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Informality as an Anti-Measure of Prosperity

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Informality as an anti-measure of prosperity

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In developing economies, the informal sector can account for upwards of 60 percent of GDP and over 90 percent of employment. Understanding the role of a country's informal economy in its path to prosperity is a task made difficult by the sheer amount of goods and service provision occurring outside the remit of government regulation and oversight. For those engaged in informal employment, the informal sector is a source of livelihood but also a precarious work situation lacking in the social protections afforded by formal employment.[2]

This chapter presents three data sources on informal economy size from the World Bank's Prospects Group, World Economics, and International Labour Organization's ILOSTAT. It highlights cross-country trends in informal economy size over the past quarter century. The datasets presented in this chapter show wide disparity in informal economy size by geographical region and income group, with significant variation among different countries within these categories. Countries in South Asia, Latin America and the Caribbean, and Sub-Saharan Africa show on average around a 20-percentage point larger share of informality in GDP than middle-income countries.

Disparities in informal employment by gender, with most countries showing higher shares of informal employment for women as compared to men, point to the need to study the impact of the informal economy on development through a gender lens. In contexts with larger informal economies, women tend to be even more highly represented as a proportion of the informal workforce. The correlation is weak, but it suggests there are additional determinants specifically of *women's* involvement in informal work—over and above the determinants of overall informality.

Definition and measurement

Inherently difficult to measure, a large part of the early literature on informality debated the definition of the informal sector. The productive view classified firms as informal based on characteristics like low productivity or small size. The legalistic view, which classifies firms and workers as informal when they operate at the margin of the state's legal guidelines on production and employment, has now emerged as the most widely accepted definition.[3] For the purpose of this chapter and the data sets presented, the informal economy refers to the collection of firms, workers, and productive activities that operate outside the state's legal and regulatory frameworks, and are hidden from official authorities.[4]

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[2] World Bank, *World Development Report 2019: The Changing Nature of Work*, World Bank Group, 2019, https://www.worldbank.org/en/publication/wdr2019.

[3] Guillermo E. Perry, William F. Maloney, Omar S. Arias, Pablo Fajnzylber, Andrew D. Mason, and Jaime Saavedra-Chanduvi, *Informality: Exit and Exclusion*. International Bank for Reconstruction and Development and World Bank, 2007, https://documents.worldbank.org/en/publication/documents-reports/documentdetail/326611468163756420/informality-exit-and-exclusion.

[4] Simeon Djankov, Rafael La Porta, Florencio Lopez-de-Silanes, and Andrei Shleifer, "The Regulation of Entry," *Quarterly Journal of Economics* 117, no. 1 (2002), 1–37; Friedrich Schneider, Andreas Buehn, and Claudio E.

Informal activity at the firm level can occur at the "extensive" margin, where firms do not formally register with the state or at the "intensive" margin, where formally registered firms supplement their labor force by employing workers informally. It is important to note that informal employment is not limited to the informal sector: informal employment can occur within the formal sector as well, with enterprises structuring employment in ways that avoid legal regulations like the minimum wage or commitments to providing employment benefits.

With the informal economy existing outside the realm of government regulation and hence outside many formal measurement practices that capture output and employment in the economy, it remains a nebulous concept that resists precise measurement. New forms of digital work and technological developments have also led to the creation of jobs and output that are not yet recognized in existing formal guidelines of economic activity measurement, causing further difficulties.[5] The need for a uniform comprehensive statistical framework for measuring the informal economy is imperative to aid cross-country comparisons and empirical analysis.[6]

The multiple accepted measures and proxies for informal economy size can be broadly divided into two categories: indirect model-based methods, and direct survey-based methods. Indirect measures such as the Multiple Indicators Multiple Causes (MIMIC) method or the dynamic general equilibrium (DGE) are derived from model specifications that incorporate more readily observable input variables like GDP per capita, or the share of direct taxation in overall taxation, or model parameters like capital labor stock or private consumption. They also often require assumptions to be made about base year values upon which the remaining time series of estimates are constructed. Conversely, direct measures tend to be survey-based and often labor-focused, looking at self-employment percentages in total employment, the percentage of employment outside the formal sector, or the percentage of informal employment. While free of specific model assumptions, these estimates are often difficult to compile and require intensive surveys to be conducted. A drawback of self-employment or informal employment data as a measure of informality is the data paucity for advanced economies, which hampers cross-country time-series analysis.

Other measures of informal economy size in the literature—although not available in as rich a panel data set as described below, and often only present in single-country contexts—include indirect measures such as the discrepancy between national expenditure and income statistics, the discrepancy between official and actual labor force, the use of electricity over and above the use suggested by formal-sector production, and computationally challenging measures such as estimation of the consumption-income gap of households.[7]

For the purposes of this chapter we use the simplest available methods, which also have the widest country coverage.

Montenegro, "New Estimates for the Shadow Economies all over the World," *International Economic Journal* 24, no. 4 (2010), 443–61.

[5] World Bank, *World Development Report 2019.*

[6] UNECE (United Nations Economic Commission for Europe), INEGI (National Institute of Statistics and Geography, Mexico), and International Monetary Fund (IMF), "In-Depth Review of Modeling the Informal/Unobserved Economy," (Discussion paper at conference: Conference of European Statisticians – Meeting of the 2021/2022 Bureau, September 22, 2021, https://unece.org/sites/default/files/2021-10/03_In-depth%20review%20of%20measuring%20informal%20economy.pdf.)

[7] Djankov et al., "The Regulation of Entry."

Data description

World Bank Prospects Group Data

The World Bank's Prospects Group holds a comprehensive database of informal economic activity. The database focuses on measures that have strong cross-country and temporal coverage: it includes the twelve most used model-based and survey-based measures of informality and covers up to 196 economies (across various indicators) over the period 1990–2018.

The most complete data exist for DGE estimates (1991–2018), which present the size of a country's informal economy as a percentage of GDP. The DGE model considers how households trying to maximize utility will allocate labor between formal and informal economies, mapping the change in these allocations over time. Unlike survey data, due to the potential for calculating informal economy size using a clear theoretical basis and more readily available parameters, this method provides comprehensive country and year coverage. It is also useful due to applicability to policy experiments and projections.[8]

Some criticisms of the DGE framework remain, however, including:

- The DGE framework requires specific model assumptions about the form of production functions and household preferences in the economy, as well as assumptions about the relationship between formal and informal sector productivity.
- Estimates of the informal economy size are calculated with respect to base year estimates of informal economy size that must be obtained from an independent study. This risks sensitivity to the estimate of informal economy size found in the independent study.[9]
- Data availability, especially in the case of emerging markets and developing economies (EMDEs) may restrict the extent to which a DGE model maps all features of the informal economy. Often only a few stylized facts can be matched by the model.

It should be noted that in 2018, the last year for which any Prospects Group data are available, data are present for only 116 countries, with missing values concentrated in lower- and middle-income countries in Asia and Africa.

World Economics Quarterly Informal Economy Survey

World Economics (WE) conducts a Quarterly Informal Economy Survey, which combines the latest estimates of country-level informality from economists globally. Estimates for each country are combined into a simple average, with outliers removed from the data. Data are present for 155 countries (with the informal economy given as a percentage of GDP) on a yearly basis for the years 2000–21.

[8] 2016 version: Schneider, Friedrich G. and Buehn, Andreas, Estimating the Size of the Shadow Economy: Methods, Problems and Open Questions. IZA Discussion Paper No. 9820, 2016, http://dx.doi.org/10.2139/ssrn.2750303).

[9] Ceyhun Elgin and Oğuz Öztunalı, "Shadow Economies Around the World: Model Based Estimates" (working paper 2012/05, Bogazici University Department of Economics); Jane Ihrig and Karine S. Moe, "Lurking in the Shadows: The Informal Sector and Government Policy," *Finance and Development* 41, no. 2 (2004), 30–33.

ILOSTAT estimates by gender

It is also important to think about the gender aspect of informality and its relation to prosperity. A hierarchical segmentation is observed in the interaction between different types of informal work, levels of earnings, and poverty risk. Chen et al. place informal employers at the top of the ladder, with the highest earnings and lowest poverty risk, followed by own-account workers, employees, other informal wage workers, industrial outworkers/home-based workers, and—at the bottom—unpaid contributing family workers.[10] When considered alongside evidence that across most regions, women are more likely to work in the most vulnerable sections of the informal economy (e.g., as domestic workers or at the lowest tiers of global supply chains) and in contexts where the most serious deficits of decent work can be found,[11] the need to study informality with a gender lens becomes clear.

ILOSTAT provides data for the period 1999–2021 for 104 countries (mainly EMDEs), with informal employment as a percentage of total employment presented by gender. There is a significant overrepresentation of data from the regions of Latin America and the Caribbean, Sub-Saharan Africa, and Europe and Central Asia—regions that tend to show higher levels of informality as compared to the global average. There is also a significant skew toward the later years, with the median observation in 2015. Some regions (Middle East and North Africa, South Asia, OECD, East Asia and Pacific) have no observations prior to the mid-2000s and hence presenting global trends in this period would be misinformative, reflecting only regions with significantly higher than average levels of informality. This data set is spliced with data from WIEGO for the year 2016, in order to incorporate estimates for OECD countries for at least one year. It is worth noting that there were some significant discrepancies between WIEGO estimates and ILOSTAT estimates for the year 2016, where both data sets included estimates for a particular country. This highlights the previous observation, that a more unified statistical framework for measuring informal economy size must be established.

Observed trends in informality

Both the World Bank DGE estimates and the WE data show a declining trend in informality over the past few decades.

DGE informality trends

The highest levels of informality are observed in Sub-Saharan Africa and Latin America and the Caribbean, in consensus with other studies and the broader literature. We see a decline across regions, with the most significant reduction in informality observed in the South Asia and East Asia and Pacific regions. Cross-country rankings of informal output and employment, as calculated from the DGE estimates, are typically consistent with other indicators presented in the World Bank data set. Global average informality—the proportion of the economy

[10] Martha Alter Chen, *The Informal Economy: Definitions, Theories and Policies* (working paper no. 1, Women in Informal Employment Globalizing and Organizing (WIEGO), August 2012), http://www.wiego.org/publications/informal-economy-definitions-theories-and-policies; Martha Chen, Joann Vanek, Francie Lund, and James Heintz, *Progress of the World's Women 2005: Women, Work and Poverty*, United Nations Development Fund for Women (UNIFEM), 2005, http://www.unwomen.org/en/digitallibrary/publications/2005/1/progress-of-the-world-s-women-2005-women-work-and-poverty.

[11] Women in Informal Employment Globalizing and Organizing (WIEGO) and International Labour Organization (ILO), *Women and Men in the Informal Economy: A Statistical Picture*, 3rd ed., (Cambridge: WIEGO, 2018).

comprised of informal work—dropped 6 percentage points, from 34.7 percent in 1990 to 28.7 percent in 2017.

The declining global trend in informality between 1990 and 2018 is driven by sharp declines in the size of the informal economy in several regions: South Asia (12 percentage point reduction, from 39.7 percent to 27.7 percent); East Asia and Pacific (11.7 percentage point reduction, from 35.4 percent to 23.7 percent); Latin America and Caribbean (8.6 percentage point reduction, from 41.2 percent to 32.6 percent); and Sub-Saharan Africa (6.3 percentage point reduction, from 42.2 percent to 35.9 percent). In OECD countries or the Middle East and North Africa, the reductions in informality were more modest, at 3–4 percentage points over the same period.

Very few countries showed the opposite trend (i.e., a growing informal sector). Zimbabwe (5 percentage point increase), Tajikistan (14 percentage point increase), Central African Republic (3.4 percentage point increase), Comoros (5.7 percentage point increase), and Democratic Republic of Congo (4.5 percentage point increase) are notable exceptions. All these countries have experienced significant negative GDP fluctuations over the period of interest, caused by either serious political instability or civil wars—events that would lead to the erosion of the formal economy, potentially explaining why informality has increased in contrast to the global trend.[12]

Legal "families"—groups of countries categorized according to their legal origins: the basis from which their laws and institutions originate—often exhibit significantly different legal rules and approaches, which then have a significant influence on economic outcomes.[13] This could potentially be due to the colonial influence of some Western nations in lower- to middle-income countries.[14] For instance, countries that were colonized have tended to remain low- or middle-income—though it is not possible to draw a causal link—and there is a correlation between legal origin (a result of colonization) and subsequent economic development. Relevant to our purposes, there is a similar correlation between colonization/legal origin and the size of a country's informal economy. Higher levels of dispersion in informal economy size are seen in Latin America, Europe and Central Asia, and Sub-Saharan Africa, with the significant positive skew in Latin America and Central Asia likely driven by countries like Bolivia (62.9 percent) and Georgia (61 percent), which exhibit the highest values for informality in the data set.

World Economics' Quarterly Informal Economy Survey trends

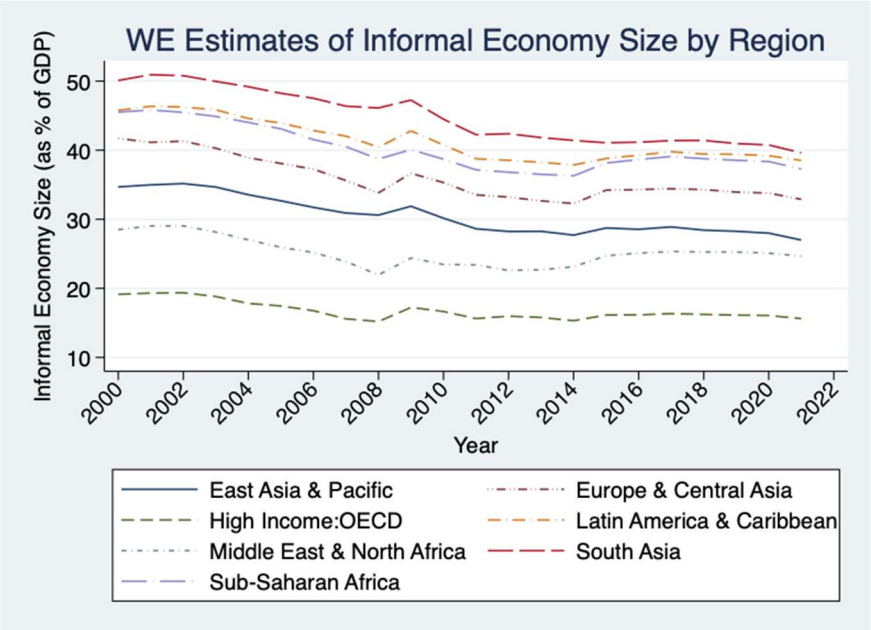
World Economics' estimates of the size of informal economies show a global average decline of around 7 percentage points (reduction from 37 percent to 30.3 percent) between 2000 and 2021 (Figure 1).[15] A pronounced spike in informal economy size is observed around 2009 with the global average increasing almost 2% points in one year (potentially due to the global effects

[12] Dursun Peksen and Bryan Early, "Internal Conflicts and Shadow Economies," *Journal of Global Security Studies* 5, no. 3 (July 2020), 463–77.
[13] Rafael La Porta, Florencio Lopez-de-Silanes, and Andrei Shleifer, "The Economic Consequences of Legal Origins," *Journal of Economic Literature* 46, no. 2 (2008), 285–332.

[14] Daron Acemoglu and James A. Robinson, "Economic Backwardness in Political Perspective," *American Political Science Review* 100, no. 1 (February 2006), 115–31.
[15] World Economics, "Informal Economy Sizes: Informal Economy Size as a Percentage of GDP," accessed March 28, 2023, https://www.worldeconomics.com/Informal-Economy.

of the 2008 financial crisis, which may have pushed many into informal employment after job losses.[16] The DGE estimates do not reflect this shock, perhaps due to modeling assumptions. However, the World Bank MIMIC estimates do reflect this spike more closely.

Figure 1: The informal sector was declining before COVID-19



Source: World Economics, "Informal Economy Sizes: Informal Economy Size as a Percentage of GDP," https://www.worldeconomics.com/Informal-Economy.

The highest levels of informality are observed in (from higher to lower) South Asia, Latin America and the Caribbean, Sub-Saharan Africa, and Europe and Central Asia. Note that there is a difference in regional ordering of average informal economy size observed between the World Bank and World Economics data sets (the World Bank estimates order the regions as follows: Sub-Saharan Africa, Latin America and the Caribbean, Europe and Central Asia, and South Asia). The World Economics estimates show a higher informality rate for South Asia, Latin America and the Caribbean, and Sub-Saharan Africa at the beginning of the twenty-first century as compared to the World Bank DGE estimates, along with a more gradual decline over the two decades following.

Similar to the World Bank DGE estimates, the global decline in informality in the World Economics data seems to be driven by declines in South Asia (10.5 percentage point reduction, from 50.1 percent to 39.6 percent), Latin America (7.2 percentage point reduction, from 45.7 percent to 38.5 percent), Sub-Saharan Africa (8.3 percentage point reduction, from 45.5 percent to 37.2 percent) and Central Asia (8.9 percentage point reduction, from 41.7 percent to 32.8 percent) as opposed to OECD countries and the Middle East and North Africa which show moderate declines of around 4 percentage points. Almost no instances of increasing country-level informality are observed in this data set, with Libya, the Bahamas, and Gabon being

[16] Erica Bosio, Simeon Djankov, Edward L. Glaeser, and Andrei Shleifer, "Public Procurement in Law and Practice," *American Economic Review* 112, no. 4 (April 2022), 1091–1117.

exceptions with very moderate increases in the 2 percentage point range. This difference with the World Bank DGE estimates could be due to the fact the countries experiencing increases in informality in the previous data set experienced their periods of political instability largely in the nineties, prior to the time period for which data are available in the World Economics survey.

The World Economics data show similar trends as the DGE data when ordering countries by legal origin, with French and English legal-origin countries exhibiting the highest levels of informality.

Grouping by income across regions, lower-middle-income countries show the greatest decline in informality at 9.1 percentage points (46.2 percent to 37.1 percent), low-income countries show an 8 percentage point decline (45.7 percent to 37.7 percent), upper-middle-income countries show a 6.9 percentage point decline (40.4 percent to 33.5 percent) and high-income countries show around a 4.2 percentage point decline (22.5 percent to 18.3 percent). This result matches documentation in the literature of a strong correlation between per capita GDP and informal economy size.[17]

ILOSTAT estimates by gender trends

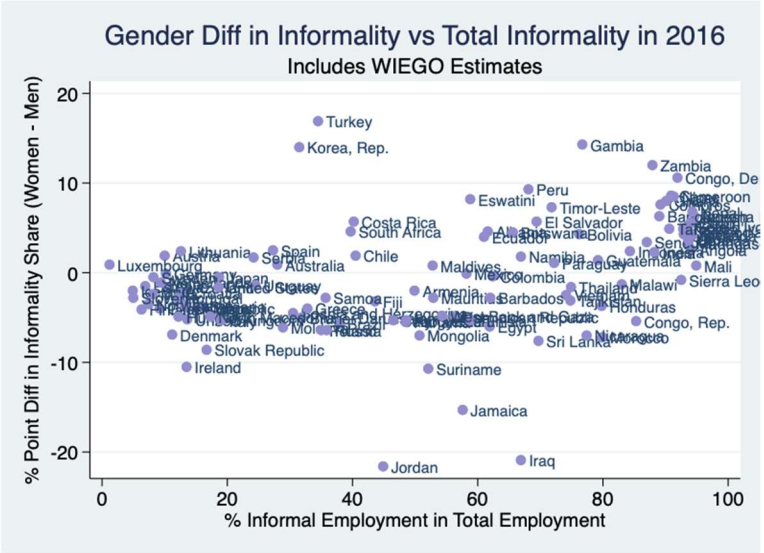
We see higher levels of female informal employment in Sub-Saharan Africa throughout the 2000–2020 period, with both male and female informal employment increasing slightly over the course of the sample. This is particularly relevant as the data for this region are relatively rich. Conversely, Latin American and Caribbean countries show little to no difference in informal employment rates by gender. Europe and Central Asia show a rapid convergence between female and male informal employment rates, with very little difference by gender, after 2015. It is difficult to comment on trends observed for South Asia, OECD countries, and Middle East & North Africa due to data paucity—the aggregate estimates tend to be dominated by a few countries in each category. For example, in eight of fourteen years the estimates for Middle East and North Africa are driven only by Egypt and the West Bank (Gaza Strip); some countries (e.g., Bolivia, South Africa) have more data available whereas some countries only present once over the entirety of the time period.

Nordic countries, which represent the Scandinavian legal origin group, are absent from this data set. Convergence observed in the French legal origin category is likely driven by countries in Europe and Central Asia (seventy-eight of ninety-one countries in the latter group are of French legal origin), with the other major category being Latin American countries, which show a consistent lack of difference in informality rates by gender. German legal origin countries show higher rates of male informal employment as compared to women, an unusual observation in this data set. Countries with German legal origin are all based in East Asia and Europe and Central Asia.[18]

[17] ILO (International Labour Organization), *Women and Men in the Informal Economy: A Statistical Picture*, 2nd ed., International Labour Office, 2013.

[18] Bosio et al., "Public Procurement in Law and Practice."

Figure 2: Women's informality has its own determinants



Sources: "Women, Business and the Law," World Bank, https://wbl.worldbank.org/en/wbl; "Statistics on the Informal Economy," ILOSTAT, https://ilostat.ilo.org/topics/informality.

A weak positive correlation was observed for 2016 (including the spliced data) between higher level of overall informality and a higher level of informality in women's employment as compared to men (Figure 2). When it comes to legal barriers to work, it might be assumed that if these are higher for women as compared to men (or conversely, if there is a lack of legal protections for women) then a greater percentage of women might work in the informal sector, outside these legal constraints. For example, if there are laws preventing night-work for women, then night shifts in legal enterprises will be unavailable to them; so we might expect to find women moving to work in informal enterprises, beyond those laws. Or, another example: if there is no maternity leave provision in law, more women will need to drop out of formal employment; we would expect to see them increasingly involved in "family labor" or in informal part-time work instead. However, in a somewhat surprising finding, minimal or zero correlation was observed between the rate of female informal-sector employment[19] and the WBL (World Bank Women, Business and the Law) index,[20] which captures each country's legal rights that affect people's access to work, and ranks countries on how equal these are for men and women.[22] This unexpected finding can perhaps be explained by turning the issue on its head and viewing the laws (or lack thereof) in the formal sector as proxies of social standards in the informal sector. For instance, referring back to the example above: just because there are no rules against night work in the informal sector, this does not mean that you are going to see large numbers of women working night shifts in the informal economy—because societal norms already restrict women's movement at night.

[19] Marie Hyland, Simeon Djankov, and Pinelopi Koujianou Goldberg, "Gendered Laws and Women in the Workforce," *American Economic Review: Insights* 2, no. 4 (December 2020) 475–90.
[20] "Women, Business and the Law," World Bank, accessed March 29, 2023, https://wbl.worldbank.org/en/wbl.
[22] Simeon Djankov, Tim Ganser, Caralee McLiesh, Rita Ramalho, and Andrei Shleifer, "The Effect of Corporate Taxes on Investment and Entrepreneurship," *American Economic Journal: Macroeconomics* 2, no. 3 (July 2010), 31–64.

Informality and prosperity

A large body of evidence documents the presence of larger informal sectors in countries with lower GDP per capita, weaker GDP growth, lower investment and productivity levels, less financial sector development and innovation, and higher poverty. In 2020, EMDEs with above-median informality (using World Bank DGE estimates), on average, ranked around 110 out of 166 in their achievement of the UN Sustainable Development Goals (SDGs), around 20 places lower than EMDEs with below-median informality. A close to 20-percentage point differential in the proportion of the population living in extreme poverty was also observed between the two groups.[23] These findings beg the question of whether the informal sector serves as a barrier to growth or is a symptom of underdevelopment.

An important potential channel of underdevelopment is the lower productivity of the informal sector. A large literature attests to the fact that informal firms tend to be smaller in terms of labor employed and revenue generated, and that they are less efficient. Estimates of the productivity differential between informal- and formal-sector firms range from 30 to 216 percent.[24] Amaral and Quintin formulate a model where in the presence of a contract enforcement gap between sectors, employers with higher optimal scales of production choose to operate within the formal sector to gain access to formal financing.[25] They suggest that managers only choose to enter the formal sector when they perceive returns to financial access and the scaling opportunities it provides as exceeding additional tax and regulatory costs. Consequently, formal-sector firms are found to operate at higher physical capital-to-employment ratios. Other explanations for the sectoral productivity differential include a greater informal-sector reliance on unskilled labor[26] and the backward technologies employed by informal firms.[27]

[23] Franziska Ohnsorge and Shu Yu, eds., *The Long Shadow of Informality: Challenges and Policies*. (Washington, DC: World Bank, 2022).
[24] Perry et al., *Informality: Exit and Exclusion*; Rafael La Porta and Andrei Shleifer, "The Unofficial Economy and Economic Development," *Brookings Papers on Economic Activity* 2008 (fall 2008), 275–352; Rafael La Porta and Andrei Shleifer, "Informality and Development," *Journal of Economic Perspectives* 28, no. 3 (summer 2014), 109–26.
[25] Pedro S. Amaral and Erwan Quintin, "A Competitive Model of the Informal Sector," *Journal of Monetary Economics* 53, no. 7 (2006), 1541–53.
[26] Sebastian Galiani and Federico Weinschelbaum, "Modeling Informality Formally: Households and Firms," *Economic Inquiry* 50, no. 3 (2012), 821–38.
[27] Boyan Jovanovic, "Selection and Evolution of Industry," *Econometrica* 50, no. 3 (May 1982), 649–70.

These observations provide some support for the Dualist school of thought, which sees the informal and formal economies as separate entities, operating almost tangentially.[28] By this theory, informal enterprises do not compete with formal enterprises and have not only separate production processes and inputs but separate consumer bases. This view predicts a slow movement towards formality as a country develops and that a population growth rate that outstrips the creation of new economic opportunities will not result in the reallocation of labor from informal to formal sectors. When population growth outstrips growth in per capita income, the absorption of the labor force is undertaken by the informal economy, and the share of formal employment will decline. Human capital growth has the opposite effect, expanding the formal sector and improving its ability to absorb labor.[29]

This view posits that the formal sector holds the key to economic growth and as this growth picks up, it absorbs new generations of workers into the formal sector, shrinking the informal sector. A potential explanation for the duality view is that informality is a survival strategy for low-skilled entrepreneurs who could not bear the additional cost of formality.[30]

A pushback against the duality view is presented by Maloney in the Mexican context[31] and by Ulyssea in the Brazilian context.[32] They provide evidence to show an overlap in productivity distributions for firms in both the informal and formal sectors and a lack of a threshold firm size at which formality becomes more likely. That is, there is a lack of evidence of a "missing middle" in firm-size distribution between the formal and informal sectors. This evidence of a productivity continuum among formal- and informal-sector firms conflicts with the dualist claim of the two sectors catering to separate and non-competing markets.

The widely documented formal/informal-sector wage gap—which persists even when observable differences in worker profiles are controlled for—is another potential indicator of lower informal-sector productivity or even exploitation of workers.[33] Ulyssea, however, finds that when controlling for firm characteristics in Brazil (assuming there is positive assortative matching between firms and workers, which would control for selection based on worker quality as well) this wage differential vanishes.[34] These results suggest that (*a*) self-selection is one of the main drivers of the wage gap between observably equivalent workers, and (*b*) conditional on skills, formal and informal workers perform the same tasks within the firm.

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[28] W. Arthur Lewis, "Economic Development with Unlimited Supplies of Labor," *Manchester School of Economic and Social Studies* 22, no. 2 (1954), 139–91; Alexander Gerschenkron, *Economic Backwardness in Historical Perspective* (Cambridge: Harvard University Press, 1962).

[29] La Porta and Shleifer, "Informality and Development."

[30] Amadou Boly, "On the Short- and Medium-Term Effects of Formalisation: Panel Evidence from Vietnam," *Journal of Development Studies* 54, no. 4 (2018), 641–56; Gabriel Ulyssea, "Firms, Informality, and Development: Theory and Evidence from Brazil," *American Economic Review* 108, no. 8 (August 2018), 2015–47.

[31] William F. Maloney, "Does Informality Imply Segmentation in Urban Labor Markets? Evidence From Sectoral Transitions in Mexico," *World Bank Economic Review* 13, no. 2 (May 1999), 275–302.

[32] Ulyssea, "Firms, Informality, and Development."

[33] Sangeeta Pratap and Erwan Quintin, "Are Labor Markets Segmented in Developing Countries? A Semiparametric Approach," *European Economic Review* 50, no. 7 (2006), 1817–41.

[34] Gabriel Ulyssea, "Informality: Causes and Consequences for Development," *Annual Review of Economics* 12 (2020), 525–46.

Another view of the informal sector, popularized by de Soto, presents the informal sector as a source of potential productivity that needs to be unleashed by reducing entry barriers and high costs to formal registration.[35] This view connects the rise of informality to bad governance, which manifests as excessive and unnecessary regulation and deficient provision of public services. In this view, microentrepreneurs try to shirk the excessive costs of formal registration—that a small enterprise may not have the capacity to bear—by remaining in the informal sector. Informal-sector firms are viewed as competing with those in the formal sector, with some work finding a reduction in profitability for formal firms facing informal competition. The World Bank's nationally representative survey of registered firms in 135 countries over the period 2008–2018 found that around 55 percent of formal-sector firms reported competing with informal firms. The share of formal firms facing informal competition was 13 percentage points higher in EMDEs as compared to advanced economies, with smaller formal firms more likely to face competition. The literature documents that potential channels of reduced profitability for formal firms facing informal competition may include higher credit constraints.[36]

A final school of thought characterizes informal firms as deliberately sidestepping regulation in order to earn higher profits, and not pay taxes.[37] Ulyssea proposes a taxonomy of informal-sector firms in Brazil based on the above framework and finds that the proportion of firms fitting de Soto's view of pent-up productivity that could contribute to formal-sector growth is a meagre 9.3 percent.[38] Rather than viewing the above schools of thought as competing frameworks, he proposes that they simply represent different outcomes resulting from heterogeneous firms optimizing profits and survival chances given their specific circumstances.

Public finance capabilities and informality

Government revenues in EMDEs with above-median levels of informality are 5–12 percentage points of GDP below those with below-median informality.[39] The literature also points to the formation of a vicious cycle in which informality and subsequent tax avoidance make the provision of public goods—crucial to the effective functioning of markets—even harder for governments to provide (especially those in emerging markets and transition economies). These public goods include law and order/policing, the running of effective regulation and taxation institutions, and uncorrupted public administration. This results in convergence to a low-level equilibrium that affects growth in transition economies.[40] The low-level equilibrium is suboptimal because firms in the unofficial sector are said to be less productive than those in the official sector and have lower incentives to formalize due to low public goods provision. Johnson, Kaufman, and Shleifer also emphasize that market-supporting public goods are among the first to have funding cut when public finances are low, particularly where

[35] Hernando De Soto, *The Other Path: The Invisible Revolution in the Third World* (New York: Harper & Row, 1989).
[36] Isabelle Distinguin, Clovis Rugemintwari, and Ruth Tacneng, "Can Informal Firms Hurt Registered SMEs' Access to Credit?," *World Development* 84 (August 2016), 18–40.
[37] Santiago Levy, *Good Intentions, Bad Outcomes: Social Policy, Informality, and Economic Growth in Mexico* (Washington, DC: Brookings Institution Press, 2008).
[38] Gabriel Ulyssea, G. (2019).
[39] Ohnsorge and Yu, *The Long Shadow of Informality.*
[40] Simon Johnson, Daniel Kaufmann, and Andrei Shleifer, "The Unofficial Economy in Transition," *Brookings Papers on Economic Activity* 1997, no. 2 (1997), 159–239.

governments have weaker spending power and are increasingly influenced by specific industrial lobbies.[41]

The cyclicality of informal economy size and informal-sector employment have important implications for employment policy and for interventions targeting the informal economy. The reasoning behind a proposed countercyclicality of informal economy size is that when the formal economy experiences downturns, the lack of formal opportunities leads to movement into the informal sector, which is more flexible due to lack of regulation. The evidence on this is mixed and few cross-country studies exist that identify causal effects. One such study, by Ceyhun Elgin, finds evidence for the countercyclicality of informal economy size from a 152-country panel dataset (from the 1999 to 2007 estimates of Schneider, Buehn and Montenegro[42] on whose calculations the World Bank indirect model estimates are based) and uses this to suggest that informal economy size amplifies business cycles.[43] Further, Elgin argues that the fluctuation of informal-sector size during downturns has spillover effects for the rest of the economy through the fluctuation of the tax base, which informal-sector participants do not contribute to. Çiçek and Elgin posit that consequently, developing countries' ability to follow countercyclical fiscal policy may be hampered due to their large informal economies.[44] Conversely, Bosch and Maloney look at employment flow data from Brazil and Mexico and find that separation rates are actually higher in the informal sector during downturns and that flows of labor from formal to informal sectors are procyclical rather than countercyclical, throwing doubt on the view of the informal economy as absorbing excess labor or as a form of disguised unemployment during downturns.[45]

[41] Johnson, Kaufmann, and Shleifer, "The Unofficial Economy in Transition."
[42] Schneider, Buehn, and Montenegro, "New Estimates for the Shadow Economies . . ."
[43] Ceyhun Elgin, "Cyclicality of Shadow Economy," *Economic Papers* 31 (2012), 478–90.
[44] Deniz Çiçek and Ceyhun Elgin, "Cyclicality of Fiscal Policy and the Shadow Economy," *Empirical Economics*, 41, no. 3 (December 2011) 725–37.
[45] Mariano Bosch and William Maloney, "Cyclical Movements of the Informal Labor Market in Developing Countries" (policy research working paper, no. 4477, World Bank, Washington, DC).

Tackling informality

It is difficult to establish whether informality causes low productivity among informal firms or whether informal firms select into informality due to their low productivity. The question of policy measures to reduce informal economy size is one that must be treated with care due to this identification issue arising from the endogeneity of a firm's decision to operate in the informal sector.[46] Djankov et al., among others, document that higher levels of entry regulation are observed in countries with larger informal sectors,[47] although the literature finds little conclusive evidence that reducing regulatory requirements pushes firms to formalize. La Porta and Shleifer argue that government regulations are not the binding constraint on informal firms' decision to operate outside the formal sector.[48] Fewer than 10 percent of formal or informal firms in their cross-country data set cited business licensing, permits or the legal system as their greatest obstacle, citing financial constraints and land access instead. De Andrade et al. report no increase in firm registration when firms are given more information about registration, or when costs for doing so are waived, from a randomized control trial conducted in Brazil.[49] These findings, in conjunction with La Porta and Shleifer's observation that most firms that are formal start out that way,[50] points to evidence that most informal firms never make the transition to formality. LaPorta and Shleifer suggest that this phenomenon reinforces the dual view of informality: informal firms choose not to go formal as they would not survive the additional cost of regulation.[51]

[46] James Rauch, "Modeling the Informal Sector Formally," *Journal of Development Economics* 35, no. 1 (1991), 33–47.
[47] Djankov et al., "The Regulation of Entry."
[48] La Porta and Shleifer, "Informality and Development."
[49] Gustavo Henrique de Andrade, Miriam Bruhn, and David McKenzie, "A Helping Hand or the Long Arm of the Law? Experimental Evidence on What Governments Can Do To Formalize Firms," *The World Bank Economic Review* 30, no. 1 (2016), 24–54.
[50] La Porta and Shleifer, "The Unofficial Economy. . . ."
[51] La Porta and Shleifer, "The Unofficial Economy. . . ."

Generally, the literature finds that formalization has little to no statistically significant effect on firm performance measured in sales, profits, and employee cohort. Even when positive effects are observed they tend to be driven by outliers, indicating that the perceived benefits to formalization for the vast majority of small informal firms are quite low.[52] However, aggregate productivity effects of enforcing formality may manifest through channels like elimination of low-productivity informal firms and subsequent reallocation of resources,[53] reducing self-selection into low-productivity informal jobs or informal entrepreneurship,[54] or influencing decisions relating to human capital accumulation prior to job-market entry due to lower informal-sector job availability.[55]

A key trade-off to be noted when increasing enforcement of formality is the potential for negative welfare effects from at least temporary unemployment due to reduction of opportunities in the informal sector. While in the literature enforcement on the extensive margin (at firm level) shows positive effects on output and wages,[56] enforcement on the intensive margin often leads to unemployment and can amplify the adverse effects of a negative labor market shock.[57] These negative welfare effects are likely to be borne by the most vulnerable workers—those with fewer options—necessitating caution in policy making when targeting the intensive margin of informality.

Informality constitutes a complex phenomenon that is difficult to explain with any one mechanism or driver. It is a key issue in the quest for prosperity as it implies a lack of access to appropriate social protections for workers, less ability to finance public services, and a failure to adopt appropriate technologies that could boost economic growth. It may also be a crucial buffer between society's most vulnerable and extreme poverty, making it imperative that policy interventions targeting the informal sector are implemented with care.

The data sets presented in this chapter show a declining trend in informality at the global, regional and country levels, with the few exceptions being in states experiencing significant political instability. A marked difference in levels of informal employment by gender emphasizes the need to address the gender dimension of informality in further research.

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[52] Suresh de Mel, David McKenzie, and Christopher Woodruff, "Business Training and Female Enterprise Start-up, Growth, and Dynamics: Experimental Evidence from Sri Lanka," *Journal of Development Economics* 103 (2013), 199–210.

[53] Olivier Charlot, Franck Malherbet, and Cristina Terra. "Informality in Developing Economies: Regulation and Fiscal Policies," *Journal of Economic Dynamics & Control* 51, issue C (2015), 1–27; Costas Meghir, Renata Narita, and Jean-Marc Robin, "Wages and Informality in Developing Countries," *American Economic Review* 105, no. 4 (April 2015), 1509–46.

[54] Meghir et al., "Wages and Informality in Developing Countries"; Julio Cesar Leal Ordonez, "Tax Collection, the Informal Sector, and Productivity," *Review of Economic Dynamics* 17, no. 2 (2014), 262–86.

[55] Matteo Bobba, Luca Flabbi, Santiago Levy, and Mauricio Tejada, "Labor Market Search, Informality, and On-the-Job Human Capital Accumulation," (discussion paper no. 12091, Institute for the Study of Labor (IZA), January 2019).

[56] Pablo N. D'Erasmo and Hernan J. Moscoso Boedo, "Financial Structure, Informality and Development," *Journal of Monetary Economics* 59 (2012), 286–302; Daniel Haanwinckel and Rodrigo R. Soares, "Workforce Composition, Productivity, and Labor Regulations in a Compensating Differentials Theory of Informality" (discussion paper no. 9951, Institute for the Study of Labor (IZA), May 2016).

[57] Rita Almeida and Pedro Carneiro, "Enforcement of Labor Regulation and Informality," *American Economic Journal: Applied Economics* 4, no. 3 (July 2012), 64–89.