

Globalization and the Informal Economy in Developing Countries



Kameliia Petrova

Abstract It has been documented that developing countries are plagued by sizable informal sectors. There are a lot of studies addressing either the informal economies or globalization. However, the literature on whether and how globalization affects the informal sector is somewhat lacking. Several theories are formulated, but empirical studies do not all agree on what facets of globalization affect informality and how. Part of the problem is data deficiency and somewhat lacking synchronization of the existing informal sector data. There are some recent developments in this area that have furthered the subject. The goal of this chapter is to offer an extensive overview on the topic of globalization and informality.

1 Introduction

Globalization and informality are two distinctive phenomena with deep connections to developing countries worldwide. Technological advances and globalization have made the world an increasingly small place, providing access to international markets, foreign cultures, political movements, and environmental activities at a very fast pace. Large companies have become multinational in scope, with most production outsourced to developing countries that offer vast labor pools at low cost. Foreign direct investment (FDI) has turned into a staple in the economic analysis of developing countries, whose governments employ foreign investments as a major developing strategy.

The informal economy, on the other hand, has proved difficult to define. Opinions of researchers in economic development differ on the matter of legitimacy of informal economic activities. One group considers the informal sector to be illegal and proposes to hinder its existence by way of macroeconomic policies. On the opposite side of the argument are those who contend that the informal sector is essential for developing economies and suggest regulating it. It has been

K. Petrova

Department of Economics and Finance, State University of New York College at Plattsburgh,
Plattsburgh, NY, USA

e-mail: kpetr001@plattsburgh.edu

© Springer Nature Switzerland AG 2019

N. Faghih (ed.), *Globalization and Development*, Contributions to Economics,
https://doi.org/10.1007/978-3-030-14370-1_3

documented that developing countries are plagued by sizable informal sectors. There are a lot of studies addressing either informal economies or globalization. But, the literature on whether and how globalization affects the informal sector is somewhat lacking. There are some theories formulated, but empirical studies do not all agree on what facets of globalization affect informality and how. Part of the problem is the data deficiency and somewhat lacking synchronization of the existing informal sector data. Recent developments in this area have furthered the subject. The goal of this chapter is to offer an extensive overview on the topic of globalization and informality.

The rest of the chapter is structured in the following manner. Section 2 documents international evidence of the levels of, and trends in, the informal economies and their relationship to globalization and economic growth in developing countries. Recent evidence of cross-regional variation in informal sectors and informal employment rates is presented and discussed, followed by some stylized facts on informality, economic growth, and trade openness. Section 3 introduces definitions and measurements of the informal economy and informal entrepreneurs and provides some theoretical background on the treatment of informality in the literature. Section 4 begins with a discussion of definitions and measurements of globalization. It then offers a summary of the theoretical developments and empirical findings on the relationship between trade liberalization and informality, followed by a narrower focus on studies with a comprehensive treatment of globalization that goes beyond trade liberalization and its effect on the informal economy. Section 5 concludes the chapter.

2 International Evidence About Informality, Economic Growth, and Globalization in Developing Countries

2.1 Informal Economy and Informal Employment Rates

According to the most recent data released by the International Labour Organization (ILO) (ILO 2018), close to two billion people worldwide are employed in the informal economy. This constitutes nearly 60% of the world's working population. When agriculture is not taken into consideration, this figure goes down to 50%, which is still a significant amount. What is striking, however, is that the majority of informal employment worldwide is in developing countries. An overall representation of the geographic distribution of the world's informal employment in total nonagricultural employment is displayed in Fig. 1. In Africa, 72% of nonagricultural employment is informal. The corresponding proportion is 49% in Latin America (LA) and the Caribbean and 59% in Asia and the Pacific. There is a significant regional variation present. The largest differences are observed in Africa, where the proportion of informal employment is as low as 36% in the southern part of the continent, 56% in Northern Africa, and as high as 87% in Western Africa. LA and

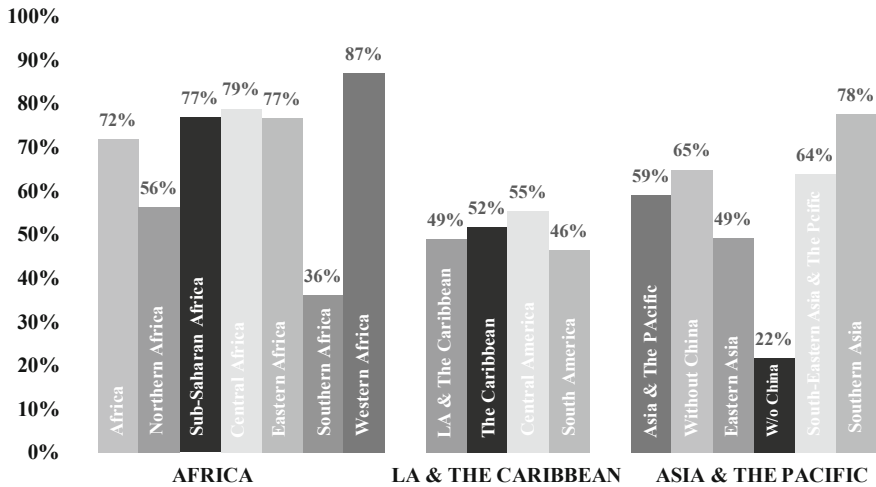


Fig. 1 Regional variation in the share of informal employment—2016. Source: ILO: Women and Men in the Informal Economy: A Statistical Picture (2018, pp. 28, 32, 26) (The list of countries used in the chart is presented in Appendix 1.1). Authors’ own figure

the Caribbean exhibit a much closer distribution, between 46% for South America and 55% for Central America. In Asia and the Pacific region, the proportion is 49% for countries in Eastern Asia and as high as 78% for those located in Southern Asia. The effect that China has on the proportion of the region’s informal employment, due to its sheer population size, is noteworthy.

Using data from Charmes (2012), I compare the incidence of informal employment in total nonagricultural employment over time (see Fig. 2), from 1985/1989 to 2005/2010, and across region. For three of the four regions presented on the graph, there is either a slight trend for an increase or a tendency to keep the proportion of informal employment at the same steady level. In Northern Africa, the proportion increased from 34% for 1985/1989 to 58% for 2005/2010. In a similar manner, in Southern and Southeastern Asia, the proportion increased from 53% in 1985/1989 to 70% over the following decade, but it stayed at the same level for the rest of the observed period. LA experienced a smaller incremental increase, between 1% and 2% per period, with the incidence of informal employment rising from 53% in 1985/1989 to 58% in 2005/2010. The sub-Saharan African region is the only exception where the proportion of informal employment increased from 73% in 1985/1989 to 87% in 1995/1999 and then dropped to 66% in 2005/2010.

The ILO also reports that schooling plays a significant role in the informal economy (ILO 2018, pp. 29–43) and that education is inversely related to the incidence of informality. For example, people with secondary and tertiary education are less likely to be employed in the informal economy in comparison to those with no education or primary education only. In Africa, for example, those with no education experienced 94% of informal employment as compared to 88.5% for those with primary education. The proportion decreased to 68.1% for those with

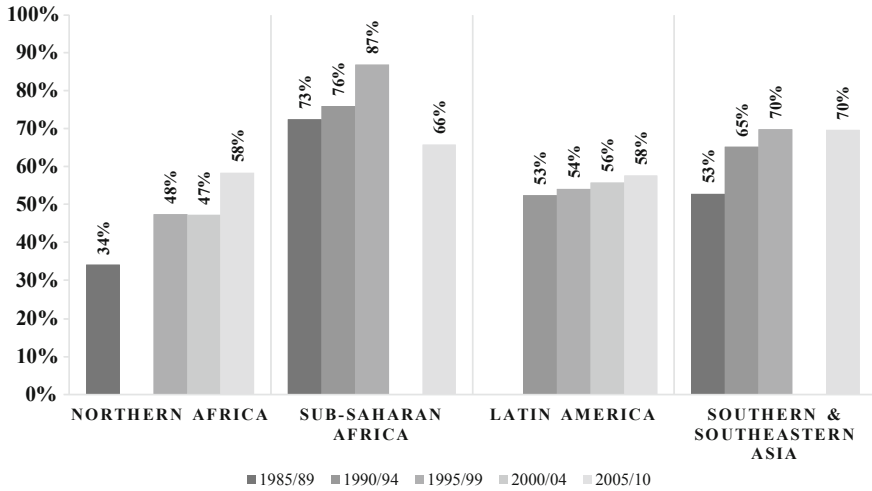


Fig. 2 Share of informal employment in total nonagricultural employment. Source: Charmes (2012, pp. 110–113) (The list of countries used in the chart is presented in Appendix 1.2). Authors' own figure

secondary and 27% for those with tertiary education, respectively (ILO 2018, p. 29). In LA and the Caribbean, the corresponding numbers are 82.2, 72.5, 50.8, and 33.5% (ILO 2018, p. 33), while in Asia and the Pacific region, the incidence of informal employment across the four levels of education are 94.9, 89.7, 58.9, and 30.7% (ILO 2018, p. 37).

2.2 Informality, Economic Growth, and Trade Openness

The cross-regional differences in informal employment, as seen above, and differences in the shadow economy measured in terms of informal activities as a percent of GDP (Charmes 2000) or through indirect measures (Schneider 2005; Schneider and Enste 2000) are closely related to the level of economic development (Bacchetta et al. 2009). The demonstrated links between education level and the incidence of informality (ILO 2018), and between skill levels and informality (Bacchetta et al. 2009, p. 32), may be associated with each country's capacity for economic growth and serve to account for differences in economic development. Figure 3 shows the relationship between the GDP growth rate and the size of the informal economy for 65 developing countries. The correlation between the two factors implies that policies focused on reducing the size of the informal economy could potentially serve to promote growth and economic development.

The third dimension in Fig. 3 represents the size of the FDI net inflows as a percent of the country's GDP—the bigger the size of each bubble, the larger the size of the FDI net inflows. Countries in the top left corner of the graph, such as

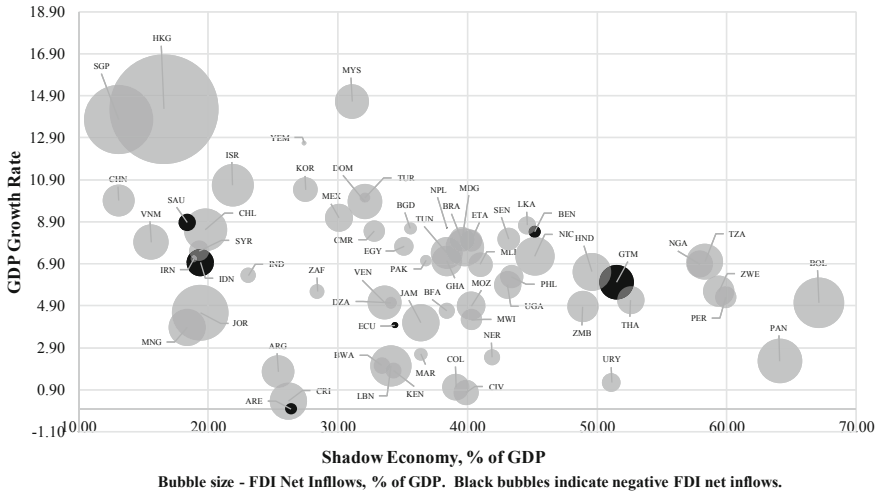


Fig. 3 GDP growth rate, the shadow economy, and FDI net inflows. Source: The World Bank (<https://data.worldbank.org/indicator/BX.KLT.DINV.WD.GD.ZS>) and Schneider (2005, pp. 627–629) (The list of countries used in the chart is presented in Appendix 1.3). Authors’ own figure

Singapore and Hong Kong, experienced high GDP growth, small incidence of informality, and significant FDI net inflows. The FDI net inflows are 16.19% for Singapore and 41.07% for Hong Kong, respectively. Other countries, such as Jordan, Israel, and Chile, whose GDP growth rate may not be as high, also demonstrated relatively large FDI net inflows and low informality. Their FDI net inflows are 10.79, 6.08, and 6.24%, respectively.¹ Moving to the right on the graph, the shadow economy size increases, while the GDP growth rate shows a tendency to decrease, as do the FDI net inflows. The bubbles representing the FDI net inflows for the countries in the middle of the graph are much smaller than those for the aforementioned countries. The countries with the smallest FDI net inflows from the middle group are Turkey with 0.42%, Pakistan with 0.42%, and Bangladesh with 0.53%. Several countries have experienced negative FDI net inflows (shown with black bubbles on the graph)—Benin, Guatemala, Ecuador, Indonesia, Nepal, Saudi Arabia, and the United Arab Emirates. What is interesting, however, is that Bolivia and Panama who are in the bottom right corner of the graph have FDI net inflows (8.77 and 6.73%, respectively) at levels comparable to Jordan, Israel, and Chile. The somewhat ambiguous results indicate that there may be other factors that affect how the size of the informal sector and the FDI net inflows are related. Such factors may very well be region and country-specific. For example, Bolivia and Panama both belong to the LA and the Caribbean region, which is characterized with strict labor market regulations. Bacchetta et al. (2009) report similar findings, concluding that

¹The FDI net inflows for all participating countries are shown in Appendix 3.

when a distinction is made between actual trade flows and trade barriers, with the addition of some control variables, the existence of negative correlation between trade openness and informal employment can indeed be confirmed for a large, across-regional, sample of developing countries.

3 Overview and Treatment of Informality

3.1 *Definition and Measurement*

The informal economy, also known as “shadow,” “hidden,” “underground,” “unregistered,” etc. economy, has been notoriously difficult to define. One of the most common and widely accepted definitions is that it encompasses the economic undertakings that, while formally recorded and incorporated in the gross national product (GNP), are absent from officially publicized measures such as the gross domestic product (GDP). The above description, used by Schneider (2003) and Schneider and Enste (2000, 2002), considered some of the most widely accepted studies on the “shadow” economy and relates the underground activities to a well-defined macroeconomic indicator. The definition, however, is rather general and inclusive regarding what constitutes an underground activity. Under the circumstances, it may be helpful to apply the catalogue of underground activities developed by Lippert and Walker (1997) that maps together legal and illegal activities. The former are plagued by undocumented revenue and profits, outstanding social security obligations, and violation of basic employment standards such as minimum wage and health and safety condition rules. Noncompliance with set administrative and governmental practices designed to collect statistical information is pervasive. While most alternative classifications of the informal economy agree on the treatment of legal activities, they differ on the consideration and inclusion of (a) household services and production and (b) illegal economic activities: manufacturing and sales of prohibited goods and services, stolen goods, gambling, and fraud, among others. See, for example, Bhattacharyya (1999), Smith (1994), and Feige (1990).

One of the most predominantly used measurements of the informal economy has been put forth by the ILO. The ILO has implemented a conceptual outline for “statistical measurement and employment data collection” (ILO 1993, 2003) that reflects both “employment in the informal sector (an enterprise-based concept) and informal employment (a job-based concept).” The former encompasses “unregistered and/or small unincorporated private enterprises; such enterprises are not constituted as separate legal entities (and are thus not officially registered) and do not maintain a complete set of accounts,” while the latter is a reference to “jobs that generally lack basic social or legal protections or employment benefits and may be found in the formal sector, informal sector or households.” According to the ILO, jobs that represent informal occupations are, for example, “own-account” employees working in informal sector companies or the owners of such companies, “own-

account” employees involved in non-remunerated housework, domestic employees in both sector companies, affiliates of informal company cooperatives, and workers with informal employment in both sector companies or in households. Formal jobs in informal sector enterprises are left out of the informal employment sector. The ILO surveys belong to the group of direct methods. The most recent ILO data became available in June 2012 (ILO 2012). It includes information on both statistics presented above from a total 47 medium- and low-income countries.

A second group, called indirect methods for measuring the informal economy, uses macroeconomic indicators that can shed light on how the informal sector develops and expands over time (Thomas 1992; Schneider and Enste 2000; Schneider 2005). The five indicators used are inconsistencies between national expenditure and income statistics (Thomas 1992), inconsistencies between the official and actual labor force (Thomas 1992), inconsistencies between the nominal (transaction) and official GNP (Feige 1996), currency demand (Tanzi 1983), and inconsistencies between the electricity consumption for the economy overall as a proxy measure of the GPD and the estimates of the official GDP (Kaufmann and Kaliberda 1996; Lacko 2000). The most recognized in the group of indirect methods is the so-called model method that considers multiple indicators, reflecting the existence of multiple causes for the existence and multiple effects of the informal economy (Schneider 2005; Schneider and Enste 2000). The DYMIMIC (dynamic multiple-indicators multiple-causes) model, as it’s known, uses factor analysis to measure the informal sector as an unobserved variable overtime. Among the most precise and largely employed estimations of the extent of the informal sectors that use indirect methods are those presented in Schneider and Enste (2000) and Schneider (2005). They use the DYMIMIC and currency demand methods and report their estimates for 110 OECD countries for several periods of time (1989/1990, 1990/1991, 1994/1995, and 1999/2000). Kaufmann and Kaliberda (1996) estimates are also among those used in the literature (Pham 2017).

The topic of outlining informality in the economy and finding its magnitude is rife with controversy (Thomas 1992; Dixon 1999; Schneider and Enste 2000, 2002; Schneider 2003, 2005; Evans et al. 2006; Williams and Windebank 2006).

3.2 Informal Entrepreneurs

Informal entrepreneurs represent a special group of the informal economy that is often overlooked and less well observed. Williams (2006, 2007) and Williams and Nadin (2010) provide the following definition of informal entrepreneurs: “. . .somebody actively engaged in starting a business or is the owner/manager of a business that is less than 42 months old who participates in the paid production and sale of goods and services that are legitimate in all respects besides the fact that they are unregistered by, or hidden from the state for tax and/or benefit purposes.” People in the line of production and sale of prohibited goods and services are omitted.

Self-employment, often used as a proxy of entrepreneurship, is reportedly the main factor in informal employment, as reported by the ILO (2002) and Williams and Nadin (2010). This stylized fact has prompted a trend toward revisiting the role of the informal economy—from what used to be considered in the past as workers exploitation to a phenomenon that is recognized as a form of an underground culture as reported by Williams (2006), Williams and Windebank (2006), and Williams and Nadin (2010). Such a change has occurred not only in developing and economies in transition but also in developed economies as well. Williams and Nadin (2010) present an expansive overview on entrepreneurship and the informal economy addressing all three country groups.

Research on the incidence of informal entrepreneurship, both at the national level and cross-country comparison, have been limited. Most studies are based on small-scale surveys and anecdotal evidence. For example, Williams (2008) collects data on enterprises in Ukraine, Russia, and England. His findings show that those surveyed in Russia and 90% of the Ukrainian sample operate, to some extent, in the informal economy.

3.3 Theoretical Background

There is an extensive branch of economics literature devoted to exploring the causes of informal economies. Studies explore the role of legal and financial institutions, labor market policies and regulations, tax systems, etc. As a starting point, matching and search models of the economy examine how outcomes are affected by different labor market interventions. The basic matching model is expanded into segmented or dual market models by incorporating an additional sector that mirrors the underground economy (Mortensen and Pissarides 2003). One strand of the literature considers employment in the informal sector a disadvantage. Further, violation of labor market laws is endemic in the informal sector. Hence, scholars in this group emphasize the development and enactment of policies designed to prevent such activities. Fugazza and Jacques (2004) find that policies that institute higher benefits and encourage participation in the formal sector are more efficient than taxation and labor market regulations. Kolm and Larsen (2004) consider stricter penalty and audit rates, Bosch and Esteban-Pretel (2012) study the cost of hiring and firing workers, as well as payroll withholdings, while Boeri and Garibaldi (2007) focus on deregulating markets.

A second strand of the literature (Dolado et al. 2007; Dabla-Norris et al. 2008; Albrecht et al. 2009; Ulysea 2010; Charlot et al. 2011) treats underground activities as essential to the economy. Introducing empirical evidence from several LA countries, which experience an informal sector of 30–70% of the urban labor market, Maloney (2004) dismisses the suggestion that the informal sector is secondary to its formal counterpart and that those employed in the formal sector enjoy certain advantages. Similar results are reported by Gong and van Soest (2002) for the Mexican economy, by Pratap and Quintin (2006) for the Argentinian economy,

and Mondragon and Pena (2010) for the Colombian economy. Here workers voluntarily select the sector they enter. Their selection depends largely on how productive they are (Amaral and Quintin 2006), the existing possibilities for matching with an employer (Ulyssea 2010; Zenou 2008), or labor market limitations (Antunes and Cavalcanti 2007) in the official economy. Among the policies analyzed in this group are payroll taxes (Ulyssea 2010), separation pay (Albrecht et al. 2009; Dolado et al. 2007), employment procedures (Charlot et al. 2011), unemployment reduction policies (Ulyssea 2010) and cost of entrance (Ulyssea 2010), and implementation of financial contracts (Antunes and Cavalcanti 2007).

Both strands, however, agree on the fact that there is a compromise concerning underground employment on one hand and jobless rates on the other (Ulyssea 2010). The effect of the tradeoff is diminished when governments choose to institute the type of policies and procedures that help the formal sector function more efficiently, and not rules and regulations that negatively affect the cost of operating a business in the informal sector (Boeri and Garibaldi 2007 and Charlot et al. 2011). Further, both regulation costs and the level of enforcement affect the size of the informal sector in developing countries (Antunes and Cavalcanti 2007), but only the former seems to be of significance for developed countries. In relation to that, Dabla-Norris et al. (2008) point out that how the legal system functions is directly related to the size of the informal sector. For countries with a sub-par legal system, policies related to labor market regulations, taxation, and financial markets improvement play a prominent role in controlling the size of the informal economy. This is consistent with the evidence from LA countries that are characterized with a relatively high prevalence of the informal sector, as reported earlier in the section, and very strict labor market regulations at the same time (Maloney 2004).

4 Globalization, Economic Growth, and the Informal Economy

4.1 Definition and Measurement of Globalization

There is a wide range of views on what globalization really embodies. According to Held et al. (2002), there are three categories of thoughts: skeptical, hyper-globalist, and transformationalist. Each category brings to prominence distinct characteristics of globalization. Those skeptical toward the globalization process posit that globalization began centuries ago and that any new developments, economic, political, cultural, etc., may affect the scope and scale of globalization, but will have no effect on the very process of globalization. The hyper-globalist category supports the view that contemporary globalization has worked in a direction of undermining the role of the state. The last category believes that “globalization *is* the process that underlines current economic, political and social changes,” while the state involvement is not so much in diminished, but somewhat transformed, capacity. The transformationalist

view essentially combines the ideas of the skeptics and hyper-globalists. Similarly, Dreher et al. (2008) advise that globalization is a complex process that is better served by a multidimensional approach. The most common determinants of globalization recognized in the literature are capitalism (Dierckxsens 2000; Giddens 2000; Hardt and Negri 2003), technology (Langhorne 2001; MacKenzie and Wajcman 1999), politics (Bergesen 1980; Dreher et al. 2008), the environment (Martens and Rotmans 2011; Martens et al. 2003), and social and cultural life (Bourdieu 2004; Castells 2010; Kellner 1995). Dreher et al. (2008) suggest shifting from the traditional historical view of globalization and emphasizing instead current socioeconomic and cultural developments. He offers a contemporary definition of globalization as “the intensification of cross-national interactions that promote the establishment of trans-national structures and the global integration of cultural, economic, environmental, political, technological and social processes on global, supra-national, national, regional and local levels” (Dreher et al. 2008, p. 15).

One of the most widely accepted measures of globalization is the KOF index² (Dreher 2006). The index was published for the first time in 2002, reporting on 123 countries and 23 variables. Additional updates become available later (Dreher et al. 2008). There are three main dimensions, or subindices, of the KOF index: economic, political, and social globalization. “Economic globalization is characterized by the long-distance flows of goods, capital and services as well as information and perceptions that accompany market exchanges; political globalization is characterized by the diffusion of government policies; and social globalization is expressed as the spread of ideas, information, images and people.” The economic subindex is allotted 37% of the total KOF index and consists of actual flows, such as trade and FDI, and restrictions, such as import barriers, tariffs, etc. The social subindex, also 37% of the total KOF index, consists of data on personal contacts, information flows, and cultural proximity. The political subindex has 26% representation. A detailed definition of the KOF index and its components is given in Appendix 3.³

²<http://www.kof.ch/globalization>

³Some alternative, less well-recognized, measures of globalization are the Maastricht Globalization Index (Martens and Zywiets 2006), the World Market Research Centre G-Index (“WMRC” 2001), the A.T. Kearney/Foreign Policy Magazine Globalization Index (“ATK/FP” 2001; “ATK/FP” 2004; “ATK/FP” 2005), the Global Civil Society Index (Salamon and Sokolowski 2004), globalization matrix (Al-Rodhan et al. 2006), the Cultural Globalization Index (Kluver and Fu 2004), measures of political integration (Miles and Posner 2008; Nitsch 2007), Growth Environment Score (O’Neill et al. 2005), as well as measures replicating those mentioned above (Andersen and Herbertsson 2005; “CSGR index” 2006; Heshmati 2006; Li et al. 2007) or cover only few countries (Bamrud 2005; Gersbach 2002). OECD (2005) constructs separate globalization indicators.

4.2 *Theoretical Development*

Most of the studies that explore the relationship between the informal sector and globalization have narrowed their focus to studying how trade globalization affects the informal sector. Two branches have developed. One branch of studies has achieved this within the framework of rural-urban migration models (Todaro 1969; Harris and Todaro 1970) that explain the high rates of urban unemployment in developing countries with the difference in economic prospects between rural and urban areas and the existence of rural-urban income differentials. Grinols (1991), Chandra and Khan (1993), and Marjit et al. (2007) explicitly incorporate the urban informal sector into the rural-urban migration setup with the purpose of studying the “desirability of foreign investment” (1993, p. 80). Grinols (1991) started the conversation by arguing that the Brecher-Diaz Alejandro proposition, that foreign capital inflows with full repatriation of earnings must be immiserizing⁴ (Brecher and Diaz Alejandro 1977), may not hold in the presence of an urban informal sector. Motivated by Grinols (1991), Chandra and Khan (1993) review several “conceptions” of the informal sector based on criteria such as whether the informal output is traded, either domestically or internationally, or a non-traded, intermediate, good used in the formal sector; the degree of complementarity and substitutability between the formal and informal sector; capital versus labor intensity; etc. Chandra and Khan’s main finding is that in the presence of tariffs and repatriation of profits, capital inflows are immiserizing if and only if the imports are capital-intensive. While looking into the effect of capital flows and tariffs on the informal sector was not their main concern, they have also found that when the informal output is traded, lack of tariffs will help raise the wage and employment in the informal sector, though not necessarily at the same time. Marjit et al. (2007), who explicitly study how trade reform affects informal wages, reach a similar conclusion. Along the same lines, Beladi and Yabuuchi (2001) use the rural-urban migration framework to study the effect of tariff-induced capital inflows on the informal sector when the informal output is an input in the formal sector. They found that tariff-induced inflow of foreign capital may not be immiserizing, that rural wage subsidy has positive welfare effects, and that trade liberalization decreases informal employment. Their findings are consistent with empirical evidence that developing countries employ foreign investments as developing strategy (OECD 2002).

The second branch employs the traditional neoclassical general equilibrium growth models for an open economy with dual labor markets to study the effect of “deregulatory policies on informal wages and employment” (Kar and Marjit 2001; Marjit 2003; Marjit and Beladi 2002; Marjit et al. 2004; Marjit and Maiti 2005;

⁴The term was coined by Bhagwati (1958) as a reference to economic growth that makes the country worse off. Immiserizing growth that is due mainly to expanding exports worsens the terms of trade sufficiently and causes real income to fall.

Wuyts 2001).⁵ The formal sector produces import-competing manufacturing goods, while the informal sector produces three categories of goods—manufacturing goods for export, non-traded goods, and agricultural goods. Workers who cannot find employment in the formal sector transition to the informal sector. This approach to what is known in economics as “full employment”⁶ is consistent with the dual labor market analysis for developing countries (Carruth and Oswald 1981; Maloney 1998; Pratap and Quintin 2006). Liberalization in trade policy, such as tariff reduction, will increase competition and result in the decrease of formal employment. The informal sector employment will increase after those who lost their jobs join the informal economy and so will the wage in the informal sector. Marjit and Maiti (2005) point out that the above outcome is possible in the presence of capital mobility. If capital does not move freely between the formal and informal sectors, the increase in informal employment will cause a downward pressure on the wages in the informal sector (Kar and Marjit 2001; Marjit and Beladi 2002; Marjit et al. 2004). When the informal sector produces goods and services that are used as intermediaries in a capital-intensive formal sector, trade liberalization will cause informal employment and wages to increase in the presence of capital mobility (Marjit 2003).

4.3 *Empirical Work*

The implications and hypotheses of the theoretical studies presented in the previous section are tested empirically for several LA countries. Each study, however, reflects only country-specific evidence. There is no cross-country analysis available. As a result, there is no firm conclusion on the effect of trade openness and trade reforms on the employment and wages in the informal sector that is uniformly valid across all developing countries or even across region. The evidence presented is strictly related to the local government policy, rules, regulations, and other country-specific characteristics. Marjit et al. (2004) and Marjit and Maiti (2005) present evidence of an increase in real informal wages and fixed assets and decline in capital formation in organized manufacturing as a result of trade liberalization in India. Further, they show that while the overall unemployment in the country has not been positively affected, the employment in the informal sector has increased.

In a similar manner, Goldberg and Pavcnik (2003) study the relationship between trade liberalization and the informal sector in two LA countries. They focus on Brazil

⁵Goldberg and Pavcnik (2003) also present a theoretical model to study the effect of trade liberalization on informality in the framework of the efficiency wage theory. They, however, ignore general equilibrium effects.

⁶Full employment, also known as natural rate of unemployment, is a concept used in economics to describe situations where workers who are willing to work at the current wage rates in the economy are able to find jobs. If unemployment exists, it's voluntary (due to workers changing job or seasonality) and considered normal, reduced to a certain established level (Ehrenberg and Smith 2000, p. 590; Todaro and Smith 2015, p. 824).

and Colombia, two countries that underwent some significant trade liberalization shocks in the 1980s and 1990s. As it's typical for many LA countries, Brazil and Colombia are known to have large informal sectors. Both countries also experienced significant increases in informal employment during that period, a trend that was associated in the literature with the increased post-trade liberalization competition. Brazil and Colombia's trade liberalization policies were slightly different in comparison to other developing countries. They not only decreased tariffs but also altered the tariffs' structure, such that sectors with traditionally high protection experienced larger reductions than sectors with low protection where tariff cuts were much smaller. Further, both countries employed tariffs as a main tool prior to liberalization, although GATT stipulations allowed less developed countries to keep high protection levels. Goldberg and Pavcnik found no evidence of the informal sector being affected by trade liberalization in Brazil. They found some weak evidence in Colombia that was present only before the country enacted the labor reform, and only in the sectors affected the most by tariff cuts. No evidence of a connection between trade and informality was observed afterwards. Brazil and Colombia's evidence implies that labor market policies play a primary role, particularly in the presences of rigid labor market institutions, as is the case of Colombia.

Two additional empirical studies that did not explicitly explore the link between trade and the informal economy, but still derive some implications in that regard, are Maloney (1998) for Mexico and Currie and Harrison (1997) for Morocco. Maloney showed evidence that the size of and employment in the informal sector, as well as the mobility between the formal and informal sector, move with the business cycle. His findings indicate that activities in the informal sector increase slightly over time. Maloney, however, concludes that workers may or may not be worse off consequently. Currie and Harrison reported that there was almost no impact on aggregate employment and wages in the country after Morocco instituted a wide-ranging trade reform. Those affected, however, were publicly owned and export-oriented companies, who responded by employing low-paid, temporary, workers.

4.4 Comprehensive Treatment of Globalization

The theoretical and empirical studies discussed in the previous two sections make an outstanding contribution to the field by advancing our knowledge on the linkage between trade and informality in developing countries. They, however, do not take into consideration other forms of globalization—political, cultural, social, etc. (see Sect. 4.1). A group of recent studies, Bacchetta et al. (2009), Fugazza and Fiesi (2010), and more recently Pham (2017), remedy this omission by incorporating other facets of globalization.

Bacchetta et al. (2009) use data on informal employment and the informal sector from the ILO to study the effect of globalization on informality in developing countries. The study includes 14 countries from LA, 6 countries from Asia, and 31 countries from Africa observed from the early 1990s to the early 2000s, with the

longest period being 16 years, forming a highly unbalanced panel. The empirical analysis uses a panel data approach, with simultaneous variation of informality rates between and within countries. Since there are differences in the underlying definitions of informality across countries, the authors make the simplifying assumption that the variation of the rates of informality observed across country and over time is not affected by the corresponding definition used by each country. Bacchetta et al. (2009) expand the scope and depth of their empirical study, in comparison to similar studies before, by including a wide variety of economic and social indicators. Among the trade indicators they use are trade diversification and trade concentration,⁷ trade restrictions,⁸ trade reforms,⁹ and most-favored nation average duties,¹⁰ together with the popular and previously used trade openness,¹¹ trade-weighted tariffs, and FDI liabilities.¹² In addition, Bacchetta et al. (2009) use indices for personal contacts and information flows, the two components of the social globalization portion of the KOF Globalization Index (see Appendix 3). They also used the whole KOF Globalization Index¹³ itself as an independent indicator and a set of macroeconomic indicators. The results of the empirical work show that while openness, in general, is associated with lower rates of informality, trade reforms, such as tariff reduction, and FDI inflows are associated with higher rates of informality. Bacchetta et al. suggest that the effect of trade and investment reforms may contribute to a positive outlook in the long run, but, nevertheless, have undesirable effects in the short run. Further, they show that labor market regulations and policies have a mitigating effect on the relationship between trade reforms and informality. Finally, Bacchetta et al. report that there may be a reverse effect between informality and trade, where lower levels of informality positively affect trade diversification and globalization in general.

Following Bacchetta et al. (2009), Fugazza and Fiess (2010) use three different data sets (ILO 2003; Kaufmann and Kaliberda 1996; Schneider 2005) to study the link between trade liberalization and informality, considering a narrower set of trade liberalization indicators. They, too, report mixed results that are also heavily dependent on the econometric approach they use. For example, Fugazza and Fiess show that in a cross-section analysis setup, trade openness is associated with lower levels of informality; in a time-series analysis setup, trade openness is associated with higher informality, in terms of both employment and output; and in a panel data

⁷United Nations Conference on Trade and Development (UNCTAD) indices of exports and imports of countries and country groups.

⁸See Appendix 3.

⁹Annual percentage change of the trade restriction indicator.

¹⁰Taken from the Common Analytical Market Access Database (CAMAD).

¹¹Sum of exports and imports as a share of GDP.

¹²Inflows of FDI as a share of GDP.

¹³The political globalization component of the KOF index is excluded.

analysis setup, informal employment decreases, while informal output increases with trade liberalization.

Both Bacchetta et al. (2009) and Fugazza and Fiess (2010) build empirical studies with regression models that rely on data sets containing a large number of covariates, including composite indices, gathered across several different data sources. The one common caveat is the lack of determination in regard to what factors should be included and what factors excluded from the study. The individual effects of the factors of interest are highly sensitive to the inclusion or exclusion of a single covariate or, sometimes, a small group of covariates. The outcome is ambiguity and lack of consistency between the results on how globalization affects informality reported in the two studies.

To remedy the empirical problem mentioned above, Pham (2017) utilizes a different methodology, called Bayesian model averaging (BMA), that allows the use of endogenous covariates and fixed effects in a panel regression analysis setup. The BMA deals with the model sensitivity to covariates and exogeneity restrictions and helps identify the globalization indicators with a high probability of affecting the informal sector in developing countries. The BMA has been applied to verify the robustness of empirical results to different model specifications.¹⁴ Pham (2017) employs the same indicators chosen by Bacchetta et al. (2009) and uses two sources of data—the ILO and Schneider (2005). Pham's results based on the ILO data on informality are similar to Bacchetta et al. (2009), while the results based on Schneider's (2005) data set are comparable to those of Fugazza and Fiess (2010). Pham's study found that the globalization indicators that significantly affect informality are trade openness, diversification and concentration, financial openness, and personal contacts. Factors reported to be significant in previous studies, such as trade taxes, social and political globalization components, other than personal contacts, and some macroeconomic variables, do not seem to affect informality. Finally, the nature of the relationship between globalization and informality is closely related to the specific measure employed in the study.

5 Conclusion

The evidence presented in this chapter demonstrates the existence of a strong connection between globalization and informality in developing countries. Yet, it's surprising that the topic has not been explored more fully in the literature. Most of the extant empirical evidence is largely country-specific and predominantly dictated by the availability of relevant and reliable macro data. This explains why studies for Brazil, Colombia, and Mexico that have traditionally been known for the collection of rich macro-level data dominate the field. Only a few works exist that attempt to

¹⁴This is done by calculating probabilities and posterior distributions over coefficients and models. The BMA has a history of applications in the economic growth literature.

document the relationship between globalization and the informal sector in a cross-country comparison analysis framework. Even those studies, plagued by some estimation and modeling issues, cannot reach a consensus on the nature of the said relationship. This invites a deeper investigation into the effects of the various facets of globalization on the informal economy, and how they interact with the labor market regulations and policies in developing countries. Furthermore, the less well documented, but nevertheless significant reverse effect of how changes in the size and structure of the informal sector and informal employment affect the globalization process in developing countries has been left almost untouched. There are lessons to be learned on how manipulating the informal sector in a developing economy may cause a potential spur in economic growth.

Appendix 1

1.1 Countries Used in Fig. 1

1. *Africa*¹⁵—*Northern Africa* (Algeria, Egypt, Libya, Morocco, Sudan, Tunisia, Western Sahara); *sub-Saharan Africa* (*Central Africa*, Angola, Cameroon, Central African Republic, Chad, Congo, Congo, Democratic Republic of the Equatorial Guinea, Gabon, Sao Tome and Principe; *Eastern Africa*, Burundi, Comoros, Djibouti, Eritrea, Ethiopia, Kenya, Madagascar, Malawi, Mauritius, Mozambique, Rwanda, Somalia, Tanzania, United Republic of Uganda, Zambia, Zimbabwe; *Southern Africa*, Botswana, Lesotho, Namibia, South Africa, Swaziland; *Western Africa*, Benin, Burkina Faso, Cabo Verde, Côte d’Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, Togo).
2. *LA and the Caribbean*¹⁶—*The Caribbean* (Bahamas, Barbados, Cuba, Dominican Republic, Haiti, Jamaica, Puerto Rico, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago, US Virgin Islands); *Central America* (Belize, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama); *South America* (Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, Uruguay, Venezuela).
3. *Asia and the Pacific*¹⁷—*Eastern Asia* (China, Hong Kong, Japan, S. Korea, Macau, Mongolia, Taiwan); *Southeastern Asia and the Pacific* (*Pacific Islands*, Australia, Fiji, French Polynesia, Guam, New Caledonia, New Zealand, Papua

¹⁵Source: ILO: Women and Men in the Informal Economy: A Statistical Picture (2018, pp. 28, 32, 26).

¹⁶Source: ILO: Women and Men in the Informal Economy: A Statistical Picture (2018, pp. 28, 32, 26).

¹⁷Source: ILO: Women and Men in the Informal Economy: A Statistical Picture (2018, pp. 28, 32, 26).

New Guinea, Samoa, Solomon Islands, Tonga, Vanuatu; *Southeastern Asia*, Brunei, Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand, Timor-Leste, Vietnam); *Southern Asia* (Afghanistan, Bangladesh, Bhutan, India, Iran, Islamic Republic of Maldives, Nepal, Pakistan, Sri Lanka).

1.2 Countries Used in Fig. 2¹⁸

(1) Northern Africa—Algeria, Egypt, Morocco, and Tunisia; (2) Sub-Saharan Africa—Benin, Burkina Faso, Cameroon, Chad, Cote d'Ivoire, Democratic Republic of Congo, Ghana, Guinea, Kenya, Lesotho, Liberia, Madagascar, Mali, Mauritania, Mozambique, Namibia, Niger, Senegal, South Africa, Tanzania, Uganda, Zambia, Zimbabwe; (3) Latin America—Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, Venezuela; (4) Southern and Southeastern Asia—Bangladesh, India, Indonesia, Mongolia, Nepal, Pakistan, Philippines, Sri Lanka, Thailand, Timor-Leste, Vietnam

1.3 Developing Countries Used in Fig. 3¹⁹

Algeria, Argentina, Bangladesh, Benin, Bolivia, Botswana, Brazil, Burkina Faso, Cameroon, Chile, China, Colombia, Costa Rica, Cote d'Ivoire, Dominican Republic, Ecuador, Egypt Arab Repub., Ethiopia, Ghana, Guatemala, Honduras, Hong Kong China, India, Indonesia, Iran, Islamic Repub., Israel, Jamaica, Jordan, Kenya, Korea, Lebanon, Madagascar, Malawi, Malaysia, Mali, Mexico, Moldova, Mongolia, Morocco, Mozambique, Nepal, Nicaragua, Niger, Nigeria, Pakistan, Panama, Peru, Philippines, Saudi Arabia, Senegal, Singapore, South Africa, Sri Lanka, Syrian Arab Republic, Tanzania, Thailand, Tunisia, Turkey, Uganda, United Arab Emirates, Uruguay, Venezuela, Vietnam, Yemen Rep., Zambia, Zimbabwe

¹⁸Charmes (2012, pp. 110–113).

¹⁹<https://data.worldbank.org/indicator/BX.KLT.DINV.WD.GD.ZS> and Schneider (2005, pp. 627–629).

Appendix 2

2.1 FDI Net Inflows (% of GDP, 2000)

Country code	Country	FDI net inflows
DZA	Algeria	0.51
ARG	Argentina	3.67
BGD	Bangladesh	0.53
BEN	Benin	-0.50
BOL	Bolivia	8.77
BWA	Botswana	0.99
BRA	Brazil	5.03
BFA	Burkina Faso	0.88
CMR	Cameroon	1.58
CHL	Chile	6.24
CHN	China	3.48
COL	Colombia	2.44
CRI	Costa Rica	4.84
CIV	Cote d'Ivoire	2.19
DOM	Dominican Republic	4.12
ECU	Ecuador	-0.13
EGY	Egypt	1.24
ETA	Ethiopia	1.64
GHA	Ghana	3.24
GTM	Guatemala	-4.09
HND	Honduras	4.93
HKG	Hong Kong	41.07
IND	India	0.78
IDN	Indonesia	-2.59
IRN	Iran	0.18
ISR	Israel	6.08
JAM	Jamaica	4.7
JOR	Jordan	10.79
KEN	Kenya	0.87
KOR	Korea	2.05
LBN	Lebanon	5.76
MDG	Madagascar	2.14
MWI	Malawi	1.49
MYS	Malaysia	4.04
MLI	Mali	2.04
MEX	Mexico	2.67
MNG	Mongolia	4.72
MAR	Morocco	0.57
MOZ	Mozambique	2.77
NPL	Nepal	-0.01

(continued)

Country code	Country	FDI net inflows
NIC	Nicaragua	5.22
NER	Niger	0.87
NGA	Nigeria	2.46
PAK	Pakistan	0.42
PAN	Panama	6.73
PER	Peru	1.56
PHL	Philippines	1.84
SAU	Saudi Arabia	-0.99
SEN	Senegal	1.74
SGP	Singapore	16.19
ZAF	South Africa	0.71
LKA	Sri Lanka	1.06
SYR	Syrian	1.4
TZA	Tanzania	4.55
THA	Thailand	2.66
TUN	Tunisia	3.5
TUR	Turkey	0.36
UGA	Uganda	2.59
ARE	United Arab Emirates	-0.49
URY	Uruguay	1.15
VEN	Venezuela	4.01
VNM	Vietnam	4.16
YEM	Yemen	0.07
ZMB	Zambia	3.38
ZWE	Zimbabwe	3.35

Source: <https://data.worldbank.org/indicator/BX.KLT.DINV.WD.GD.ZS>

Appendix 3

3.1 KOF Globalization Index Components

3.1.1 Economic Globalization²⁰

- (A) Economic flow (% of GDP) components: (1) Trade—sum of exports and imports of goods and services measured as a share of GDP; (2) FDI (stocks)—sum of inward and outward FDI stock as a percentage of GDP; (3) Portfolio investment—sum of portfolio investment assets stocks and portfolio investment liabilities stocks; (4) Income payments to foreign nationals—employee compensation paid to nonresident workers and investment income

²⁰<http://www.kof.ch/globalization>

(payments on direct investment, portfolio investment, other investments). Income derived from the use of intangible assets is excluded.

- (B) Trade restriction components: (1) Hidden import barriers (“In your country, tariff and non-tariff barriers significantly reduce the ability of imported goods to compete in the domestic market.”); (2) Mean tariff rate (as the mean tariff rate increases, countries are assigned lower ratings); (3) Taxes on international trade as a % of current revenue (import duties, export duties, profits of export or import monopolies, exchange profits, and exchange taxes); (4) Capital account restrictions (two subcomponents: (i) “Foreign ownership of companies in your country is rare, limited to minority stakes, and often prohibited in key sectors or prevalent and encouraged” and (ii) IMF’s Annual Report on Exchange Arrangements and Restrictions, including 13 different types of capital controls)

3.1.2 Social Globalization²¹

- (A) Personal contact components: (1) telephone traffic (international incoming and outgoing telephone traffic in minutes per person); (2) transfers as a % of GDP (sum of gross inflows and gross outflows of goods, services, income, or financial items without a quid pro quo); (3) international tourism (sum of arrivals and departures of international tourists as a share of population); (4) foreign population as a % of total population (number of foreign or foreign-born residents in a country); (5) international letters (number of international letters sent and received per capita).
- (B) Information flow components: (1) Internet users—people with access to the worldwide Internet network; (2) Television—share of households with a television set; (3) Trade in newspapers—sum of exports and imports in newspapers and periodicals in percent of GDP. Data are provided by the United Nations Statistics Division and correspond to those published in the UN.
- (C) Cultural proximity components: (1) number of McDonald’s restaurants per capita; (2) number of IKEA stores per capita; (3) trade in books (sum of exports and imports in books and pamphlets in percent of GDP)

3.1.3 Political Globalization Components²²

- (1) Embassies in country; (2) membership in international organizations (absolute number of international intergovernmental organizations); (3) participation in UN Security Council missions (personnel contributed to UN Security Council missions per capita); (4) international treaties (any document signed between two and more states and ratified by the highest legislative body of each country since 1945)

²¹<http://www.kof.ch/globalization>

²²<http://www.kof.ch/globalization>

References

- A.T. Kearney/Foreign Policy Globalization Index (2001) A.T. Kearney/foreign policy magazine. <http://www.foreignpolicy.com>
- A.T. Kearney/Foreign Policy Globalization Index (2004) A.T. Kearney/Foreign policy magazine. <http://www.foreignpolicy.com>
- A.T. Kearney/Foreign Policy Globalization Index (2005) A.T. Kearney/foreign policy magazine. <http://www.foreignpolicy.com>
- Albrecht J, Navarro L, Vroman S (2009) The effects of labor market policies in an economy with an informal sector. *Econ J* 119(539):1105–1129. <https://doi.org/10.1111/j.1468-0297.2009.02268.x>
- Al-Rodhan N, Stoudmann A, Herd G (2006) Proposal for a globalization matrix: quantifying impacts & responses. GCSP Geneva Centre for Security Policy. http://s3.amazonaws.com/academia.edu.documents/30929656/Proposal_for_a_Globalization_Matrix_-_Quantifying_Impacts___Responses.pdf?AWSAccessKeyId=AKIAJ56TQJRTWSMTNPEA&Expires=1459180147&Signature=sWVqiUyNscqV741KOG17hQo2RII%3D&response-content-disposition=inline%3B%20filename%3DProposal_for_a_Globalization_Matrix_Quan.pdf
- Amaral P, Quintin E (2006) A competitive model of the informal sector. *J Monet Econ* 53(7):1541–1553. <https://doi.org/10.1016/j.jmoneco.2005.07.016>
- Andersen T, Herbertsson T (2005) Quantifying globalization. *Appl Econ* 37(10):1089–1098. <https://doi.org/10.1080/00036840500118200>
- Antunes A, Cavalcanti TV (2007) Startup costs, limited enforcement, and the hidden economy. *Eur Econ Rev* 51(1):203–224. <https://doi.org/10.1016/j.euroecorev.2005.11.008>
- Bacchetta M, Ernst E, Bustamante JP (2009) Globalization and informal jobs in developing countries. ILO, Geneva
- Bamrud J (2005) Panama best, Argentina worst: Latin America globalization index. *Latin Business Chronicle*
- Beladi H, Yabuuchi S (2001) Tariff-induced capital inflow and welfare in the presence of unemployment and informal sector. *Jpn World Econ* 13(1):51–60. [https://doi.org/10.1016/S0922-1425\(00\)00062-1](https://doi.org/10.1016/S0922-1425(00)00062-1)
- Bergesen A (ed) (1980) *Studies of the modern world-system*. Academic Press, New York
- Bhagwati J (1958) Immiserizing growth: a geometrical note. *Rev Econ Stud* 25(3):201. <https://doi.org/10.2307/2295990>
- Bhattacharyya DK (1999) On the economic rationale of estimating the hidden economy. *Econ J* 109(456):348–359. <https://doi.org/10.1111/1468-0297.00438>
- Boeri T, Garibaldi P (2007) Shadow sorting. In: Frankel J, Pissarides C (eds) *NBER international seminar on macroeconomics 2005*. MIT, Cambridge, MA, pp 125–163
- Bosch M, Esteban-Pretel J (2012) Job creation and job destruction in the presence of informal markets. *J Dev Econ* 98(2):270–286. <https://doi.org/10.1016/j.jdeveco.2011.08.004>
- Bourdieu P (2004) *Acts of resistance: against the new myths of our time*, 1st edn. Polity Press, Cambridge
- Brecher R, Diaz Alejandro C (1977) Tariffs, foreign capital and immiserizing growth. *J Int Econ* 7(4):317–322. [https://doi.org/10.1016/0022-1996\(77\)90048-4](https://doi.org/10.1016/0022-1996(77)90048-4)
- Carruth AA, Oswald AJ (1981) The determination of union and non-union wage rates. *Eur Econ Rev* 16(2):285–302. [https://doi.org/10.1016/0014-2921\(81\)90005-2](https://doi.org/10.1016/0014-2921(81)90005-2)
- Castells M (2010) *The rise of the network society*, 2nd edn with a new pref. Wiley-Blackwell, Chichester
- Chandra V, Khan MA (1993) Foreign investment in the presence of an informal sector. *Economica* 60(237):79. <https://doi.org/10.2307/2554732>
- Charlot O, Malherbet F, Terra C (2011) Product market regulation, firm size, unemployment and informality in developing economies (Discussion paper No. 5519). IZA, Bonn, Germany
- Charmes J (2000) The contribution of informal sector to GDP in developing countries: assessment, estimates, methods, orientations for the future. Institute for Research and Development,

- Marceille, France. https://www.researchgate.net/publication/237743723_The_Contribution_of_Informal_Sector_to_GDP_in_Developing_Countries_Assessment_Estimates_Methods_Ori-entations_for_the_Future?enrichId=rgreq-af5604391326b8f8440932d04e526616-XXX&enrichSource=Y292Z2XJQYWdlOzIzNzc0MzcyMztBUzoyMjA1OTc0OTg5NzgzMDRAMTQyOTYwNTk1MDY3MQ%3D%3D&el=1_x_2&_esc=publicationCoverPdf
- Charmes J (2012) The informal economy worldwide: trends and characteristics. *Margin J Appl Econ Res* 6(2):103–132. <https://doi.org/10.1177/097380101200600202>
- CSGR index (2006) CSGR, University of Warwick. <http://www2.warwick.ac.uk/fac/soc/csgr/index>
- Currie J, Harrison A (1997) Sharing the costs: the impact of trade reform on capital and labor in Morocco. *J Labor Econ* 15(S3):S44–S71. <https://doi.org/10.1086/209876>
- Dabla-Norris E, Gradstein M, Inchauste G (2008) What causes firms to hide output? The determinants of informality. *J Dev Econ* 85(1–2):1–27. <https://doi.org/10.1016/j.jdeveco.2006.05.007>
- Dierckxsens W (2000) The limits of capitalism: an approach to globalization without neoliberalism. Zed Books; Distributed in the USA exclusively by St. Martin’s Press, London; New York
- Dixon H (1999) Controversy: on the use of the “hidden economy” estimates. *Econ J* 109(456):335–337. <https://doi.org/10.1111/1468-0297.00436>
- Dolado J, Jansen M, Jimeno J (2007) A positive analysis of targeted employment protection legislation. *BE J Macroecon (Topics)* 7(1):Article 14
- Dreher A (2006) Does globalization affect growth? Evidence from a new index of globalization. *Appl Econ* 38(10):1091–1110. <https://doi.org/10.1080/00036840500392078>
- Dreher A, Gaston N, Martens WJM (2008) Measuring globalization: gauging its consequences, 1st edn. Springer, New York
- Ehrenberg RG, Smith RS (2000) Modern labor economics: theory and public policy, 7th edn. Addison Wesley, Reading, MA
- Evans M, Syrett S, Clift S, Williams C (2006) The informal economy and deprived neighborhoods: a systematic review. Department of Local Government and Regions, London
- Feige E (1990) Defining and estimating underground and informal economies: the new institutional economics approach. *World Dev* 18(7):989–1002. [https://doi.org/10.1016/0305-750X\(90\)90081-8](https://doi.org/10.1016/0305-750X(90)90081-8)
- Feige E (1996) Overseas holdings of U.S. currency and the underground economy. In: Pozo S (ed) Exploring the underground economy: studies of illegal and unreported activity. W.E. Upjohn Institute, Kalamazoo, MI, pp 5–62. <https://doi.org/10.17848/9780880994279.ch2>
- Fugazza M, Finess NM (2010) Trade liberalization and informality: new stylized facts. SSRN Electron J. <https://doi.org/10.2139/ssrn.1596030>
- Fugazza M, Jacques J-F (2004) Labor market institutions, taxation and the underground economy. *J Public Econ* 88(1–2):395–418. [https://doi.org/10.1016/S0047-2727\(02\)00079-8](https://doi.org/10.1016/S0047-2727(02)00079-8)
- Gersbach H (2002) Does and how does globalization matter at the industry level? *World Econ* 25(2):209–229. <https://doi.org/10.1111/1467-9701.00427>
- Giddens A (2000) Runaway world: how globalization is reshaping our lives. Routledge, New York
- Goldberg PK, Pavcnik N (2003) The response of the informal sector to trade liberalization. *J Dev Econ* 72(2):463–496. [https://doi.org/10.1016/S0304-3878\(03\)00116-0](https://doi.org/10.1016/S0304-3878(03)00116-0)
- Gong X, van Soest A (2002) Wage differentials and mobility in the urban labour market: a panel data analysis for Mexico. *Labor Econ* 9(4):513–529. [https://doi.org/10.1016/S0927-5371\(02\)00045-3](https://doi.org/10.1016/S0927-5371(02)00045-3)
- Grinols E (1991) Unemployment and foreign capital: the relative opportunity costs of domestic labour and welfare. *Economica* 58(229):107. <https://doi.org/10.2307/2554978>
- Hardt M, Negri A (2003) Empire (13. printing). Harvard University Press, Cambridge, MA
- Harris J, Todaro M (1970) Migration, unemployment and development: a two-sector analysis. *Am Econ Rev* 60(1):126–142
- Held D, McGrew A, Goldblatt D, Perraton J (eds) (2002) Global transformations: politics, economics and culture. Stanford University Press, Stanford, CA
- Heshmati A (2006) Measurement of a multidimensional index of globalization. *Glob Econ J* 6(2). <https://doi.org/10.2202/1524-5861.1117>

- ILO (1993) Resolution concerning statistics of employment in the informal sector, adopted by the fifteenth international conference of labor statisticians. ILO, Geneva. http://www.ilo.org/global/statistics-and-databases/standards-and-guidelines/resolutions-adopted-by-international-conferences-of-labour-statisticians/WCMS_087484/lang%2D%2Den/index.htm
- ILO (2002) Women and men in the informal economy: a statistical picture, 1st edn. ILO, Geneva. <http://www.wiego.org/sites/default/files/publications/files/ILO-Women-Men-Informal-2002.pdf>
- ILO (2003) Guidelines concerning a statistical definition of informal employment. ILO, Geneva. http://www.ilo.org/global/statistics-and-databases/standards-and-guidelines/guidelines-adopted-by-international-conferences-of-labour-statisticians/WCMS_087622/lang%2D%2Den/index.htm
- ILO (2012) Statistical update on employment in the informal economy, 2nd edn. ILO, Geneva. http://laborsta.ilo.org/applv8/data/INFORMAL_ECONOMY/2012-06-Statistical%20update%20-%20v2.pdf
- ILO (2018) Women and men in the informal economy: a statistical picture, 3rd edn. ILO, Geneva. http://www.ilo.org/wcmsp5/groups/public/%2D%2D-dgreports/%2D%2D-dcomm/documents/publication/wcms_626831.pdf
- Kar S, Marjit S (2001) Informal sector in general equilibrium: welfare effects of trade policy reforms. *Int Rev Econ Financ* 10(3):289–300. [https://doi.org/10.1016/S1059-0560\(01\)00088-0](https://doi.org/10.1016/S1059-0560(01)00088-0)
- Kaufmann D, Kaliberda A (1996) Integrating the unofficial economy into the dynamics of post socialist economies: a framework of analysis and evidence. In: Kaminski B (ed) *Economic transition in Russia and the new states of Eurasia*. M.E. Sharpe, London, pp 81–120
- Kellner D (1995) *Media culture: cultural studies, identity, and politics between the modern and the postmodern*. Routledge, London
- Kluser R, Fu W (2004) The cultural globalization index. *Foreign Policy*, online Web Exclusive. <http://foreignpolicy.com/2004/02/10/the-cultural-globalization-index/>
- Kolm A, Larsen B (2004) Does tax evasion affect unemployment and educational choice? (Working paper No. 2004–4). Institute for Evaluation of Labor Market and Education Policy, Uppsala, Sweden
- Lacko M (2000) Hidden economy – an unknown quantity? Comparative analysis of hidden economies in transition countries, 1989–95. *Econ Transit* 8(1):117–149. <https://doi.org/10.1111/1468-0351.00038>
- Langhorne R (2001) *The coming of globalization: its evolution and contemporary consequences*. Palgrave, Houndmills
- Li K, Pang I, Ng M (2007) Can performance of indigenous factors influence growth and globalization? CSGR Working Paper No. 215/07. University of Warwick. <http://www2.warwick.ac.uk/fac/soc/pais/research/researchcentres/csgr/papers/workingpapers/2007/wp21507.pdf>
- Lippert O, Walker M (eds) (1997) *The underground economy: global evidence of its size and impact*. Vancouver, BC, The Fraser Institute
- MacKenzie D, Wajcman J (eds) (1999) *The social shaping of technology*, 2nd edn. Open University Press, Buckingham
- Maloney W (1998) The structure of labor markets in developing countries: time series evidence on competing views. The World Bank, Washington, DC. <https://doi.org/10.1596/1813-9450-1940>
- Maloney W (2004) Informality revisited. *World Dev* 32(7):1159–1178. <https://doi.org/10.1016/j.worlddev.2004.01.008>
- Marjit S (2003) Economic reform and informal wage—a general equilibrium analysis. *J Dev Econ* 72(1):371–378. [https://doi.org/10.1016/S0304-3878\(03\)00082-8](https://doi.org/10.1016/S0304-3878(03)00082-8)
- Marjit S, Beladi H (2002) The Stolper–Samuelson Theorem in a wage differential framework. *Jpn Econ Rev* 53(2):177–181. <https://doi.org/10.1111/1468-5876.00019>
- Marjit S, Maiti D (2005) Globalization, reform and the informal sector. Working paper. UNU-WIDER, United Nations University, No. 2005/12
- Marjit S, Kar S, Sarkar P (2004) Capital mobility and informal wage in a small economy—two examples. *South Asia Econ J* 5(2):261–266. <https://doi.org/10.1177/139156140400500204>

- Marjit S, Kar S, Beladi H (2007) Trade reform and informal wages. *Rev Dev Econ* 11(2):313–320. <https://doi.org/10.1111/j.1467-9361.2007.00409.x>
- Martens P, Rotmans J (eds) (2011) *Climate change: an integrated perspective*. Springer, Dordrecht
- Martens P, Zywiets D (2006) Rethinking globalization: a modified globalization index. *J Int Dev* 18 (3):331–350. <https://doi.org/10.1002/jid.1223>
- Martens P, Rotmans J, Groot D d (2003) Biodiversity: luxury or necessity? *Glob Environ Chang* 13 (2):75–81. [https://doi.org/10.1016/S0959-3780\(02\)00089-4](https://doi.org/10.1016/S0959-3780(02)00089-4)
- Miles T, Posner E (2008) Which states enter into treaties, and why? Olin Working Paper (420). University of Chicago Law & Economics
- Mondragon V, Pena P (2010) Business ownership and self-employment in developing economies: the Colombian case. In: Lerner J, Schoar A (eds) *International differences in entrepreneurship*. University of Chicago Press, Chicago, pp 89–127
- Mortensen D, Pissarides C (2003) Taxes, subsidies and equilibrium labor market outcomes. In: Phelps E (ed) *Designing inclusion: tools to raise low-end pay and employment in private enterprise*. Cambridge University Press, Cambridge, UK, pp 44–73
- Nitsch V (2007) State visits and international trade. *World Econ* 30(12):1797–1816. <https://doi.org/10.1111/j.1467-9701.2007.01062.x>
- O'Neill J, Wilson R, Purushothaman R, Stupnytska A (2005) How solid are the BRICs? (Global Economics Paper No. 134). Goldman Sachs. <http://www.goldmansachs.com/our-thinking/archive/archive-pdfs/how-solid.pdf>
- OECD (2002) Foreign direct investment for development. OECD, Paris. <https://www.oecd.org/investment/investmentfordevelopment/1959815.pdf>
- OECD (2005) *OECD economic globalization indicators 2005*. OECD, Paris
- Pham THH (2017) Impacts of globalization on the informal sector: empirical evidence from developing countries. *Econ Model* 62:207–218. <https://doi.org/10.1016/j.econmod.2017.01.001>
- Pratap S, Quintin E (2006) Are labor markets segmented in developing countries? A semiparametric approach. *Eur Econ Rev* 50(7):1817–1841. <https://doi.org/10.1016/j.euroecorev.2005.06.004>
- Salamon L, Sokolowski S (eds) (2004) *Global civil society: dimensions of the nonprofit sector*, vol 2, 1st edn. Kumarian Press, Bloomfield, CT
- Schneider F (2003) The shadow economy. In: Rowley CK, Schneider F (eds) *Encyclopedia of public choice*, vol II. Kluwer Academic, Dordrecht, pp 286–296
- Schneider F (2005) Shadow economies around the world: what do we really know? *Eur J Polit Econ* 21(3):598–642. <https://doi.org/10.1016/j.ejpoleco.2004.10.002>
- Schneider F, Enste D (2000) Shadow economies: size, causes, and consequences. *J Econ Lit* 38 (1):77–144
- Schneider F, Enste D (2002) *The shadow economy: theoretical approaches, empirical studies, and political implication*. Cambridge University Press, Cambridge, UK
- Smith P (1994) Assessing the size of the underground economy: the Canadian statistical perspectives. *Canadian Economic Observer*, Catalogue No.: 11-010, 3.16-33 (18 March 1994, cited in Schneider and Enste (2000, p. 5))
- Tanzi V (1983) The underground economy in the United States: annual estimates, 1930-80. In: *Staff Papers – International Monetary Fund*, 30(2), 283. doi:<https://doi.org/10.2307/3867001>
- Thomas J (1992) *Informal economic activity*. Harvester Wheatsheaf, New York
- Todaro M (1969) A model for labor migration and urban unemployment in less developed countries. *Am Econ Rev* 59(1):138–148
- Todaro M, Smith S (2015) *Economic development*, 12th edn. Pearson, London
- Ulyssea G (2010) Regulation of entry, labor market institutions and the informal sector. *J Dev Econ* 91(1):87–99. <https://doi.org/10.1016/j.jdeveco.2009.07.001>
- Williams C (2006) *The hidden enterprise culture: entrepreneurship in the underground economy*. Edward Elgar, Cheltenham
- Williams C (2007) Entrepreneurs operating in the informal economy: necessity or opportunity driven? *J Small Bus Entrep* 20(3):309–319. <https://doi.org/10.1080/08276331.2007.10593402>

- Williams C (2008) Beyond necessity-driven versus opportunity-driven entrepreneurship: a study of informal entrepreneurs in England, Russia and Ukraine. *Int J Entrep Innov* 9(3):157–166
- Williams C, Nadin S (2010) Entrepreneurship and the informal economy: an overview. *J Dev Entrep* 15(04):361–378. <https://doi.org/10.1142/S1084946710001683>
- Williams C, Windebank J (2006) Harnessing the hidden enterprise culture of advanced economies. *Int J Manpow* 27(6):535–551. <https://doi.org/10.1108/01437720610690473>
- World Markets Research Center (2001). <http://www.globalinsight.com>
- Wuyts M (2001) Informal economy, wage goods and accumulation under structural adjustment: theoretical reflections based on the Tanzanian experience. *Camb J Econ* 25(3):417–438. <https://doi.org/10.1093/cje/25.3.417>
- Zenou Y (2008) Job search and mobility in developing countries. Theory and policy implications. *J Dev Econ* 86(2):336–355. <https://doi.org/10.1016/j.jdeveco.2007.06.009>