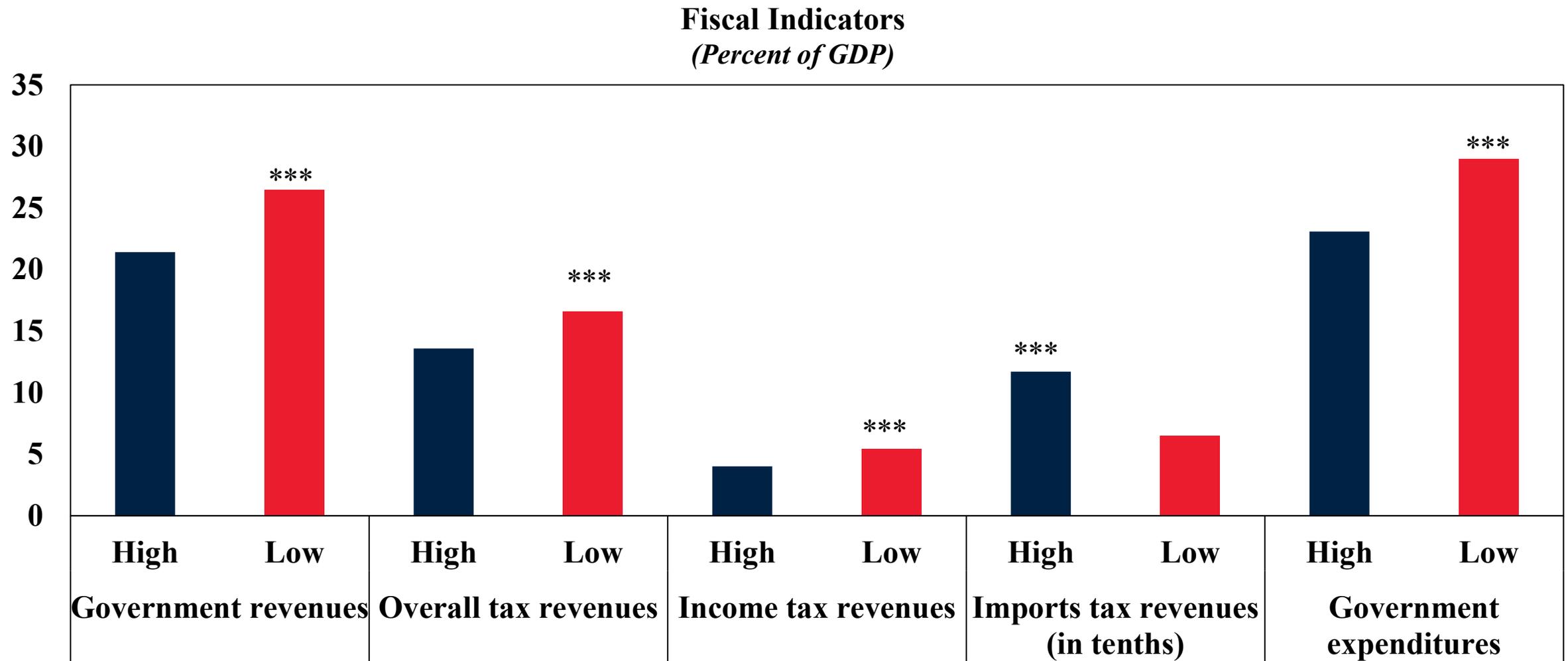


Source: World Bank.

Left Panel. Average formal wage premium. A meta regression is estimated based on 83 individual estimates of informal-formal wage gaps for which study standard errors were reported. Informal-formal wage gap for studies that control for workers' characteristics is a sum of a regression coefficient on a dummy variable that indexes studies which control for unobserved characteristics and a constant. The whiskers show the 90 percent confidence intervals. Right Panel. Bars show the average ratio of informal firms' productivity over formal firms' productivity, with and without controlling for other firm characteristics. Data are from World Bank's Enterprise Surveys (135 countries; 2008-2018). Labor productivity is proxied by annual sales per worker in 2009 U.S. dollars.

Fiscal Outcomes When Informality Is High

Lower Government Revenues; Less Redistributive Taxes



Source: Ohnsorge and Yu (2021).

Note: Fiscal indicators are 2000-18 averages and in percent of GDP. Sample includes about 70 nonenergy exporting EMDEs with populations above 3.5 million people. “High” and “Low” are the half of EMDEs with the highest and lowest informality by the share of informal output (as measured by the DGE methodology) in percent of official GDP. “***” indicates significantly (at 10 percent level) higher values.

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Reasons for Informal Activity

Necessity

Regulatory Avoidance

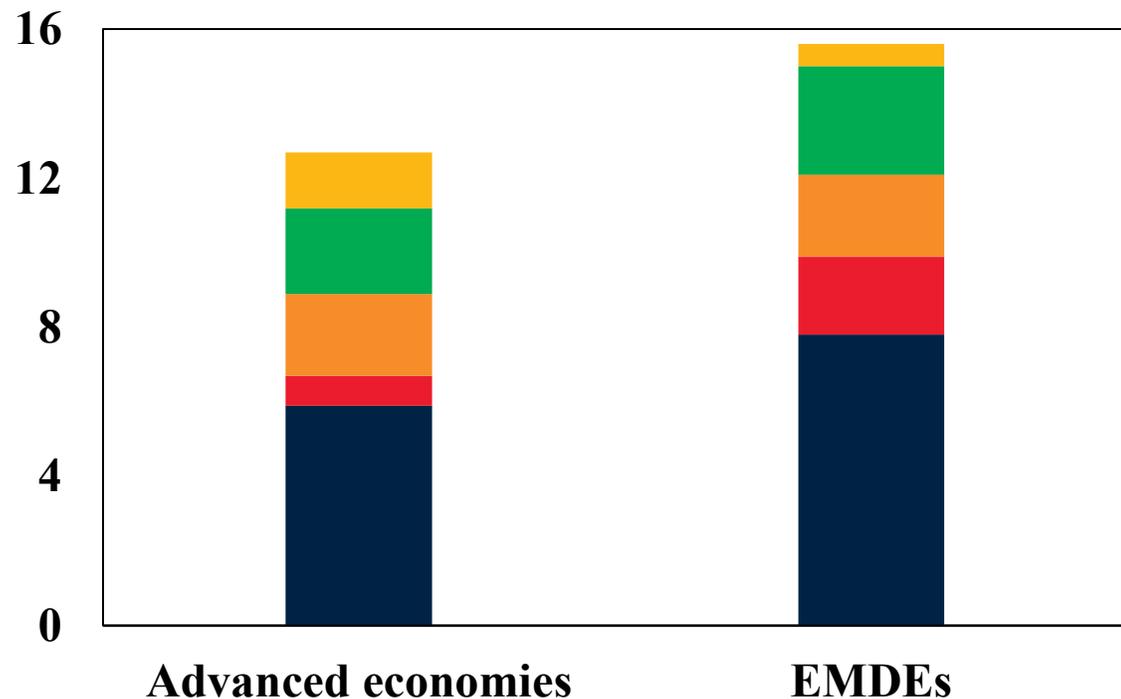


Policy Experience

Improvements; But Some with Unintended Consequences

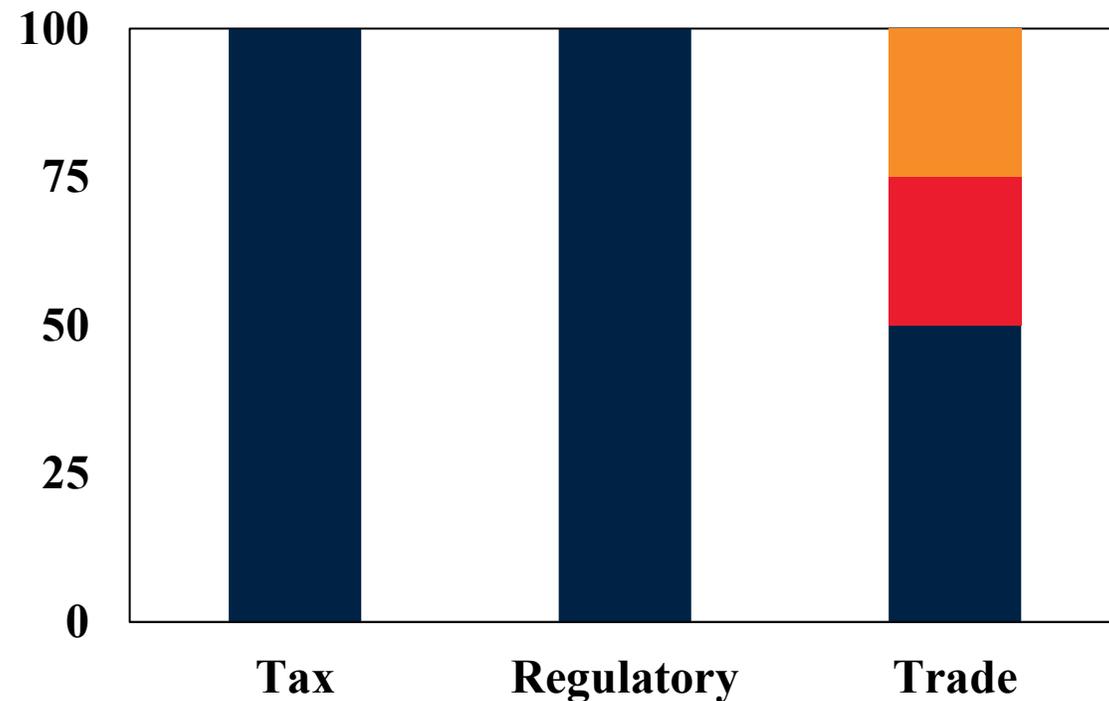
Reforms in advanced economies and EMDEs, 2008-18
(Number of reforms)

- Labor market regulation
- Starting a business
- Paying taxes
- Getting credit
- Other reforms



Share of policies delivering expected informality outcomes
(Percent)

- Yes
- No
- Mixed

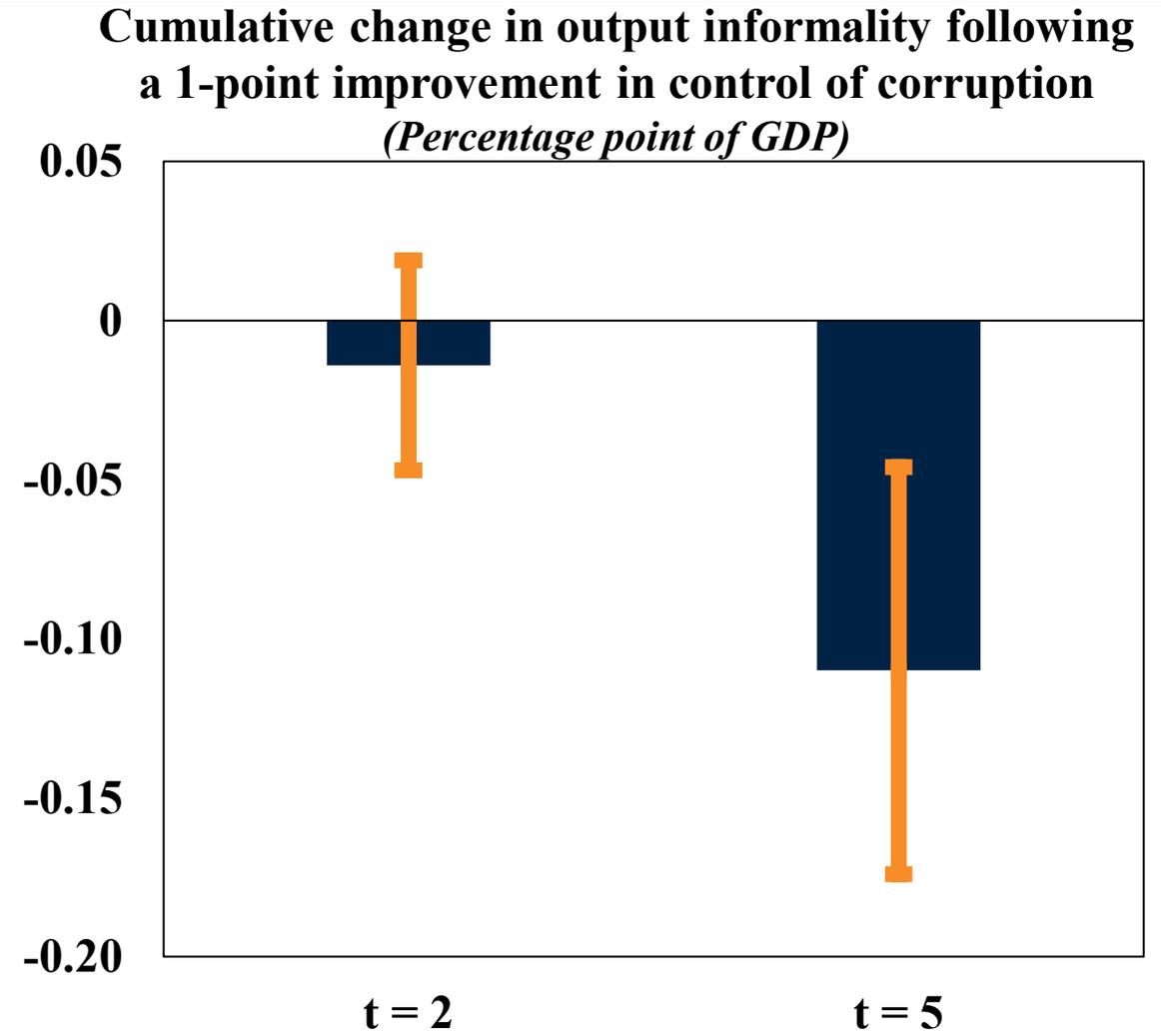
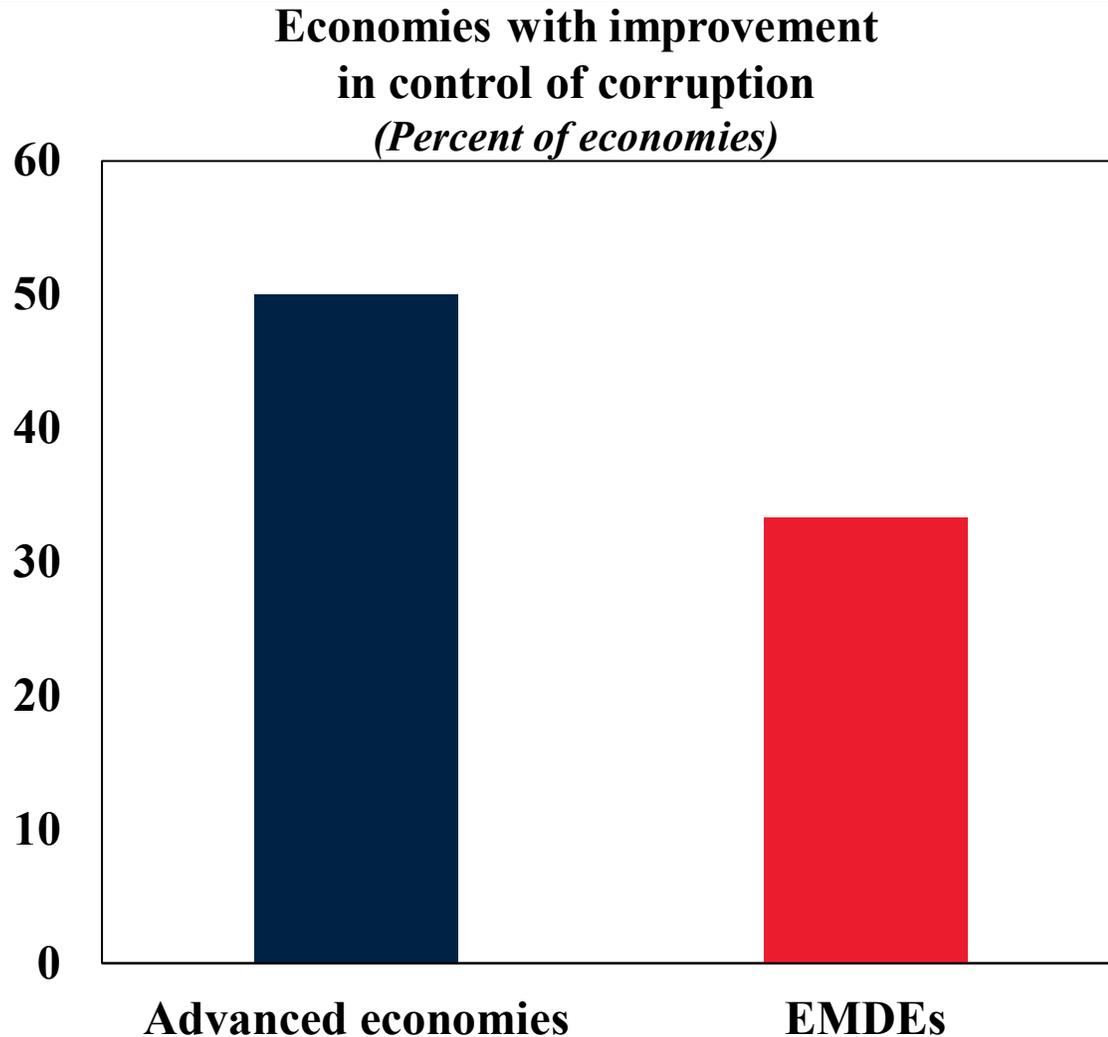


Sources: World Bank (2019); Ohnsorge and Yu (2021).

Left Panel. The average number of policy reforms that have been implemented in an economy over 2008-2018 and are regarded as “improvement” in the ease of doing business or “neutral” (which only applies to “labor market regulation”) by *Doing Business* 2008-18. Right Panel. “Yes (No)” means that the outcome of a policy intervention is (not) consistent with the expected impact. “Mixed” means that the outcome of a policy intervention varies over time. The expected impacts of reforms are: reduced tax burden would reduce informality; increased labor market flexibility would reduce informality; lowered entry and exit barriers in formal sector would reduce informality; and trade liberalization would increase informality due to intense foreign competition that disrupts existing formal firms.

Governance

Improvements Followed by Declines in Informality



Sources: *International Country Risk Guide*; Ohnsorge and Yu (2021).

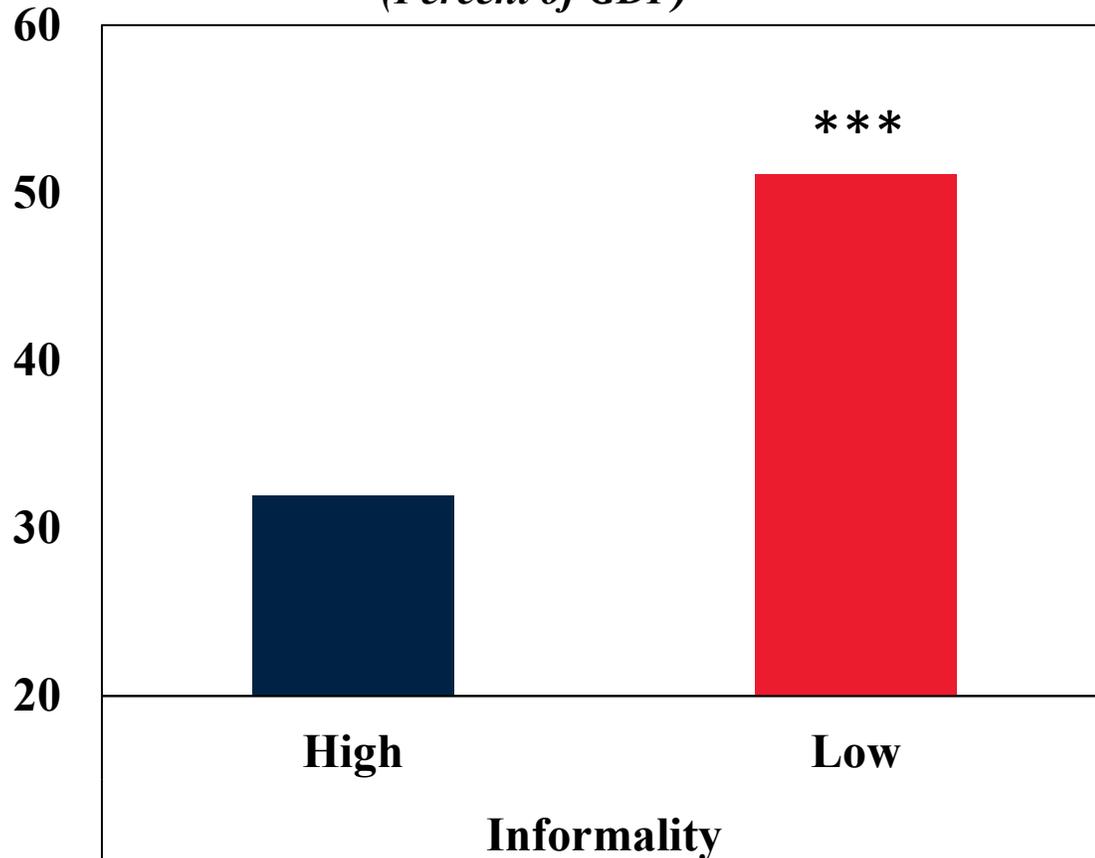
Left Panel. Bars show the shares of economies with improved control of corruption between 2010 and 2018. Right Panel. The bars show the estimated cumulative change in output informality (proxied by DGE-based informal output in percent of official GDP) over two years (t=2; five years, t=5) following 1-point improvement in control of corruption. Data are for EMDEs. Whiskers show 90 percent confidence intervals

Financial Development

Better Access to Finance Followed by Declines in Informality

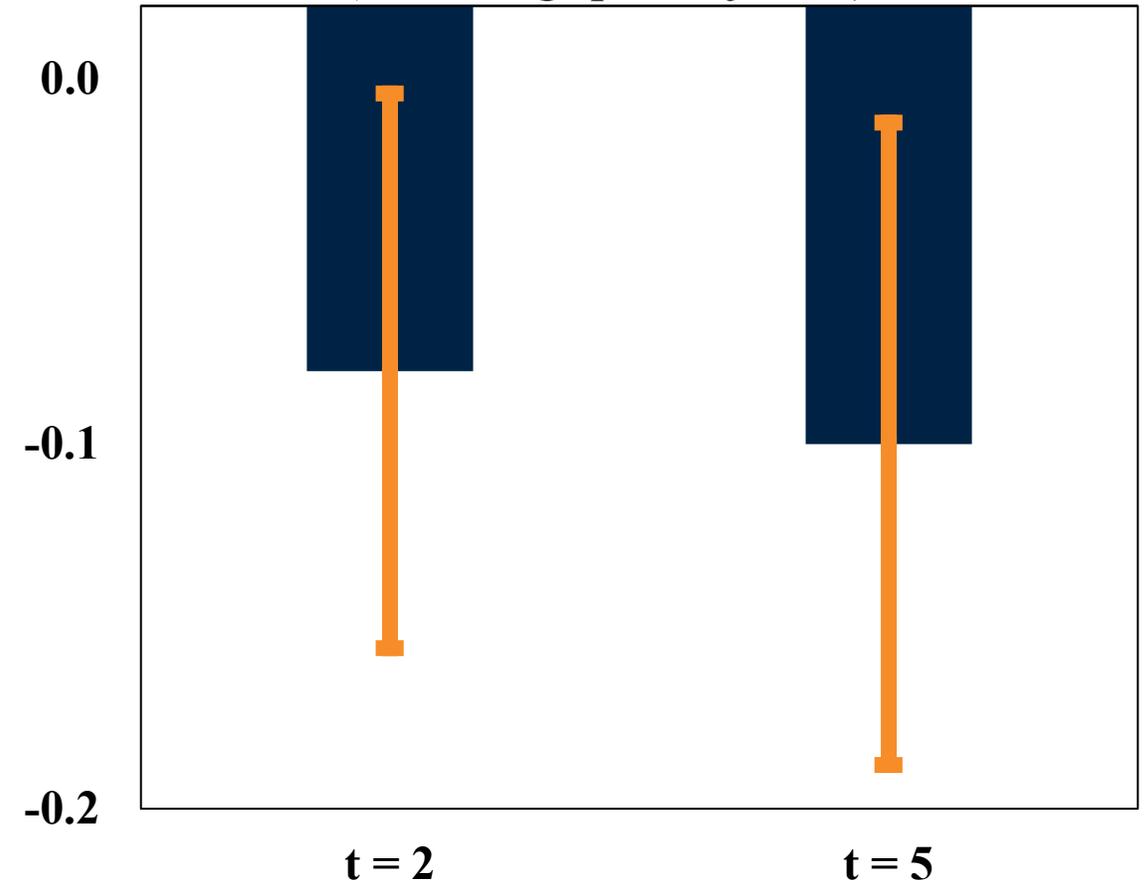
Domestic credit to the private sector

(Percent of GDP)



Cumulative change in output informality following a 20-unit increase in domestic credit to the private sector

(Percentage point of GDP)



Source: Ohnsorge and Yu (2021).

Left Panel. Bars show simple averages for EMDEs with above-median output informality (proxied by DGE-estimates in percent of GDP; “High informality”) and those with below-median output informality (“Low informality”) over the period 2010-2018. Right Panel. The bars show the estimated cumulative change in output informality (proxied by DGE-based informal output in percent of official GDP) over two years (t=2; five years, t=5) following a 20-percentage-point-of-GDP improvement in domestic credit to the private sector. Data are from EMDEs. Whiskers show 90 percent confidence intervals

Policies to Cope with Informality

Tailored; Complementary; Longer-Term

1 Tailor policies to country-specific circumstances

- Depending on the underlying drivers, including lack of development, heavy-handed regulations, and poor governance

2 Implement a package of complementary policies

- Comprehensive reforms covering fiscal, regulatory, and trade policies
- Supportive policies for vulnerable groups

3 Aim at long-term development outcomes

- Invigorate private sector activity and productivity (governance, finance, and human capital)
- Level the playing field for all workers and firms (streamline regulations)

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Questions & Comments

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