

Evaluating the Impact of the Informal Economy on Businesses in South East Europe: Some Lessons from the 2009 World Bank Enterprise Survey

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Abstract:

The aim of this paper is to evaluate the variable impacts of the informal economy on businesses and employment relations in South East Europe. Evidence is reported from the 2009 World Bank Enterprise Survey which interviewed 4,720 businesses located in South East Europe. The finding is not only that a large informal sector reduces wage levels but also that there are significant spatial variations in the adverse impacts of the informal economy across this European region. Small, rural and domestic businesses producing for the home market and the transport, construction, garment and wholesale sectors are most likely to be adversely affected by the informal economy. The paper concludes by calling for similar research in other global regions and for a more targeted approach towards tackling the informal economy.

Keywords: informal economy; workers' wages; underground economy; World Bank Enterprise Survey; South-East Europe

JEL: E26, M26, O17, K42

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1. Introduction

To what extent do businesses in South East Europe witness competition from the informal economy? And what types of business are adversely affected by the existence of the informal economy? Over the past millennium, and more recently due to the financial crises in South-East European countries such as Greece, the issue of combating the informal economy has moved up the public policy agenda in the European Union and beyond (European Commission 2003a, 2003b, 2007; European Industrial Relations Observatory 2005, 2007; Ghinararu 2007; Ignjatović 2007; ILO 2002a; Loukanova and Bezlov 2007; OECD 2002). It is now widely recognised that the informal economy is growing (ILO 2002b; Schneider 2008; Schneider and Enste 2002), that it results in unfair competition and a race to the bottom in terms of labour conditions, and that it hinders the achievement of wider societal goals such as fuller-employment and social cohesion (European Commission 2007; Small Business Council 2004). Until now, however, informed discussion about whether legitimate businesses do indeed witness competition from the informal economy and whether it

has an impact on the formal economy has not been evaluated. There has been even less discussion on the impact of the informal economy on the labour market in general and upon employment relations in particular,

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both inside the informal economy itself and those competing against it. The intention in this paper is to begin to fill this gap by reporting a 2009 World Bank Enterprise Survey of 4,720 firms in South East Europe.

To commence, therefore, the extant literature on the informal economy will be reviewed. This will display that despite many studies measuring the variable prevalence of the informal economy and unravelling the heterogeneous nature of informal work in various populations and places, few have sought to understand whether businesses do indeed witness competition from the informal economy and whether it has an impact on the formal economy, and also the impact on workers in both the formal and informal sector. To start to bridge this gap in the evidence base, the second section introduces the survey data, whilst the third section will report its findings in relation to South East Europe. This will reveal the variable level of competition witnessed by formal businesses and the different impacts of the informal economy on various types of business. It will also indicate an adverse impact of the informal economy on employees' remuneration at the level of the regional economy. The concluding section then reviews the implications both for public policy and future research on this topical issue.

At the outset, however, the informal economy needs to be defined. Despite numerous adjectives and nouns being used to denote this work, including 'cash-in-hand work', 'informal employment', 'undeclared work', the 'shadow economy' and the 'underground sector' (Thomas 1992; Williams and Windebank 1998), the strong consensus is that the informal economy is remunerated activity that is in every respect legal besides the fact that it is unregistered by, or hidden from, the state for tax and social security purposes (European Commission 1998, 2007; OECD 2002; Renooy et al 2004; Sepulveda and Syrett 2007; Williams 2004; Williams and Windebank 1998). If other differences prevail, such as that it is not paid or the goods and services are illegitimate, then the activity is not defined as the 'informal economy' but rather as 'unpaid' or 'criminal' activity.

2. Literature

2.1 Previous research on the informal economy

There is a growing body of literature on the variable prevalence of the informal economy and the heterogeneous character of the informal labour market in

South Eastern Europe. Studies have been conducted in Bulgaria (Centre for the Study of Democracy 2008; Chavdarova 2002; Loukanova and Bezlov 2007), Cyprus (Christofides 2007), Greece (Danopoulos and Znidaric 2007; Karanitos 2007; OECD 2005; Lazaridis and Koumandraki 2003; Liaropoulos et al 2008; Lyberaki and Maroukis 2005; Tatsos 2001), Romania (Ghinaru 2007; Kim 2005; Neef 2002; Stanculescu 2002), Serbia and Montenegro (Benovska-Sabkova 2002) and Slovenia (Ignjatović 2007). These are often small-scale surveys and of particular population groups and/or places. The only known nationally representative cross-national survey so far conducted in relation to South-Eastern Europe has been the 2007 Eurobarometer survey which comprised 4,544 face-to-face interviews conducted in Bulgaria, Cyprus, Greece, Romania and Slovenia which finds that 4% of the population surveyed engage in undeclared work, although this varies significantly socio-spatially (Williams 2010a,b).

Previous studies on the informal economy in South-East Europe and beyond have so far largely concentrated on analysing how participation in such work varies either across socio-economic groups (e.g., Leonard 1994; Pahl 1984), men and women (e.g., Leonard 1994; Williams 2004; Williams and Windebank 2006), migrant groups (Lyberaki and Maroukis 2005; Reyneri 1998 2001), cross-nationally (e.g., Bajada and Schneider 2005; ILO 2002b; Schneider and Enste 2002) or locally and regionally (Renooy 1990; Williams and Windebank 1998). Throughout this literature, a common tendency can be discerned away from universal generalisations and towards more socially, culturally and geographically embedded appreciations. It is increasingly recognised, for example, that although women might be the principal participants in the informal economy in some places and socio-cultural contexts, this is not universally the case (Williams 2004). There is also a growing appreciation that the informal economy is growing in some places but declining in others due to how economic, environmental, social and institutional factors combine together in various 'cocktails' in different places (e.g., Renooy et al 2004; Sepulveda and Syrett 2007; Williams 2006; Williams and Windebank 1998).

A deeper appreciation is also emerging of the nature of informal labour and how this varies socio-spatially (e.g., by gender, migrant group, sector, occupation, location). Context-bound and embedded understandings are therefore emerging. Despite this, and as Williams (2006a) reveals, many commentators have continued to adopt a

fairly narrow conception of informal labour, focusing upon those particular aspects of the informal economy that reinforce their perspective and ignoring or disregarding those aspects which do not reinforce their views.

In the conventional structuralist literature, as Castells and Portes (1989) point out, informal work is commonly represented as waged employment conducted under degrading, low-paid and exploitative 'sweatshop-like' conditions by marginalised populations who do this work out of necessity (Davis 2006; Sassen 1996). Viewing informal waged work as emerging in late capitalism as a direct result of the advent of a de-regulated open world economy, the argument has been that the processes of economic globalization, namely a dangerous cocktail of de-regulation and increasing global competition, are causing an expansion of such work (e.g., Sassen 1996). It is thus seen as a new facet of contemporary capitalism. This 'globalization thesis' thus views the informal economy, which it perceives as waged work or false self-employment, as existing at the bottom of a hierarchy of types of employment with its workers sharing similar characteristics to 'downgraded labour': they receive few benefits, low wages and have poor working conditions (e.g., Castells and Portes 1989; Gallin 2001; Portes 1994; Sassen 1996). As Davis (2006: 186) puts it, the informal economy marks the re-emergence of 'primitive forms of exploitation that have been given new life by postmodern globalization'. The role of public policy from this perspective is therefore to eradicate such work from the economic landscape by detecting and punishing non-compliance (Williams 2008b).

However, as the Eurobarometer survey of five South-East European nations highlights, informal waged employment constitutes just 24% of all informal work (Williams 2010a,b). On the one hand, other kinds of waged informal employment have been identified and on the other hand, a multiplicity of more autonomous forms of informal work. Each is considered in turn along with their consequences for public policy.

The conventional assumption that the informal economy is low-paid waged work and jobs either informal or formal, has come under increasing scrutiny. Informal wage rates have been shown to be as polarised as those in the formal labour market (Fortin et al 1996; Thomas 1992; Williams 2004; Williams and Windebank 1998). Some literature has also begun to question whether jobs are either formal or informal. Revealing how some formal employees receive two wages, a declared

official wage and an unofficial undeclared ('envelope') wage (Neef 2002; Round et al 2008; Williams 2007, 2008a, 2009; Woolfson 2007; Žabko and Rajevska 2007), such 'quasi-formal' employment reveals how jobs can be simultaneously both formal and informal.

Until recently, one of the only data sources in South Eastern Europe on the prevalence of such quasi-formal employment was hearsay evidence from a 2006 survey in Bulgaria. This finds that 90% believe that formal employers only pay social security contributions on the minimum income, not on the entire salary (Loukanva and Bezlov 2007). However, the 2007 Eurobarometer survey reveals that in the five South East European countries surveyed, namely Bulgaria, Cyprus, Greece, Romania and Slovenia, 16% of all employees receive envelope wages, that the undeclared wage component is an average of 60% of their total wage and that such quasi-formal employment is not confined to low-paid informal waged employment (Williams 2010a).

There is also now widespread evidence that much informal work is conducted on a self-employed or autonomous basis (ILO 2002b; Perry and Maloney 2007; Renooy et al 2004; Sepulveda and Syrett 2007; Williams 2004; Williams and Windebank 1998). Indeed, the 2007 Eurobarometer survey reveals in the five South East European nations surveyed that three-quarters (76 percent) of all informal work is conducted on an own-account basis rather than as waged work. Although structuralist commentators have depicted such self-employment as largely low paid 'false self-employment' with little employment protection and poor working conditions (Hudson 2005; Sassen 1996), and a by-product of the growth of sub-contracting and outsourcing arrangements under de-regulated global capitalism, this reading has been challenged by both neo-liberal commentators (de Soto 1989, 2001) and studies revealing how informal self-employment is often conducted out of choice and in preference to formal waged work (Cross and Morales 2007; Perry and Maloney 2007). The outcome has been the depiction of a 'hidden enterprise culture' of informal entrepreneurs who engage in such entrepreneurial endeavour in preference to formal employment (Evans et al 2006; Small Business Council 2004; Williams 2006). Indeed, the Eurobarometer surveys reinforce this, displaying that 52% of those participating in informal work are willing rather than reluctant participants (Williams 2010a).

An array of post-structuralist, critical and post-modern commentators have yet further re-read the

heterogeneous nature of informal labour. They have drawn inspiration from a wider literature on exchange that transcends the conventional 'thin' depiction of monetary exchanges as universally market-like and profit-motivated, by adopting 'thicker' representations that unpack the complex and messy characters and logics of monetised transactions (Bourdieu 2001; Gibson-Graham 2006; Slater and Tonkiss 2001; Zelizer 1994, 2005). The outcome has been to re-read some monetary transactions in the informal economy as embedded in closer social relations and logics other than profit (Williams 2004). Reinforcing this, several surveys in North European nations such as Sweden and the UK reveal that informal work is often conducted for and by kin, neighbours, friends and acquaintances and for reasons other than purely financial gain (Persson and Malmer 2006; Williams 2004). The only known study to investigate this in South-East Europe has been the 2007 Eurobarometer survey which reveals that 46% of all informal work is conducted on an own-account basis for closer social relations, including kin, friends, neighbours and acquaintances (Williams 2010a).

In sum, until now, the vast majority of studies both in South-East Europe and beyond have evaluated only the variable prevalence of the informal economy and the heterogeneous nature of informal labour. Much less has been written from an organisational perspective on the characteristics of businesses engaged in the informal economy and the drivers that led them to operate in such a manner.

2.2 Characteristics and drivers of businesses operating in the informal economy

Examining what is known about the characteristics of individual businesses operating in the informal economy, a common finding has been that the commonality of participation in the informal economy is related to: firm size in that smaller firms are more likely to participate in the informal economy than larger firms (Rice 1992; Hanlon, Mills, and Slemrod 2007; Tedds 2010; Williams 2006b); the legal form of the business, with sole trader businesses engaging to a greater extent than other legal forms (Tedds 2010; Williams 2006b), and the age of the business, with younger firms being more likely to participate than more established firms (Tedds 2010; Williams 2006b).

Turning to the drivers that result in businesses operating in the informal economy, the most common

issues identified are those related to various aspects of the quality of governance in relation to the tax system (Dreher *et al.* 2005; Johnson *et al.* 2000; Lacko 2000; Torgler and Schneider 2009; Friedman *et al.* 2000), the level of corruption in the wider society (Friedman *et al.* 2000; Dreher and Schneider 2006; Buehn and Schneider 2010) and tax rates (Kamdar 1997; Tedds 2010; Lacko 2000).

A multiplicity of drivers regarding the quality of governance regarding the tax system has been identified. Nur-Tegin (2008), in an analysis of transition countries, for example, argues that the greater participation of younger smaller businesses in the informal economy is a result of tax administrators targeting larger enterprises due to the larger potential revenue payback in the sense that the revenue-to-cost ratio for tax offices is greater with larger than smaller businesses. Using an earlier wave of the World Bank Enterprise Survey than the one reported below, he also identifies the importance of social norms, trust in government and the complexity of the tax system. Other aspects of the governance of the tax system identified as driving businesses into the informal economy include the quantity and complexity of regulations (Lacko 2000), the degree of discretion of tax administrators (Lacko 2000), the high levels of bureaucracy/red tape (Dreher *et al.* 2005; Johnson *et al.* 2000; Lacko 2000; Torgler and Schneider 2009; Friedman *et al.* 2000), the absence of the rule of law (Schleifer 1997) and issues related to the perceived fairness and justice of the tax system and administration. Fairness refers to the extent to which individuals believe that they are paying their fair share compared with others, justice refers to whether citizens receive the goods and services they believe that they deserve given the taxes that they pay, and procedural justice to the degree to which people believe that the tax authority has treated them in a respectful, impartial and responsible manner (Williams 2006a). As Murphy (2005) finds, people who feel they have been treated in a procedurally fair manner by an organisation will be more likely to trust that organisation and more inclined to accept its decisions and follow its directions.

The evidence on the impact of taxation is mixed. Some argue that higher tax rates push firms to the formal sector (Kamdar 1997; Tedds 2010; Lacko 2000), but others find that the informal economy is generally higher in poorer countries with lower per capita incomes where tax rates are less, and is lower in affluent countries with higher per capita incomes and where tax rates are higher

(Bird and Zolt 2008; Friedman *et al.* 2000). Furthermore, findings show that the more developed the financial system, including capital markets and the banking sector, the lower the overall magnitude of the informal economy (Dabla-Norris and Feltenstein 2005; Eilat and Zinnes 2002; Straub 2005) since it increases the opportunity cost of being excluded from this system.

A final key driver of businesses into the informal economy identified in the literature is corruption (Friedman *et al.* 2000; Dreher and Schneider 2006; Buehn and Schneider 2010) and the desire of businesses to avoid corrupt government officials (Schleifer 1997; Round *et al.* 2008; Tedds 2010) or extortion by criminal gangs (Johnson *et al.* 2000; Tedds 2010).

The bulk of the empirical literature, as indicated above, has therefore focused on 'push factors', such as bad governance, corrupt officials and high tax rates, together with firm characteristics, such as size and sector. There has been relatively less work done analysing deterrence factors, although implicitly the quality of public administration is linked to the ability to police the informal economy. Eilat and Zinnes (2002) in their policy conclusions also emphasise the importance of enforcement to minimise informal economy activity. The literature, moreover, has paid relatively little attention to locational differences in informal sector activity. Arguments can be made that it is easier for firms to hide in large towns, where there are many firms, or in rural communities, where regulatory presence is low.

Furthermore, there has been little research so far conducted on whether firms witness competition from the informal economy and whether businesses witness adverse impacts from the existence of the informal economy. Although a 2004 UK survey finds that 14% of UK small businesses report that they are negatively affected by the informal economy (Williams 2006b), there has been little further research to evaluate the impact of the informal economy on businesses. It is to filling this gap in the literature, especially in relation to South-East Europe, that attention now turns.

3. Equation Specification

Hibbs and Piculescu (2010) and Nur-Tegin (2008) used an earlier version of the World Bank Enterprise Survey data to analyse the informal economy. Here, we focus on a more recent wave of the survey and focus on two questions that evaluate the degree to which businesses are (i) competing against the informal economy and (ii) its

impact on these businesses, which we here refer to as 'informal competition' and 'informal impact' respectively. The first asks whether the (*i*'th) firm competes against informal or unregistered firms. We assume that informal competition (K_i) will depend upon (i) the actual proportion of firms operating, at least partially, in the informal sector in the firm's industry and region, (Ψ_{RS}) and (ii) the firm's characteristics (X_i):

$$K_i = f(\Psi_{RS}, X_i) \quad (1)$$

We also assume separability between regions and sectors and a linear functional form:

$$K_i = \beta_R R_i + \beta_S S_i + \beta_X X_i + \varepsilon_i \quad (2)$$

ε_i is a white noise, normally distributed IID error term, $\varepsilon_i \sim N(0, \sigma^2_\varepsilon)$. K_i is a continuous variable representing the extent of informal competition. However the variable we are analysing is a binomial one and hence we will use binomial probit to estimate (2).

R_i is a vector of regional variables relating to factors the literature suggests impact on the size of the informal sector including corruption, the courts, the regulatory burden, represented by the problems posed by licensing and permits, and taxation problems. We will also include variables reflecting official attempts to police or regulate firms, in particular the number of inspections to which they are subject. Finally, we include regional infrastructure variables. These will relate to bank credit and transport. The inclusion of these regional variables does not necessarily mean we assume that all informal sector activity which affects a firm is from its own region, merely some of it. S_i will be a vector of dummy variables for the sectors. X_i will be a vector of firm specific factors. These will capture the characteristics of firms competing against the informal sector. It is possible too that they share the same characteristics as informal sector firms. Apart from the variables discussed in the literature such as size and ownership, we also anticipate that competing against the informal sector will be more likely for firms producing for the domestic market. This is because of the added documentation involved in exporting, which will make evasion amongst competing firms more difficult.

A second dependent variable is based on a question which asks to what extent informal activity is an obstacle to the firm's operations so as to measure its impact on the business. This provides information upon both the size of the informal sector and the damage it does to other firms.

The dependent variable is discrete covering 5 values, and hence we estimate the equation using ordered probit. We assume that the firm's response will depend upon (i) whether it is in competition with firms from the informal sector or (ii) whether it is supplied by firms who may be in the informal sector themselves or compete against those who do. This will potentially provide a broader measure of informal sector activity than informal competition. In addition, the impact of informal sector activity depends not just on the number of informal sector firms, but the extent of their informal activities. This will depend upon the efforts and success of governance in policing the informal sector in the firm's locality, if not by removing informal sector firms altogether, then at least by reducing the size of informal activities. Finally, the impact of informal sector activity on a specific firm will depend on that firm's characteristics and the sector within which it operates. For these reasons, the responses to this second question will be determined by potentially the same factors as on the right hand side of equation (2), but the nature and extent of that impact may be different.

A third and final equation will analyse workers' wages. This is more straightforward to estimate and can be done using OLS. The dependent variables will include firm characteristics as well as regional variables. Included in these will be variables reflecting informal sector activity.

4. The Data

Here, we analyse the data from the 2009 World Bank Enterprise Surveys based on 4,720 firms.¹ The data has been used by, for example, Beck, Demircuc-Kunt and Maksimovic (2004) in analysing access to credit across a range of countries including those in transition, as well as the studies already cited which look at the informal economy. Here, we adopt a wide definition of South East Europe, in part based on the membership of certain treaties, as including Albania, Bosnia and Herzegovina, Bulgaria, Croatia, FYR Macedonia, Hungary, Kosovo, Moldova, Montenegro, Romania, Serbia, the Slovak republic, Slovenia and Ukraine. For more detailed information about the surveys see Batra, Kaufmann, and Stone (2003).

Firms were asked a variety of questions in addition to those relating to the informal sector. These included ones related to perceived problems with bribery, the courts,

regulation, transport, access to credit and so forth. There is also data on firms' characteristics. Information on all variables is given in more detail in the appendix. As well as the responses of the firms, we were able to calculate from the data, regional variables, which for the i 'th firm give the average response of firms in the region, and other than the i 'th, on specific issues – for example, the average response of other firms than the i 'th with respect to bribery². This is based on 67 regions, an average of almost five per country. Their use allows us to capture the impact of the variable, provided it differs between regions of individual countries. If it does not and it is the same throughout each country, then the country dummy variables will pick that up and the variable will not be significant. However, much that impacts on firms, particularly in federal systems, is done at the regional level and differs between regions. This includes regulatory enforcement, possibly the courts and local offices of national bodies. This regional variability is borne out by the data. The proportions of the variation in the regional variables explained by between country differences are: courts (52.2%), bribery (50.2%), tax problems (68.8%), inspections (38.4%), political instability (73.3%), permits (66.7%), bank credit (61.6%) and transport problems (44.8%). The remaining variations relate to intra-national regional differences. We later show that there are also considerable differences between regions with respect to the two variables relating to the informal sector.

We believe that this approach is to be preferred to using individual responses because with individual responses we may well get substantially different responses for different firms in the same region. If it is the impact of governance on informal market activity we are seeking to capture rather than individual perceptions, the averaged view of all other firms in the region is preferable. Of course these variables are based on the regional averages of *subjective views*, but this is not unusual in analysing the literature on governance.

Table 1 summarises the data. The country correlation between the two measures of the informal economy is quite high at 66%, but clearly there are differences between the two. Both measures suggest Slovenia, Montenegro and Slovakia have low levels of informal economic activity and that Macedonia, Kosovo and Serbia have high levels. There are also substantial differences

¹ This is also known as the Business Environment and Enterprise Performance Survey (BEEPS). More information is available and the data accessible at <http://www.enterprisesurveys.org/>.

² This approach to constructing regional variables within the context of survey data has previously been used by Hudson *et al.* (forthcoming) and Sivak *et al.* (2011).

Country	Informal:		Characteristics	Informal:	
	Competition %	Impact Average		Competition %	Impact Average
Albania	48.7	2.06	Young	41.9	1.57
Bosnia & Herzegovina	48.8	1.35	Not Young	45.4	1.57
Bulgaria	48.7	1.67	Small	50.8	1.69
Croatia	40.0	1.48	Medium	42.8	1.60
Fyr Macedonia	69.6	2.08	Large	39.0	1.35
Hungary	51.6	1.45	Foreign	36.0	1.17
Kosovo	63.2	1.55	Group	43.4	1.37
Moldova	37.5	1.69	Rural	45.4	1.54
Montenegro	32.7	0.95	Town	44.8	1.57
Romania	34.3	1.40	Large Town/City	45.0	1.61
Serbia	53.6	1.61	High exports	26.6	1.06
Slovak Republic	37.4	1.29	Medium exports	41.9	1.45
Slovenia	24.2	1.06	Low exports	47.6	1.65
Ukraine	41.5	1.78	All firms	45.1	1.57

Notes: Calculated from World Bank Enterprise Surveys 2009. 'Informal competition' shows the proportion of firms indicating that they compete against firms in the informal economy. 'Informal impact' is the average response to the adverse impact on the firm of the informal economy. Responses ranged from no obstacle (coded 0) to a very severe obstacle (coded 4). A value of 2 corresponds to a 'moderate obstacle'.

Table 1: Comparing Measures of the Informal Sector

between regions. For example, in regions with a minimum of 20 firms responding, an average of 40% of firms said they competed against the informal sector, with it being 0% in the best of the regions and 82% in the worst. There are also substantial variations within countries, such as from 28% to 51%, respectively, in Slovakia. In terms of individual characteristics, informal competition and informal impact decline with firm size and export focus. Both are low for foreign firms, but there is not that much variation with respect to location and firm age. However, the regression analysis may reveal more complex patterns and it is to this that we now turn.

5. The Results

The regression results are shown in Table 2. We have used the robust or sandwich estimator of the standard errors. This estimator is robust to some types of misspecification so long as the observations are independent³. We initially modelled all the regional variables in a quadratic form, i.e. including both the variable and its square. The results shown omit variables which were not significant in at least one equation.

³An alternative is to use a cluster-robust estimator. But with a small number of clusters, e.g. less than 50, or very unbalanced cluster sizes, this can create more problems than it solves (Nichols and Schaffer 2007). In our case the first criterion mitigates against using countries as the base for the cluster and the second precludes the use of regions. For information, we note that the results correcting for regional based clusters are similar to those reported. The main difference is the reduced significance of the regional variables with respect to transport and political stability.

Informal competition is inversely related to regional inspections and bank credit. However, the regional variables have a much stronger influence on informal impact. Apart from inspections and bank credit, increases in political instability, transport problems and problems linked to permits all tended to increase the problems caused to firms by the informal sector.

The regional incidence of tax rate problems was also significant. The results suggest that as these increase, the problems posed to the firm by the informal sector declined⁴. This was counter to some of the literature, but consistent with the analyses of Bird and Zolt (2008) and Friedman *et al.* (2000) who link higher taxes to a stronger legal environment and thus a smaller informal sector. However, we have already included the former in the analysis, and found it not significant⁵. Thus it may be that high regional tax rate problems are reflective of greater efforts by government to enforce tax compliance. Interpretation problems may affect regional bank credit. Is this being low a factor driving firms to the informal sector, or could it be that high informal sector activity deters bank lending? In the latter case, this is an indicator of informal sector activity and in the former a cause of such activity⁶.

⁴ For all the quadratic form variables, the results are such that the squared terms moderate but do not reverse the impacts of the first term, e.g. informal impact continually increases as political instability increases, although at a declining rate.

⁵ Specifically we included a regional variable relating to the quality of the courts.

⁶ Given our dependent variables, which relate to individual firms' views on informal activity, there is no reason for endogeneity to be a problem.

	Informal: competition 2.1	impact 2.2	Log of Average Wages 2.3		Informal: competition 2.1	impact 2.2	Log of Average Wages 2.3
Regional Variables				Legal form variables			
Taxation	-0.9948 (1.04)	-2.042** (2.65)	-1.024 (1.38)	Partnership	0.0281 (0.19)	-0.0429 (0.35)	-0.0167 (0.15)
Taxation2	2.481 (1.21)	4.492** (2.68)	1.340 (0.81)	Private Ltd. Co.	0.2658** (3.33)	-0.0246 (0.39)	0.1154 (1.50)
Inspections	-0.03 (1.43)	-0.0391* (2.25)	-0.0155 (0.94)	Publicly listed Co.	0.334** (3.34)	0.0612 (0.74)	0.1271 (1.32)
Inspections2	0.0013* (2.21)	0.00079 (1.66)	0.00001 (0.03)	Sole proprietor	0.3516** (3.85)	0.0281 (0.38)	-0.0037 (0.04)
Political instability	0.6972 (1.30)	0.9615* (2.41)	-0.6304 (1.69)	Sector Variables			
Political instability2	-0.0981 (1.11)	-0.1478* (2.27)	0.1227 (2.02)	Food	-0.0165 (0.21)	0.064 (0.97)	-0.191** (3.02)
Transport problems	0.0146 (0.16)	0.1778* (2.30)	0.170* (2.42)	Textiles	0.0263 (0.13)	-0.2502 (1.57)	-0.2201* (2.30)
Permits	0.0724 (0.69)	0.3083** (3.87)	0.0968 (1.24)	Garments	0.2716** (2.99)	0.2198** (2.80)	-0.4899** (6.09)
Credit	-0.7522** (3.18)	-0.4192* (2.21)	0.2878 (1.56)	Construction	0.1637* (2.07)	0.1248* (1.96)	0.0836 (1.45)
Firm specific variables				Other services	0.2191 (1.88)	0.0201 (0.22)	0.0583 (0.64)
Young	0.1368* (2.02)	-0.0669 (1.15)	-0.1336* (2.53)	Wholesale	0.1489 (1.90)	0.1223* (2.00)	0.0979 (1.75)
Small	0.1731** (2.99)	0.1362** (2.85)	-0.0539 (1.14)	Retail	0.0671 (1.14)	0.0765 (1.59)	-0.0603 (1.42)
Medium	0.0143 (0.26)	0.1048* (2.25)	-0.0192 (0.41)	Hotels & restaurants	0.0844 (0.74)	-0.0078 (0.09)	-0.0831 (1.04)
Rural	0.1878** (3.37)	0.0952* (2.07)	-0.226** (5.32)	Transport	0.3503** (3.54)	0.2752** (3.31)	-0.0281 (0.35)
Town	0.0519 (0.95)	0.0166 (0.37)	-0.1273** (2.95)	Regional informal competition			
Foreign	-0.1249 (1.65)	-0.2165** (3.47)	0.264** (4.17)				
Group	0.0394 (0.54)	-0.112 (1.82)	0.0676 (1.10)	Observations	4192	4354	3790
Exports	-0.006** (6.78)	-0.0047** (6.58)	0.00078 (1.24)	Log likelihood	-2679	-6561	-5068
			X ² /R ²		380	381	0.47

Note: Regression 2.1.estimated by probit, 2.2 by ordered probit and 2.3 by OLS; (.) denotes t statistics, */** significance at the 5% and 1% levels, respectively. Standard errors have been corrected for heteroskedasticity. Variables defined in data appendix, country fixed effects included. X² are reported for 2.1 and 2.2 and R² for 2.3

Table 2: Regression Results

In terms of firm characteristics, informal competition declines with firm size and is less for young firms. Small firms appear more likely to be aware of informal activity than medium sized firms and both are significantly more likely to be adversely impacted by it, at the 1% level, than large firms. Firms in rural⁷ areas are more likely to face informal sector competition than other firms, this despite little obvious difference in Table 1. Legal form is also significant, with sole proprietors and publicly listed firms most likely to face informal sector competition. Finally,

amongst the firm characteristics, informal sector competition declines with the extent to which the firm is focused on export markets. This is a linear impact, rather than nonlinear, and is consistent with the hypothesis that exporting firms face more documentation and hence are less likely to face informal competition. With respect to the sector variables, the transport, garment and construction sectors are particularly likely to face informal sector competition. We tend to get the same pattern of results for informal impact, although there are differences. Foreign firms are less likely to be adversely impacted than domestic ones. None of the legal form variables are now significant, nor are there any

In any case, the results with respect to the other variables are essentially unchanged if regional bank credit is omitted from the regression.

⁷ The term rural refers to firms in localities with less than 50,000 people.

differences between young firms and others. In addition, firms in the wholesale sector are more likely to be adversely impacted by the informal sector.

Finally, in this section we seek to analyse the impact of the informal economy on employees' wages. The dependent variable is the log of the cost of labour, primarily wage costs, per worker and its derivation is discussed in the appendix. The independent variables are those we have been using to analyse the informal economy, although of course their rationale will be different. For example we would expect rural firms to pay less than firms in larger cities. In addition, we include individual answers to the questions on the informal economy, plus regional averages of the responses. This will allow us to distinguish between the impact of informal competition on individual firms and upon the region as a whole.

The results are shown in 2.3 in Table 2. Neither of the individual response variables relating to informal competition or impact are significant at the 5% level of significance, nor is the regional variable relating to impact. But Regional informal competition is significant at the 1% level. The results suggest that if the level of regional informal competition increases from 0.4 to 0.5, e.g. from 40% to 50% for regional firms indicating they compete against the informal sector, then wages will fall by approximately 2.4%. The higher the level of regional informal competition, then the greater will be the impact in dampening down wages. Of the other variables young, rural and small town firms tend to pay relatively low wages and foreign firms relatively high wages. This equation was estimated on the full sample. If we restrict the regression to firms only employing full time staff, regional competition remains significant at the 5% level, although young firms and regional transport are no longer significant. In another regression there was no evidence that firms' employment of temporary staff is linked to the informal sector.


6. Conclusions

Emerging economies face not simply an evolving set of institutional actors, but also actors or institutions driven by the free market. The impact of the informal economy is one example. The informal sector is often high in emerging economies and to analyse labour markets or employment relations from solely the perspective of the formal sector is analogous to judging a town from its business district whilst ignoring the slums.

Our analysis suggests that the informal sector has an adverse impact on workers' wages. It is also possible, indeed probable, that they impact upon the non-pecuniary aspects of worker employment. The evidence suggests, however, that it is not individual firms who respond to the informal sector but rather all firms in the region. This was expected as market forces should ensure that individual firms pay 'the going rate'. It is this 'going-rate' which the informal sector impacts upon. This finding is new to the literature. It adds to the adverse impacts of the informal economy and raises the question as to what institutional factors can do to limit the evolution of the informal sector. Here too our analysis has provided answers.

In providing these answers we have sought evidence from the 2009 Bank Enterprise Survey, which interviewed 4,720 businesses in South East Europe. This has also allowed us to provide some of the first estimates of the impact of the informal economy on businesses in South-East Europe. The analysis has revealed that regional differences in South East Europe in the impact of the informal economy on legitimate businesses are linked to differences in regional governance, particularly differences in political instability and permits. However, the evidence also suggests that the impact this has on legitimate businesses can be reduced by public sector action to regulate firms, such as through regular inspections. The quality of regional transport infrastructure also impacts on the informal economy. This can impact on the efficiency of public sector policing of informal activity, just as it can impact on the efficiency of many other public and private sector activities. Transport quality will also be related to the level of development of the region, but other variables which will also reflect this, such as regional email usage by firms, were not significant, which suggests it is the impact of transport communications on public sector efficiency in controlling the informal sector which is important. In terms of characteristics, it is the small, rural, domestic firm producing for the home market which is most adversely impacted by the informal sector.

What are the implications of this for our understanding of the nature of the informal economy in South-East Europe? Firstly, it suggests the informal economy relates more to people in rural areas and in specific sectors (construction, garments, transport and wholesale), and thus presumably occupations, than others. Secondly, globalisation, as proxied for individual firms by export activity, would appear to be negatively

associated with informal activity in this set of countries. Of course it may be different in other parts of the world. We have also provided information that the informal sector is a common feature across many regions of these countries in South-East Europe, but also differs substantially across regions within each country. The suggestion, therefore, is that if the informal economy is to be tackled, then rather than adopt a scatter-gun approach, efforts need to be more targeted at domestic businesses producing for the home market in rural areas. If this paper, therefore, leads to further research on the differential impacts of the informal economy on businesses, the labour market and employment relations in South-East Europe and beyond, as well as further discussion of where public policy interventions need to be targeted when tackling the informal economy, then it will have achieved its objectives. 

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Appendix: Definition of variables:

Endogenous variables

Informal Competition: Binary variable, coded 1 if the respondent indicated their firm competed against informal or unregistered firms.

Informal Impact: The extent to which competition from the informal sector was an obstacle to the firm's current operations. Responses ranged from no obstacle (coded 0) to a very severe obstacle (coded 4)

Average Wages: The total annual cost of labour (including wages, salaries, bonuses, social payments) divided by the number of full time workers plus half the number of temporary workers.

Exogenous variables (binary, unless otherwise stated)

Young: Coded 1 if firm has been established five years or less.

Small: Coded 1 if the number of full time employees is less than 20.

Medium: Coded 1 if the number of full time employees is between 20 and 100

Group: Coded 1 if the firm is part of a larger group.

Foreign: Coded 1 if the share of the company held by foreign individuals or companies > 49%.

Rural: Coded 1 if firm's location has less than 50,000 people

Town: Coded 1 if firm's location has between 50,000 and 1 million people and is not a capital city

Exports: The proportion of a firm's sales which are for the export market, it is thus inversely related to domestic focus.

Legal status: 4 variables: Coded 1 if the firm has the legal status of (i) a sole proprietor, (ii)

Variables: partnership, (iii) private limited company or (iv) publicly listed company

Regional Variables. For the i'th firm these represent the (unweighted) average perception of other firms in the region, but excluding the i'th firm. There are 67 regions

Inspections: The number of inspections which took place in 2007.

Permits: The extent to which business licensing and permits presented a problem to the firm, responses ranged from no obstacle (coded 1) to very severe obstacle (coded 5).

Political: The extent to which political instability presented a problem to the firm, responses

Instability: ranged from no obstacle (coded 1) to very severe obstacle (coded 5).

Transport: The extent to which transport presented an obstacle to the firm, responses ranged

Problems: from no obstacle (coded 1) to very severe obstacle (coded 5).

Taxation: Coded 1 if tax rates presented a very severe obstacle to the firm.

Credit: Coded 1 if the firm had either an overdraft facility or a line of credit from a bank.

Courts: Response to a question on the problems posed by courts to the firm. The regional average for this was insignificant.

Bribery: The proportion giving bribes to officials to 'get things done'. The regional average for this was insignificant.