BOX 3.4 Under the magnifying glass: How do policies affect informality?

Country-specific studies have found that reductions in tax and regulatory burdens have often been associated with lower informality. In contrast, trade liberalization that raised the competition level in the tradable sector has been associated with greater informality in the short run, unless it was accompanied by measures that increase labor market flexibility. The reduction in informality was greater for reforms accompanied by business development and training programs, public awareness campaigns and stronger enforcement.

Cross-country studies have identified a range of policies associated with lowering informality. These policies have typically fallen into three categories: tax reform, regulatory reform, and trade liberalization.[1]

- **Tax reform.** Lower tax rates, simplified tax systems, harmonized tax regulations, technology-based monitoring and consolidated electronic tax payment systems can encourage firms and workers in the informal sector to move to the formal sector.

- **Regulatory reform.** Lower minimum wages and lower barriers to worker recruitment and dismissal have been associated with lower informal activity. In addition, a wide range of institutional factors have been associated with reduced informality: more efficient legal systems, better property rights protection, lower regulatory burdens, less cumbersome registration processes, easier access to credit, and lower corruption.

- **Trade liberalization.** In Latin America, trade liberalization has often been followed by an increase in informal activity in the short run, unless accompanied by complementary measures to increase labor market flexibility. Trade liberalization raises real wages, by depressing prices, and thus encourages worker entry into the informal economy where entry cost is lower than in the formal economy (Arias et al. 2018).

Many EMDEs have implemented these types of reforms either with the explicit purpose of reducing informal activity, or for other purposes with collateral effects on informal activity. Many of these reforms were implemented as part of broad-based, multi-pronged reform packages. Against this backdrop, this box compiles a comprehensive review of single-country studies on the impact of policy changes on informal activity. Specifically, the box addresses the following questions:

- Which policy changes have been studied?

- What are the common lessons from these policy changes?

- What is the role of complementary policy measures?

Studies of policy changes

Selection of studies. 19 studies are selected based on two criteria: (1) they examine specific policy changes in a single EMDE and (2) they measure an outcome that relates to informal activity, such as the share of informal workers or firms.[2] These studies cover 15 policy changes in Brazil (mid-1980s, 1990s, 2003), Colombia (1980s, 1990s), Egypt (1998, 2004), Georgia (2010), India (1988-2000, 2017), Indonesia (1996-2004), Mexico (2002-06), Pakistan (2009), Russia (2001), Turkey (2004-05), and Vietnam (1999-2013). Five of these country cases implemented tax changes, four implemented regulatory changes in labor markets, two implemented other regulatory changes, and four implemented trade liberalization measures (Annex Table 3.4).[3]

Tax reform. The studies examined both tax rate changes and tax simplification. In 2017, India streamlined and

Note: This box was prepared by Cedric Okou.

[1] Lower tax rates have been associated with smaller informal sectors (Loayza and Rigolini 2006; Loayza 1996). Greater labor market flexibility has been associated with lower informality (Maloney 1999; Heckman and Pagés 2004; Oviedo 2009). Institutional reforms that improve the business climate have been accompanied by lower informal activity (Beck, Demirgüç-Kunt, and Maksimovic 2006; Bosch, Goni, and Maloney 2007; Friedman et al. 2000; Loayza 1996; Loayza, Oviedo, and Servén 2005; Loayza and Rigolini 2006; Monteiro and Assunção 2012; Perry et al. 2007; Rocha, Ulyssea, and Rachter 2018; Schneider and Enste 2000; Ulyssea 2018; Wellalage and Locke 2016). Trade liberalization in a context of labor market rigidity has been associated with higher informality in the short run (Goldberg and Pavcnik 2004, 2007).

[2] Studies are identified from the English-language repositories of academic articles and working papers, including EconLit, JSTOR, EBSCO, Google Scholar, RePEc, Social Science Research Network (SSRN), the National Bureau of Economic Research (NBER), World Bank Policy Research Working Paper Series, International Monetary Fund Working Paper Series, and IZA Working Papers.

[3] Other studies documented the outcomes of randomized experiments and counterfactual prototypical policies in Benin, Brazil, Cameroon, Malawi, Sri Lanka and several other Sub-Saharan Africa countries (Nguimkeu 2015; Bandaogo 2016; Benhassine et al. 2016; Ulyssea 2018; Campos, Goldstein, and McKenzie 2015; de Mel, McKenzie, and Woodruff 2012).

BOX 3.4 Under the magnifying glass: How do policies affect informality? *(continued)*

lowered the average tax rate of goods and services (Government of India 2017). Georgia introduced a preferential tax regime for small businesses in 2010 (Bruhn and Loeprick 2014). Russia introduced a flat personal income tax and cut payroll taxes and social security contributions in 2001 (Slonimczyk 2012). Conversely, Pakistan raised income taxes on noncorporate partnership firms in 2009 (Waseem 2018). In addition to lowering the average tax rate for small firms, the SIMPLES reform in Brazil in 1996 simplified the tax and social security contributions regime for small firms (Fajnzylber, Maloney, and Montes-Rojas 2011; Maloney and Mendez 2004).[4]

Regulatory changes. A few episodes of labor market and other regulatory reforms have been studied. In 2001, as part of fiscal decentralization in Indonesia, minimum-wage setting responsibilities were transferred to provinces and local governments. The move was accompanied by a sharp increase in the average real minimum wage (Comola and Mello 2011). In 2004-05, Turkey implemented two employment subsidy schemes that strengthened incentives to register for the social security system (Betcherman, Daysal, and Pagés 2010). Mexico simplified business registration by introducing its Rapid Business Opening System (SARE) in various municipalities during 2002-06 (Fajnzylber, Maloney, and Montes-Rojas 2011).

Trade liberalization. Several studies have examined episodes of major trade liberalization. Comprehensive trade liberalizations with drastic tariff reductions were implemented in Colombia in the late 1980s and early 1990s. They followed Colombia's GATT accession in 1981 (Goldberg and Pavcnik 2003; Attanasio, Goldberg and Pavcnik 2004). Egypt introduced gradual trade liberalization measures in 1998 and, more comprehensively, again in 2004 in the context of macroeconomic stabilization plans (Selwaness and Zaki 2015). In Vietnam, the U.S.-Vietnam bilateral trade agreement (BAT) came into effect in 2001 (McCaig and Pavcnik 2015, 2018) and, in the span of ten years, turned the United States from Vietnam's fifth-largest to its largest export destination between 1998 and 2008. The trade agreement was followed by reforms in 2006 to increase labor market flexibility. In 1988, Brazil took initial steps to liberalize trade but at the same time restricted labor market flexibility in its Constitutional Reform. The 1988 reform included cuts in maximum work hours, higher vacation pays, longer maternity leave, higher dismissal cost, and limits on union power (Busch, Goni and Maloney 2007).[5] In 1991, India liberalized trade, removed price controls, and removed license requirements in most industries (Sharma 2009).

Common lessons

Most studies have found the expected impact of these policy changes on informality (Figure 3.4.1). Tax simplification, tax cuts and regulatory easing tended to reduce informality. Trade liberalization tended to increase informality unless it was accompanied by increased labor market flexibility.

Tax simplification and tax cuts were associated with lower informality in India, Russia, Georgia and Mexico—in the form of greater formal firm registration (India, Brazil, Georgia), greater income reporting (Brazil, Russia), greater or a greater share of formal employment (Brazil, Russia). The reforms were followed by an increase in the number of registered firms by about 5 percent in Brazil and by 18-30 percent in Georgia (Bruhn and Loeprick 2014; Fajnzylber, Maloney, and Montes-Rojas 2011). In India, the introduction of the Goods and Services Tax has been accompanied by a 50 percent increase in the number of indirect taxpayers (Government of India 2017). Conversely, Pakistan's corporate tax hike was followed by rising informality as firms switched business models and reported lower earning.

Regulatory changes to encourage reporting (Turkey) or simplify business registration (Mexico) were associated with greater formal employment and firm registration, whereas higher minimum wages were associated with greater informal employment. Employment subsidy schemes in Turkey were followed by an increase in the number of registered jobs in eligible provinces by up to 13 percent (Betcherman, Daysal and Pagés 2010). In India, following broad-based industrial liberalization measures, the number of informal establishments fell faster (by 25 percentage points) in states with more pro-employer labor laws than in states with less flexible labor laws (Sharma 2009). A 5 percent increase in the number of registered firms was attributed to simplified business registration procedures in Mexico (Bruhn 2011, 2013). Conversely, in Indonesia a 10 percentage point increase in the minimum

[4] Recent studies (e.g., Piza 2016) found mixed results regarding robustness of Fajnzylber, Maloney and Montes-Rojas (2011)'s finding.

[5] Recent Bosch, Goni, and Maloney (2007) focus on this initial reform phase. From 1990-1997, the pace of trade liberalization picked up significantly (Ferreira and Rossi 2003) and was accompanied by the 1994 Plano Real of fiscal reform, social security reform, state monopoly reform, and civil service reform.

BOX 3.4 Under the magnifying glass: How do policies affect informality? *(continued)*

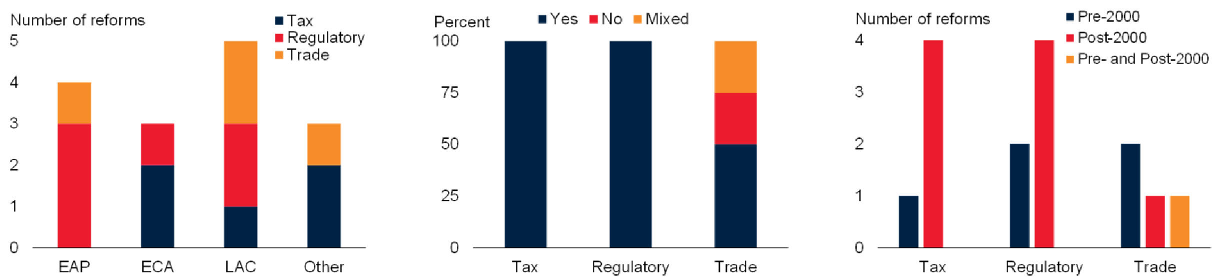
FIGURE 3.4.1 Overview of policy changes

Most surveyed policy changes, including five tax reforms, six regulatory reforms, and four trade reforms were conducted in Latin America and the Caribbean, East Asia and Pacific, and Europe and Central Asia. The bulk of these reforms delivered the expected outcomes and were implemented post-2000.

A. Number of reform episodes across regions

B. Share of reform episodes delivering expected informality outcomes

C. Number of reform episodes over time



Source: World Bank.
Note: Descriptive summary of surveyed reform episodes.
A. Number of surveyed policies across regions. EAP = East Asia and Pacific, ECA = Europe and Central Asia, LAC = Latin America and the Caribbean, MNA = Middle East and North Africa, SAR = South Asia, and SSA = Sub-Saharan Africa. “Other” includes MNA, SAR and SSA.
B. “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: (1) reduced tax burden would reduce informality; (2) increased labor market flexibility would reduce informality; (3) lowered entry and exit barriers in formal sector would reduce informality; (4) trade liberalization would increase informality due to intense foreign competition that disrupts existing formal firms.
C. Number of surveyed policies implemented before and after 2000. Waves of trade liberalization in Egypt were fielded pre- (1998) and post-2000.
Click here to download data and charts.

wage over the mean wage was associated with a 0.9-1.1 percent increase in informal employment (Comola and Mello 2011).

Trade liberalizations in Brazil, Colombia, and Egypt were typically associated with greater informality in the short run—unless accompanied by measures to improve labor market flexibility. During Colombia’s trade liberalization in the 1980s and 1990s, a 10-percentage-point decline in tariffs in a given industry was associated with a 1 percentage point increase in the probability of informal employment—but only for the period preceding a major labor market reform that increased labor market flexibility (Goldberg and Pavcnik 2003; Attanasio, Goldberg, and Pavcnik 2004). In Egypt, the trade liberalization of 1998 was associated with increased informal employment whereas the trade liberalization measures of 2004—which were preceded by 2003 reforms to increase labor market flexibility—were not (Selwaness and Zaki 2015). Similarly, trade liberalization accompanied by measures to reduce labor market flexibility, such as in Brazil in the late 1980s and early 1990s was accompanied by rising informal employment (Bosch, Goni, and Maloney 2007). In Vietnam, rapid export growth was associated with a 5 percentage point higher share of formal manufacturing employment, a growing share of formal employment, and shrinking informal employment (McCaig and Pavcnik 2018; Boly 2008).

Role of complementary policy measures

Several of the policies discussed above were not primarily implemented with informality in mind. Yet, they had the unintended consequence of raising informality: tax increases in Pakistan, decentralization of minimum wage regulation in Indonesia, and trade liberalization in Egypt, Brazil and Colombia. Other reforms did not have as large an effect on informality as expected, such as the tax reform in Georgia. Three factors accounted for these: interactions between multiple reforms; scale of reform; and enforcement.

Interactions between multiple reforms. In Egypt, trade liberalization implemented in a supportive environment, with reforms to increase labor market flexibility, was associated with lower informality in 2004 but, in the absence of labor reforms, informality increased following the 1998 trade liberalization. Similarly, trade liberalization combined with increased labor market rigidities raised

BOX 3.4 Under the magnifying glass: How do policies affect informality? *(continued)*

informality in Brazil in the late 1980s and early 1990s. When product markets were restructured, such as during trade liberalization, greater labor market flexibility facilitated the reallocation of workers to more competitive industries. A large share of unskilled labor may also have increased the likelihood that trade liberalization raised informal employment (Loayza and Rigolini 2006; Selwaness and Zaki 2015). In Brazil, Colombia, and Vietnam, the short-term increase in informal employment was particularly pronounced among less skilled workers (Goldberg and Pavcnik 2003; McCaig and Pavcnik 2015).

Scale of reform and persistence of effects. Some reforms were simply too narrowly targeted to have a sizeable or lasting impact on informality. For example, the short-lived impact of tax reform found by some studies—only in the first year—has been attributed to the modest scale of the reform (Bruhn and Loeprick 2014). Moreover, policy reforms may have different short- and long-run effects on informality. For instance, trade liberalization may increase informality in the short run, but not necessarily in the long run (Goldberg and Pavcnik 2003; Dix-Carneiro and Kovak 2017).

Weak enforcement. Particularly in environments with weak enforcement of firm and employment regulation, higher taxes or minimum wages can encourage informal activity. In Pakistan, Turkey, and Indonesia, weaker enforcement was associated with greater informality.[6]

Conclusion

The studies of microeconomic impacts of policy changes are a reminder of the importance of comprehensive reform packages. Several of the packages discussed above, as an unintended consequence, raised informal employment or firm activity. Such unintended reform impacts can be mitigated by bundling mutually reinforcing reforms, such as trade liberalization with labor market reform, or tax and minimum wage hikes with strengthened enforcement and public awareness campaigns.

[6] Oviedo (2009), Betcherman, Daysal, and Pagés (2010), Vargas (2015), Waseem (2018), Comola and Mello (2011), and Loayza (1996).

Informality and fiscal outcomes

A large informal economy erodes the tax base and constrains governments' ability to provide public services, conduct countercyclical policies, serve debt, and implement redistributive measures (Chapter 4; Ordóñez 2014; Besley and Persson 2014). This puts a premium on designing tax and social security systems that avoid unintended incentives to shift activity from the formal to the informal sector and level the playfield for both formal and informal sectors (Perry et al. 2007; Djankov et al. 2010; Loayza 2018; Dabla-Norris et al. 2018).

Revenue outcomes. Regardless of the measure of informality, on average, government revenues in EMDEs with the most pervasive informality have been 5-10 percentage points of GDP below those with the least pervasive informality (Figure 3.10). The composition of tax revenues is tilted towards trade taxes in economies with more pronounced informality. Revenues from trade taxes have been 0.7-1.0 percentage points of GDP higher in EMDEs with greater informality compared with those with the lowest levels of informality. Income tax revenues, in contrast, tend to be lower in the EMDEs with the highest output informality. Greater reliance on indirect taxation makes the tax system less progressive and, hence, less redistributive than a system based on more progressive direct taxation.

Expenditure outcomes. Revenue weakness is also reflected in lower government expenditures. In EMDEs with the most pervasive informality, government expenditures were 4-10 percentage points of GDP lower than in those with the lowest informality (Figure 3.10). Insufficient resources for redistributive policies may contribute to the correlation between informality and poverty.

Policy options

Many EMDE governments implemented policies at the microeconomic level and found that the implications for informality were more benign when these reforms were implemented in a