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Summer July, 2010

Regulatory Governance and the Informal Economy: Cross-National Comparisons

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Regulatory governance and the informal economy: cross-national comparisons

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This article examines the relationship between state regulation and the informal economy at the macro-level across a broad set of countries. The analysis shows (a) that countries have different types of regulatory environments—varying by the degree of state regulation of economic activity—and the degree to which the state implements and enforces the existing regulations—and (b) that this variation helps explain why some nations have more informal economic activity than others. The findings also suggest that (c) contrary to what the neoliberal orthodoxy has prescribed over the past few decades, decreasing the degree of state regulation in the economy will not necessarily formalize the economy. The degree of regulation seems to have a significant association with the size of the informal economy only in nations with effective law enforcement. Where this is not the case—as in many developing nations—deregulatory policies are likely to be counter-productive in formalizing the economy.

Keywords: informal economy, regulation, deregulation, state, cross-national **JEL classification:** E26 informal economy, underground economy; P26 political economy, property rights

1. Introduction

Economic modernization in the twentieth century involved, as one of its core elements, formalization—the control of private economic activity through rules and regulations administered by national bureaucracies. The prominence of economic practices that are outside of or hidden from the state's gaze in today's global economy presents an 'antithetical' trend (Hart, 2005). A phenomenon that was

¹Encapsulated in the phrase 'capitalism and bureaucracy have found each other and belong intimately together' (Weber, 1978, p. 1395), it was one of the major themes of Weber's work that modern capitalism depended on clear, predictable and enforceable rules that only a bureaucratic state could provide.

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viewed in the early 1970s simply as a vestige of pre-capitalism and associated with the subsistence activities of the poor in underdeveloped nations, informality is now recognized as an integral element of contemporary market economies. It constitutes a common way of 'doing business' not only in tiny enterprises, but also in many established companies employing thousands of people (Farrel, 2004). According to internationally comparable estimates provided by Schneider (2005), the World Bank (2004) and the OECD (2009), more than one-third of the developing world's GDP and half of its labour force remain outside the official gaze of the state (see Supplement 1 in the online supplement for estimations of the size of the informal economy in different regions).

Why do informal economic practices develop? Why are they more prevalent in some nations than in others? Under what institutional conditions can we expect them to increase or decrease? These are pressing questions. Their careful consideration is important not only because the informal economy has substantial implications for a wide range of issues concerning economic policy and development, but also because it remains critical to our understandings of the workings of contemporary capitalism, and the limits and nature of state control over the economy (Hart, 2005).

This article attempts to contribute to a body of literature that has sought to specify the factors that affect the development of the informal economy. By undertaking an analysis of internationally comparable data, it investigates the relationship between state regulation and the informal economy at the macro-level.

Previous studies have examined the role of a wide range of economic and social factors (e.g. underdevelopment, unemployment, the decline of the manufacturing sector, openness to foreign trade and immigration) in fostering economic informalization. Systematic analyses of the state's relationship to economic informalization have remained somewhat more limited,² however. Moreover, most of the existing inquiries of the state-informal economy nexus have primarily focused on one particular country. Their temporal and spatial limitations have hindered their ability to establish a general theoretical linkage between variations in informality outcomes on the one hand, and the structural characteristics of states on the other (Tabak and Chrichlow, 2000). In specifying and testing the relationship between the state and the informal economy across a broad set of countries, this article represents a step forward.

I argue here that the development of the informal economy remains inherently linked to the nature of the state's regulatory intervention in the economy. All

²The relative shortage of systematic comparative analysis of the state-informality nexus *vis-à-vis* the abundance of self-contained ethnographies on the subject is why, as Sassen (2000) argues, informality is often understood simply as a form of urban marginality rather than as a significant aspect of the state–economy relationship.

states intervene in the workings of the economy on the basis of a set of enforceable rules (Castells and Portes, 1989). These rules lay out who can participate in economic life, what kinds of economic activities can be undertaken and how. Using cross-national data, I show here that countries have different types of regulatory orders—varying by the degree of the state regulation of the economy, and the degree to which the state implements and enforces the existing regulations and that this variation goes a long way in explaining why some nations have more informal economic activity than others. Speaking in average terms, the size of the informal economy tends to be largest in nations that have a high degree of regulation in the economy coupled with ineffective enforcement, and lowest in nations where regulatory load is limited and enforcement is effective. The size of the informal economy has a more significant association with the quality of enforcement than with the degree of regulation. Thus, nations that have a high degree of regulation in the economy combined with effective enforcement are likely to have less informality in their economies than nations where the degree of regulation is low but enforcement is ineffective.

The findings also suggest that, contrary to what the neoliberal orthodoxy has prescribed over the past few decades, a decrease in the degree of state regulation in the economy will not necessarily formalize the economy. The degree of regulation seems to have a significant association with the size of the informal economy only in nations with effective law enforcement. In other words, in nations that lack effective enforcement—which is the case with many of the world's developing nations—deregulatory policies are likely to be counter-productive in formalizing the economy. After a few decades during which developing nations have constantly been told that they should deregulate in order to formalize their economies, these findings present a cautionary tale.

2. Background and theory

There exists a voluminous literature on the informal economy. Before examining the state regulation-informal economy nexus, it might be helpful to review³ what this literature has to say about the causes of informalization.

2.1 Economic informalization: an outcome of underdevelopment?

The first wave of research on the informal economy originated in a series of studies exploring the social and economic conditions of underdevelopment in Africa in the early 1970s (ILO, 1972; Hart, 1973). These studies characterized

³What I provide here is not an exhaustive review. I focus on the causal accounts of the development of the informal economy, and leave out discussions regarding its nature. Also excluded are the studies on the informal economy in socialist nations (a.k.a. 'the second economy'). These omissions inevitably lead to a simplified account of the existing literature.

African economies as having a dualistic structure. On the one hand, there was the 'formal' economy involving large-scale enterprises, skilled labour and technology, and on the other hand, the 'informal' economy that consisted of street vendors, domestic workers and small producers who were neither supported nor regulated by the state. While it displayed some disagreement as to the nature and function of the informal economy, the early literature contained a general consensus that the informal economy was a direct result of the chronic poverty and unemployment that existed in underdeveloped nations, and was not linked to modern capitalism. It was assumed that when capitalist growth took off, a sufficient industrial base developed, and modern jobs got created, the informal economy would disappear giving way to formal and modern institutions.⁵

In the late 1970s and 1980s, however, an increasing number of studies began to document the existence of informal activities in the advanced economies of Europe and the USA. These studies cast doubt on the view that economic informality resulted from underdevelopment and that it was not compatible with modern capitalism. In an influential 1987 article, Portes and Sassen argued: 'This neat division between Third World countries in which the informal sector is large, and advanced countries from which it has nearly disappeared is wrong. There are indeed major differences between the levels of development, but they do not include the absence of an informal economy in the developed countries' (p. 41).

2.2 Economic informalization: a result of immigration?

Efforts to explain the growth of informal economic activity in advanced nations have revolved around two research programmes. One line of research has focused on the role the informal economy played as an economic safety net for the urban poor (Ferman and Ferman, 1973; Stack, 1974; Lowenthal, 1975, 1981; Dow, 1977; Henry, 1978; Gershuny, 1983; Pahl, 1984). These studies conceptualized the informal economy as 'a nexus of social glue' that made the maintenance of social life possible in a modern market economy (Gaughan and Ferman, 1987, p. 25). The prevalence of informal economic activities among immigrant communities has remained a central concern in this field, leading some scholars to explore further the link between immigration and informalization. Some scholars noted that lack of legal work permits as a factor that makes immigrants vulnerable

⁴ILO (1972) and Hart (1973) portrayed the informal economy as a diverse and productive sector that could bring prosperity to the poor and unemployed in underdeveloped nations. Previous studies of underdevelopment, however, had deemed the activities that would eventually be conceptualized as comprising the informal economy not only as archaic but also as unproductive.

⁵Both the Marxist and neo-classical theories of development agreed on this view. For a short but very nice discussion about this, see Portes and Sassen's (1987) article 'Making It Underground'.

to finding themselves in informal work arrangements with less pay and no security benefits (Sassen, 1989; Raijman, 2001). Others have argued that the informal economy provides employment opportunities for immigrants who often face difficulties in getting access to regular jobs, hence representing an important albeit extra-legal entry into the urban labour market (Portes and Bach, 1985; Zhou, 1992; Waldinger and Lapp, 1993; Raijman and Tienda, 2000).

2.3 Economic informalization: an integral element of advanced capitalism?

In light of mounting evidence on the sizeable existence of informal economic activity in the advanced countries, another group of scholars have noted the need to look beyond poor countries and poor communities. In direct opposition to previous studies that had portrayed the informal economy as incompatible with modern capitalism, they emphasized how the workings of advanced capitalism foster informalization (Portes and Sassen, 1987; Castells and Portes, 1989; Sassen, 2002). Castells and Portes (1989) argued that the informal economy provides firms with a channel to attain flexible production, profit generation and cost reduction. According to this view, falling profits brought about by increasing labour costs and competition from cheaper foreign goods would make informalization more likely (Portes and Sassen, 1987). Sassen, in her later work (2002), pointed also to the decline of the manufacturing-dominated industrial complex of the post-war era and the rise of a new service-dominated economic complex as critical factors in the rise of informalization. This shift, according to Sassen, had contributed to 'the demise of the broader institutional arrangements that defined the employment relation in the postwar period' (p. 5). The service industries that became the driving economic force in the 1980s remained characterized, she noted, by 'greater earnings and occupational dispersion, weak unions, and mostly unsheltered jobs in the lower-paying echelons' (p. 5).

2.4 The state-informal economy nexus

With the publication of *The Other Path* (De Soto, 1989), the informal economy has increasingly begun to be seen as economic actors' response to the 'big state' among the neoliberal policy circles. In his book, De Soto vividly described how the small entrepreneurs in Peru who migrated to cities from rural areas in the second half of the twentieth century rapidly became extralegal as a result of the country's institutional arrangements that make it costly for economic actors to

⁶De Soto's theory has enjoyed an intellectually dominant position in the prevailing understandings of economic informality—especially in the policy-oriented international organizations such as the World Bank.

enter and remain in the formal realm (De Soto, 1989, p. xvii). Studies and policy reports following De Soto's footsteps have argued that by decreasing the regulatory costs of operating within the formal system nations could decrease the degree of informality in their economies. The historical evidence has defied this argument that deregulation would lead to formalization, however. As Heintz and Pollin point out, 'in many developing countries, government regulations have been declining over the past two decades as informalization has risen' (Heintz and Pollin, 2003, p. 6).

Since the late 1980s, there have been a series of sociological studies examining the relationship between the state and the informal economy in different contexts. In their study of Hispanic women home-workers in the garment and electronics industries in California and Florida, Fernandez-Kelly and Garcia (1989) showed how informalization might take place under the auspices of the state which, through the actions of local and federal agencies, may tolerate or even stimulate informal economies in order to resolve potential conflict or promote social patronage. Grossman (1989) in his analysis of incomes and outlays of Soviet urban population provided parallel findings. He showed how the tolerant political climate that manifested itself in the half-hearted enforcement of the law in the later years of Brezhnev's rule led to a burgeoning informal (second) economy. Standing's (1989) analysis displayed how the reversal of the state's full employment policy towards a supply-side strategy under the Thatcher administration resulted in the disenfranchisement and unemployment of a large section of the traditional working class and indirectly contributed to the informalization of the British labour market. Cross (1998) in his study of street vending in Mexico has not only shown how the state might allow or fail to control informal economic activity, but also shed light on the political capacity of informal economic actors themselves. His analysis has uncovered the conditions under which informal actors—in this case, street vendors—are able to thwart state attempts to limit or eliminate them. In a similar vein, Tripp's (1997) research in Tanzania has shown how urban dwellers' refusal to comply with regulations that interfered with their survival was instrumental in changing the state's policies in the 1980s and 1990s. More recently, Itzigsohn (2000) examined the role of state policies in the growth and organization of informal labour markets in Costa Rica and the Dominican Republic. These studies have advanced our knowledge of the role the state plays in the growth of the informal economy in important ways. Nevertheless, most of them focused primarily on one or two particular contexts. While they provided rich, in-depth accounts of the ways in which states shape the growth of the informal economy, they have not formulated a generalizable theoretical linkage between the informal economy and the regulatory characteristics of states.

In recent years, a consensus has begun to emerge among scholars from different disciplinary backgrounds that the regulatory character of the state should be made central to the study of the informal economy. Sassen, one of the earlier and prominent voices in the literature, for instance, emphasized the need to look more closely at state regulation, arguing, 'While there are certain activities that lend themselves more to informalization than others, it is not the intrinsic characteristics of activities that determine informalization but rather the boundaries of state regulation' (Sassen, 2000, p. 13). In a recent article, Portes and Centeno (2006) emphasized the state's strength and regulatory intent as significant determinants of the informal economy's development across nations. Other scholars have pointed to the distinction between de jure and de facto regulation, arguing that what matters is not the written law but its actual implementation and enforcement (Johnson et al., 1998; Ihrig and Moe 2001; Loayza et al., 2005; Almeida and Carneiro 2006). Along these lines, Almeida and Carneiro explored how enforcement of labour regulations affects the firm's use of informal labour, firm size and firm performance, and showed that the enhancement of the enforcement mechanisms would positively affect law-abiding behaviour since employers would then be facing a higher possibility of being caught and having to pay a fine. Ihrig and Moe explored tax compliance and showed that while tax rates also affect the degree of an economy's informality, it is primarily the quality of enforcement that matters.

This study contributes to this more recent body of work on the relationship between state regulation and the informal economy. It attempts to systematize and make explicit what others have also argued: namely, that state regulation matters. At the same time, however, by using comparable cross-national data it shows how it does so specifically, thereby contributing to our knowledge of the state-informal economy nexus.

3. State regulation and the informal economy

Regulation can be defined as public control over private sector behaviour (Vogel, 1996). All states intervene in the process and outcome of economic activities on the basis of a set of enforceable rules (Castells and Portes, 1989). These rules lay out who can participate in economic life, what kinds of economic activities can be undertaken and how. They create a structured environment—a regulatory order—within which economic actors operate. This space embodies various opportunities or barriers for the emergence of informal practices. As Portes and Centeno (2006) put it, informal activities develop when and where they can but the 'degrees of freedom' for their development remain affected by 'the regulatory capacity of state agents and the scope of regulation they are expected to enforce' (p. 28).

Building on Portes and Centeno's (2006) theoretical framework, I emphasize two dimensions as key to the state's regulatory relationship with the economy. The first dimension concerns the degree to which the state, through its various rules and laws, restrains the operation of private economic initiative. While some states impose heavy and complicated rules on economic agents, significantly restricting their participation in economic life or the kinds of economic activities they can undertake, others might make them subject to a considerably lighter regulatory load. The degree of state regulation in the economy reflects how state actors view markets. Commitment to economic liberalism on the part of the policy makers, for instance, might result in limited intervention in economic life. These state actors might see the market as the best mechanism for maximizing social and economic welfare, and treat with suspicion the motives and capabilities of bureaucratic agencies. On the other hand, concerns over the ability of the markets to serve the interests of the people might result in a high degree of intervention in economic life. Such states might require numerous qualifications and licenses for market entry, put in place rigid labour standards, or impose high taxes with the objective of correcting market imperfections.

The second aspect of the state's regulatory relationship with the economy concerns the degree to which the state actually remains able and committed to uphold the law. As Weber (1978) argued, rules constitute a social order only if and when they are 'endowed with certain specific guarantees' of their validity (p. 313). In other words, without a mechanism that, in a given situation, 'will enforce compliance with the rules' one cannot talk about the presence of a social order but only its absence (Weber, p. 312). In his discussion of legal orders, Weber makes the distinction between 'guaranteed' and 'unguaranteed' law to specifically underline the significance of the enforcement aspect. While some states have the institutional capacity, and the political will, to ensure regularized and consistent implementation and enforcement of the existing laws, others might lack either of these factors, resulting in ineffective enforcement.

Variations along these two dimensions might manifest themselves in the form of different regulatory orders across nations, as presented in Figure 1. In some nations, economic actors operate in regulatory orders which are characterized by a low degree of state regulation in the economy coupled with effective enforcement. In such nations, rules are 'minimum but dependable', to use Portes and Centeno's (2006) phrase. In other nations, laws regulating economic life remain extensive, but the tools and mechanisms for implementing and enforcing the laws do not work effectively. The reason for this might be institutional—a matter of lack of institutional capacity on the part of the state—or ideological—a matter of lack of political will to enforce the rules. Yet, other nations might combine a high degree of regulation with effective enforcement, embodying what I call a 'coercive' regulatory order. These regulatory environments are

enforcement	Low degree of regulation and effective enforcement	High degree of regulation and effective enforcement
Quality of er	Low degree of regulation and ineffective enforcement	High degree of regulation and infective enforcement

Degree of state regulation of the economy (regulatory load)

Figure 1 Regulatory orders.

coercive because by effectively enforcing what remains an extensive set of rules, they substantially limit the degrees of freedom for the operation of private economic enterprise. Finally, some nations embody what I call a 'chaotic' regulatory environment—one that combines a low regulatory load with ineffective enforcement. In such nations where rules are few and are not well applied, it remains near impossible to talk about the presence of a regulatory 'order' in the Weberian sense.

4. Data and method

In this article I use regression techniques to examine whether and how the state's regulatory intervention in the economy remains associated with the size of the informal economy. This requires, of course, controlling for other characteristics of countries that might also be associated with the size of the informal economy. Hence, I simultaneously include in the analysis a variety of variables including: openness to trade; rate of unemployment; economic growth performance; percentage of immigrants in the population and share of the manufacturing sector in the total value-added. Each of these factors is derived from the literature that has been reviewed in the previous pages. Since the data used in this analysis is cross-sectional and not time-series, the regression analysis here must be treated as a way of suggesting patterns in the data, rather than a method for rigorous hypothesis testing and causal inference. In an attempt to partially remedy for lack of time-series data, I used lagged regressors whenever possible. The data on the size of the informal economy, the dependent variable, are from 2003/2004 whereas all the explanatory variables used in the analysis are from 2000. The only exception

to this is the data used to construct the degree of regulation in the economy, which is from 2004. This is the earliest date that these data were made available by the World Bank.

4.1 Dependent variable: the size of the informal economy as a percentage of GDP

It is common knowledge that estimates of the size of the informal economy must be treated with caution, as the measurement of the informal economy is problematic in several ways. Besides, the obvious fact that it is difficult to accurately measure a phenomenon whose very goal and nature is to escape detection, the varied nature of the informal economy makes it hard for researchers to agree on a given indicator and measurement technique (Feige, 1990). Depending on what exactly it is that is being measured, and how it is being measured, the results vary.

The available techniques for estimating the size of the informal economy are broadly classified in two categories as direct (micro) and indirect (macro) approaches. Direct approaches involve collecting data on informal activities through administering surveys, auditing tax returns or reviewing census reports. Indirect (macro) techniques, also known as discrepancy measures, on the other hand, follow the footprints that informal economic activities leave behind in the labour, money and product markets, such as the difference between spending and savings accounts, the dissonance between official labour participation rates and the general growth trend, or the amount of currency in circulation above and beyond what is used in official transactions. Indirect techniques yield quantitative estimates of the size of the informal economy as a ratio of GDP, which can be computed for each nation and year. Hence, they make it possible to draw systematic comparisons across nations and over time. On the down side, since they are based on a number of a priori assumptions regarding the relationship between certain macroeconomic indicators and informal economic activity, their robustness depends on the reasonableness of the assumptions that underlie them (Feige, 1990). Moreover, although they provide an aggregate estimate of the size of the informal economy, they do not provide information on the actual activities that comprise it. Nevertheless, if we are to move 'beyond merely describing instances of informal work in various settings' towards making comparisons and providing generalizable explanations, as Sassen (2000, p. 18) argues, we have to accept working with a certain margin of error. As long as comparative cross-national analyses rely on estimates derived from a unified indirect technique, I would argue, problems concerning the accuracy of measurement become somewhat less of an issue.

In this analysis, I primarily rely on Schneider's (2005) estimations of the size of the informal economy. As far as indirect/macro-estimates of the informal economy are concerned, Schneider's data constitutes the most comprehensive set of international data using a unified method that is readily available (see Supplement 2 in the online supplement for more detail about Schneider's data).

4.2 Independent variables: degree of regulation and quality of enforcement

Problems concerning the availability and comparability of data are also of concern for cross-national analyses of state regulation. As is the case with the informal economy, state regulation is a multifaceted phenomenon which involves a wide range of laws and policies, all of which vary dramatically across nations.

In order to capture the *degree of state regulation of the economy*, I primarily rely on the World Bank's Doing Business (DB) data set. DB is one of World Bank's major cross-national research initiatives, which has made possible compilation of a substantial amount of data on various aspects of state regulation of economic activity across the world.

DB⁷ captures information on the state's regulation of the economy across nations in two steps. First, laws and regulations concerning economic activity in a given nation are reviewed by the members of the DB team. Then, through standardized surveys, more detailed input is sought from local government officials, lawyers, business consultants and other professionals with hands-on experience of administering or advising on legal and regulatory requirements. As a result, the DB data reflect the actual requirements that businesses face, rather than a description of written laws and regulations.

DB provides information on the overall degree of state regulation, as well as its particular types. In this study, I use the DB data from 2004 to measure state regulation of economic activity in four areas: market entry, paying taxes, employment of workers and property registration.

With regards to regulation of 'market entry' and 'property registration', DB provides three kinds of information for each nation in the data set: the number of procedures to be completed, the cost of completing the necessary procedures and the time it takes to complete them. Since these are in different

⁷The information here is incorporated from the World Bank's Cost of Doing Business website.

units, I first converted them into standardized z-scores. I then computed indexes for 'regulation of market entry' and 'regulation of property registration' in each nation by taking an average of their standardized components.

With regard to regulations administering the payment of taxes, also, DB provides three kinds of information for each nation: total tax rate, number of tax payments and the time it takes to complete the tax payments. Once again, I first converted each of these separate measures, which were in different units, into standardized *z*-scores. Then I computed an index of 'taxation' for each nation by taking an average of the three related standardized components (tax rate, number of tax payments and the time it takes to complete the tax payments).

The 'employing workers' index is an average of three components: 'difficulty of hiring', 'difficulty of firing' and 'rigidity of hours'. The same procedures of standardizing and averaging were followed as described above.

By taking an average of these four standardized regulatory indices—namely, 'regulation of market entry', 'regulation of property registration', 'regulation of employment', and 'taxation'—I computed an aggregate index for the overall degree of state regulation of the economy (DR) for each nation. The index for the overall degree of state regulation in the economy ranges from -1.18 to 1.76, with higher scores indicating more extensive and rigid rules and laws regulating private economic activities.

To measure the quality of enforcement (QE) I rely primarily on the World Bank's Governance Matters (GM) data set from 2000. The GM⁸ are based on several hundred individual variables measuring perceptions of governance drawn from 37 separate data sources constructed by 31 different organizations—mostly business risk and economic forecasting organizations. One of the governance indicators measured by the World Bank is the 'rule of law', which concerns the quality of contract enforcement, the police and the courts (fairness, independence and speediness of judiciary). I use these data to measure the QE across nations. GM provides point estimates for the quality of the rule of law in each nation. These estimates are normally distributed with a mean of zero and a standard deviation of one. The law enforcement index for the sample ranges from -2.03 to 1.92, with higher scores corresponding to higher effectiveness of law enforcement institutions.

I used additional data from the 2000 Global Competitiveness Survey of the World Economic Forum to cross-validate the results. One of the questions in the 2000 survey asks respondents 'how burdensome' regulations are in their respective countries (1 = burdensome; 7 = not burdensome). Another question

⁸The information here is incorporated from Kaufmann *et al.* (2005). *Governance Matters IV: Governance Indicators for 1996–2004*, World Bank Policy Research Working Paper No. 3630, available at SSRN: http://ssrn.com/abstract=718081

asks respondents whether 'starting a new business' in their country is 'generally easy or difficult' (1 = extremely difficult and time consuming; 7 = easy). By taking the average of these two measures, I created an alternative index for the *degree of regulation in the economy*. Higher scores on this index indicate less burdensome regulation. To measure the QE, I relied on two separate questions from the Global Competitiveness Survey as well. One of these questions measures the quality of the judiciary by asking respondents 'whether irregular payments to judges, court personnel, or other officials are very rare' (1 = strongly disagree; 7 = strongly agree). The second question asks respondents 'whether private businesses can rely on police for protection' (1 = strongly disagree; 7 = strongly agree). Again, by taking an average of these two measures I created an alternative effectiveness of law enforcement index, with higher scores indicating more effective enforcement.

4.3 Control variables

I include in the analysis five socio-economic variables, which I believe constitute theoretically plausible determinants of the size of the informal economy, to reduce the omitted variable bias. These control variables are derived from the literature on the informal economy reviewed in the previous pages.

First, to examine the argument that the prominence of informal economic practices in advanced nations results from the economic restructuring brought about by the fall of the manufacturing sector in these nations (Sassen 2000, 2002), I include a variable measuring the share of manufacturing in the total value-added (SM) in the analysis. The data for the share of manufacturing sector in the value-added are from 2000, and are provided by the United Nations Statistics Division. Following Sassen's thesis, we would expect to see less informal activity in nations where manufacturing has a higher share in the total value-added.

I also include the log of openness to trade (OT). As discussed earlier, one of the arguments in the literature is that competition from foreign products (in domestic or export markets) could play a role in fostering informalization as a mechanism to reduce costs of production (Sassen and Portes, 1987; Castells and Portes, 1989). Following this argument, one would expect to see more informal activity in nations that are open to trade. To measure a nation's OT, I use the trade-to-GDP ratio, which is the sum of exports and imports as a ratio of GDP. The data on exports, imports and GDP are from 2000, and are provided by the Political Risk Services Group (PRS) Country Data.

A third variable that I included in the analysis is the *share of immigrants in a country's population* (IM). Inclusion of this variable is in consideration of a considerable number of studies in the literature that have emphasized the role of immigrants in driving the informal economy, especially in metropolitan areas.

Here, I use data from 2000 made available by the United Nations Population Division Unit that measures the 'international migrants as a percentage of the population'. International migrants are defined as persons born in a country other than that in which they reside.

Another explanation that can be derived from the literature with regard to the cross-national variation in the size of the informal economy is the differences in countries' levels of development, which is often measured by their per capita GDPs. It makes sense theoretically, for that matter, to include per capita GDP in the analysis as a control variable. However, per capita GDP remains highly correlated with many other country traits that I control for, particularly with the QE (0.87). Including it in the analysis in this case would have created serious multicollinearity concerns. Therefore, I have decided to leave it out. I included two other control variables that stem from the theoretical literature framing informality as a matter of economic development. These are the rate of unemployment (UN) and economic growth performance (EG). According to the literature, informal economic activities develop in countries with poor growth performance and limited job opportunities in the formal economy. In such contexts, the argument goes, people resort to the informal economy to make the living that they are not able to make through formal means. The rate of unemployment data that I use to examine whether this is the case is from 2000, and is provided by the PRS Country Data. As a measure of economic growth performance, I used an average GDP growth over a span of 5 years from 1998 to 2002. These data also come from the PRS. I should note that the findings remained robust when the analysis was repeated by including per capita GDP. I come back to this issue in the next section.

Finally, I include dummy variables for different regions including the Middle East and North Africa (MENA), Western Europe, Africa, Post-Soviet, Latin America, Central and Eastern Europe and East and South East Asia.

Sample statistics including the bivariate correlations between the explanatory variables and the dependent variable (the size of the informal economy as a percentage of GDP) are provided in Table 1. Variance inflation factors (VIF), also reported in Table 1, were used to detect the presence of multicollinearity among variables. VIF values indicate how much the variances of the estimated regression coefficients are inflated in comparison with when the regressors are not linearly related. The VIF values in this exercise are all quite moderate (the largest is 2.23). There does not seem to be evidence of multicollinearity among variables.

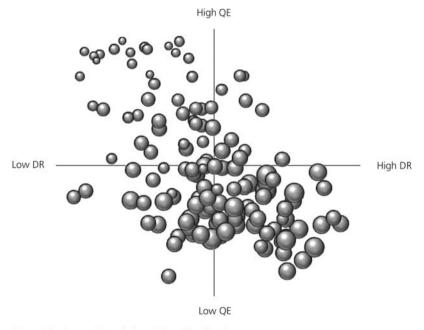
5. Results

I start with a three-dimensional graph, presented in Figure 2, which displays the distribution of the size of nations' informal economies along the two regulatory variables of interest—the DR and the QE institutions (see Supplement 3 in the

Table 1 Sample statistics

	IE	DR	QE	UN	EG	SM	IM	OT (log)	VIF score
Mean	35.04	-0.03	-0.08	2.50	2.50	5.02	6.72	4.07	
Max.	68.30	1.76	1.92	50.00	7.40	2.00	70.40	5.75	
Min.	8.70	-1.18	-2.03	1.20	-5.00	1.00	0.00	2.56	
SD	13.40	0.54	0.97	9.57	1.82	7.60	10.90	0.59	
n	140	150	151	89	90	148	148	89	
Correlatio	ons								
IE	1.00								_
DR	0.53	1.00							2.23
QE	-0.72	-0.57	1.00						2.18
UN	0.37	0.45	-0.56	1.00					1.56
EG	-0.13	-0.19	0.07	-0.20	1.00				1.25
SM	-0.19	-0.21	0.35	-0.26	-0.01	1.00			1.32
IM	-0.33	-0.36	0.36	-0.27	-0.10	0.04	1.00	0.28	1.83
OT (log)	-0.04	-0.24	0.09	-0.13	0.09	0.08	0.28	1.00	1.24

Notes: IE, the size of the informal economy as % of GDP; DR, degree of state regulation; QE, quality of law enforcement; UN, unemployment rate; EG, average economic growth (1998–2002); SM, share of manufacturing in total value-added; IM, % immigrants in total population; OT (log), openness to foreign trade.



Notes: DR, degree of regulation; QE, quality of enforcement.

Figure 2 Regulatory orders and the size of the informal economy.

online supplement for a list of countries in each category). The size of the bubbles indicates the size of the informal economy as a percentage of GDP. The graph shows that it is in regulatory environments combining a low regulatory load with effective law enforcement institutions that we find the size of the informal economy to be the smallest. Almost all OECD countries are in this category with the USA, UK, Australia, Singapore, Hong Kong, Denmark, Switzerland, New Zealand and Canada standing closer to the ideal type. Conversely, the highest levels of informality in the economy seem to exist in regulatory environments where rules and laws organizing the economy remain restrictive and burdensome while enforcement of the rules remains ineffective. A majority of the Sub-Saharan Africa and Latin American nations are in this group. The most ideal typical examples of this category are Angola, Burundi, Democratic Republic of Congo and Sierra Leone. Latin American nations such as Mexico, Argentina and Brazil are far from being ideal typical examples as they remain closer to the centre. The graph also shows high degrees of informality associated with what I deem 'chaotic' regulatory environments. Armenia, Albania, Kazakhstan, Serbia, Fiji, Solomon Islands, Vietnam, Jamaica and Papua New Guinea are the ideal typical examples in this category. Coercive regulatory environments seem to be associated with lower degrees of informality than chaotic regimes, and with higher degrees of informality than liberal regimes. Although there is no country that stands close to an ideal type here, France, Greece, Portugal Spain, Slovenia, India and Morocco are in this group.

In Tables 2 and 3 I provide the regressions on which the present analysis rests. Depending on the number of missing cases, the sample size in a given exercise ranges from 48 to 138.

The regression results of the first model in Table 2 show the size of the informal economy to be significantly associated both with the DR in the economy

Table 2	OLS resu	lts: regulator	v variables
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	Model 1	Model 2
Constant	34.660 (0.785)***	35.664 (0.900)***
Regulatory Variables Degree of regulation (DR) Quality of enforcement (QE) DR x QE	3.730 (1.756)** -8.857 (1.007)***	4.964 (1.825)*** -8.144 (1.048)*** 2.975 (1.381)**
Observations	138	138
R^2	0.54	0.55

Notes: Dependent variable: size of the informal economy (as a % of GNP); standard errors in parentheses; *** Significant at 99% confidence level; **significant at 95% level; * significant at 90% level.

	Model 3	Model 4	Model 5
Constant	30.575 (8.687)***	8.347 (0.955)***	21.058 (9.341)**
Regulatory Variables Degree of regulation Quality of enforcement	3.672 (3.321) -9.881 (1.637)***	-0.127 (0.187) -0.766 (0.098)***	3.181 (3.239) -7.002 (2.304)***
Socioeconomic Variables Unemployment Openness to trade (log) Share of manufacturing Economic growth Immigrant population	-0.127 (0.155) 2.229 (2.127) -0.115 (0.199) -0.480 (0.670) -0.095 (0.120)	0.001 (0.015) -0.095 (0.211) -0.027 (0.022) -0.071 (0.062) 0.004 (0.018)	-0.053 (0.171) 3.618 (2.233) -0.052 (0.198) -0.274 (0.644) -0.098 (0.126)
Regional Dummies MENA CEE East and Southeast Asia Latin America Western Europe Africa Post Soviet			-2.433 (4.693) -3.169 (5.346) -7.736 (4.798) 8.278 (4.317)* -3.354 (4.393) 4.509 (4.753) 13.580 (7.045)*

Table 3 OLS results: regulation, socio-economic variables and regions

Observations

 R^2

Notes: Dependent variable: size of the informal economy (as a % of GNP); standard errors in parentheses; *** Significant at 99% confidence level; ** at 95% level; * at 90% level. Model 4 uses World Economic Forum data for the size of the informal economy, degree of regulation, and quality of enforcement. Higher scores on the degree of regulation in Model 4 indicate lower degrees of regulation. MENA: Middle East and North Africa; CEE: Central and Eastern Europe.

48

0.77

78

0.70

78

0.59

(P = 0.03) and the QE (P = 0.00). On average, a one-point increase in the DR is associated with a 3.7% increase in the size of the informal economy, whereas a one-point increase in the QE is associated with an 8.9% decrease in the size of the informal economy.

The argument of the paper is focused on the interrelationship between the degree of regulation and the extent of its enforcement. Hence, in Model 2, I check whether the effect of the DR on the size of the informal economy varies by the QE. The interaction term $DR \times QE$ is found positive and statistically significant at the P=0.03 level. This indicates that the DR is more strongly associated with the size of the informal economy in nations with higher levels of effectiveness in law enforcement (see Supplement 4 in the online supplement for a discussion of how the partial effect of DR should be estimated).

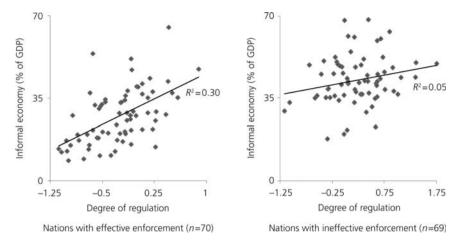


Figure 3 Degree of regulation and the size of the informal economy (% of GDP).

Figure 3⁹ shows this more clearly. The first plot shows the relationship between the DR and the size of the informal economy across nations with effective enforcement, while the second plot shows the relationship in nations where law enforcement is ineffective. In the former, the correlation between the size of the informal economy and the degree of regulation is 0.55, whereas in the latter it is 0.21.

Model 3 in Table 3 examines the association between state regulation and the size of the informal economy by controlling for a range of socio-economic variables. As noted before, each of these factors is derived from the literature on the informal economy. The QE variable remained highly significant (P=0.00) even when controlling for these variables, while the DR in the economy turned insignificant. The findings remained robust when the exercise is repeated with log of per capita GDP. Model 4, which uses the World Economic Forum data to examine the same hypotheses, provides consistent results also. The QE variable again achieves significance (P=0.00), while all the other variables, including the DR, remain insignificant.

Model 5 includes dummy variables for region in the analysis to explore whether some of the variation across the nations can be explained by the various historical and cultural factors that may be associated with a nation's particular regional context. The QE variable remains highly significant (P = 0.00) after dummy variables for region were included in the model as well. The regional

⁹The sample was split into two roughly equal sized samples as 'nations with effective law enforcement' and 'nations with ineffective law enforcement' to plot the relationship between degree of regulation and the size of the informal economy. Testing for the significance of the difference between two correlations was conducted. The difference is significant at the 0.05 level.

dummies for Latin America and former Soviet nations also obtained significance, both at the P=0.06 level, with substantially large coefficients. This suggests that there are certain historical or cultural circumstances¹⁰ that affect the growth of the informal economy in these two regions, which are not captured by any of the regulatory or socio-economic variables specified in the model. A nation's being from these regions seems to make it more likely for it to have a larger sized informal economy regardless of its regulatory environment, its unemployment rate, its degree of OT, the size of its immigrant population, its economic growth performance or the composition of its value-added.

These results, however preliminary, provide some insight into the question of why the past two decades' market-oriented policies that sought to reduce the regulatory costs on economic enterprises have not led to a decrease in the size of the informal economy across the developing nations, as neoliberal institutions and policy-makers predicted that they would. First of all, although the degree of state regulation overall has a significant positive correlation with the size of the informal economy, the correlation between the two seems to be substantially weaker in the case of nations with ineffective legal enforcement mechanisms. A majority of the world's developing nations are of course in this category. More to the point, in order to be able to say that a nation could decrease the size of its informal economy by decreasing its degree of state regulation in the economy, one would have to show not only that there is a significant relationship between these two variables but also that this relationship holds when controlling for other characteristics of countries as well. This does not seem to be the case, however. It should be no surprise in this sense that deregulatory policies have not brought about a decrease in the size of the informal economy.

A few words must be said with respect to the robustness of the results. An important issue to take into consideration is, of course, the problem of endogeneity between the size of the informal economy and the effectiveness of law enforcement. It needs to be tested whether QE is an independent determinant of the size of the informal economy, and is not simply the consequence of higher levels of informality in the economy. I employ a two-stage least square (2SLS) estimation with instrumental variables and a DWH endogeneity test to address this issue and check whether the OLS regression estimates are consistent (see Supplement 5 in the online supplement for further details on the choice of instruments and the 2SLS results). The test fails to reject the null hypothesis that QE is exogenous to the size of the informal economy.

¹⁰The present analysis cannot capture what those factors are. Given the findings, it is clear that this is a question that is worth being researched further.

6. Conclusion

The objective of this article was to provide some additional insight into the question of cross-national variation in the size of the informal economy by specifically probing the state regulation-informality nexus. As previously discussed, one of the predominant views in the literature explains this variation as a result of the differences in nations' development levels. This view, however, cannot explain why nations with the same level of development would have different levels of informality in their economies. Second, it cannot account for the fact that the size of the informal economy has not declined but has actually increased in many developing nations with periods of increased growth. More importantly, it does not specify which of the many factors associated with development plays a more significant role in determining the size of the informal economy. Another position, what we may call the neoliberal view, holds that the informal economy is an outcome of the 'regulatory burden' nations impose on economic actors. According to this perspective, nations that impose heavy rules on economic actors operating within their borders are bound to end up with higher levels of informality in their economies than nations with less burdensome regulations. Deregulation is portrayed as a policy tool that would bring about formalization in the economy. This perspective cannot explain how is it that nations with comparable levels of regulatory burdens have different degrees of informality in their economies, and why is it that in many developing countries, the size of the informal economy has expanded over the past few decades during what was a period of intensive deregulation (Heintz and Pollin, 2003).

Still other studies emphasize a wide range of socio-economic factors including immigration, unemployment, low growth rates and competition from foreign products. The findings of the present analysis challenge and contribute to these explanations. While the complexity of the issues and the limitations of data make it necessary to be cautious, overall findings of this analysis present support for the argument that the reason why some nations have more informality in their economies has much to do with the regulatory character of the state.

The effectiveness of law enforcement seems to be a particularly significant factor here. This variable has consistently obtained high levels of statistical and substantial significance even when controlled for a range of socio-economic factors as well as region-specific effects. The relationship between the degree of state regulation and the informal economy, on the other hand, does not seem to be straightforwardly causal, as it is often suggested. Although there is a significant positive correlation between the degree of regulation and the size of the informal economy, this relationship does not hold when controlling for the socioeconomic and region-specific characteristics of countries. This finding has important implications for economic policy. It first of all disputes the neoliberal

argument that the informal economy develops as an outcome of the 'regulatory burden' nations impose on economic actors. Although deregulation has often been portrayed by the neoliberal orthodoxy as a facilitative tool to attract economic actors out of informality into the formal realm, the reality is much more complex and varied. The regression results presented here, while they do not allow us to discern these relations over time, imply that it makes little sense to argue that getting rid of regulations would make economies more formal. As a matter of fact, the degree of state regulation does not have a significant association with the size of the informal economy in nations which do not have effective enforcement mechanisms. This applies to most of the world's developing nations. Having said that, deregulatory policies taking place simultaneously with, or subsequent to, institutional reforms that seek to improve the effectiveness of law enforcement institutions and mechanisms may possibly yield that effect, since, judging by the data, the size of the informal economy has a stronger relationship with the degree of state regulation in nations with more effective law enforcement systems. More research involving specific cases is needed, of course, to look into these relations more carefully. This article provides only a bird's eye view of the state regulation-informal economy nexus.

Supplementary material

Supplementary material is available at Socio-Economic Review online.

Acknowledgements

I would like to thank Neil Fligstein, Peter Evans, Ann Swidler, Nicholas Ziegler, Stephanie Mudge, Andrew Penner, Raphael Auer, Gokce Goktepe, Timothy Moran, Rachel Sullivan Robinson, and Taekjin Shin for their useful feedback on the earlier versions of this article. I also would like to thank the reviewers and editors of the *Socio-Economic Review* for their comments and suggestions. Any shortcomings are solely my own.

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