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# **Informal entrepreneurship and institutional theory: explaining the varying degrees of (in)formalisation of entrepreneurs in Pakistan**

## **Abstract**

In recent years, scholars adopting institutional theory have explained the tendency of entrepreneurs to operate in the informal sector to be a result of the asymmetry between formal institutions (the codified laws and regulations) and informal institutions (norms, values and codes of conduct). The aim of this paper is to further advance this institutional approach by evaluating the varying degrees of informalisation of entrepreneurs and then analysing whether lower levels of formalisation are associated with higher levels of institutional asymmetry. To do this, a 2012 survey of the varying degrees of informalisation of 300 entrepreneurs in Pakistan is reported. The finding is that 62% of entrepreneurs operate wholly informal enterprises, 31% largely informal and 7% largely formal enterprises. None operate wholly formal enterprises. Those displaying lower levels of formalisation are shown to be significantly more likely to display higher levels of institutional asymmetry, exhibiting greater concerns about public sector corruption, possessing lower tax morality and being more concerned about high tax rates and the procedural and distributive injustice and unfairness of the authorities. These entrepreneurs tend to be lower-income, younger and less educated entrepreneurs. The paper concludes by discussing the theoretical and policy implications of these findings.

Keywords: entrepreneurship, enterprise culture; informal economy; institutional theory; Asia; Pakistan.

## **Introduction**

For many years, scholars struggled to achieve a consensus on why some entrepreneurs do not operate wholly legitimate business ventures but instead operate informal enterprises that are either not constituted as a legal entity independent of the owner, do not keep formal accounts and/or are not registered with the authorities such as for tax purposes (ILO 2012). Recently however, an explanation for why entrepreneurs operate in the informal sector has emerged which is rapidly gaining widespread acceptance. Scholars adopting institutional theory have drawn a distinction between formal institutions (the codified laws and regulations) and informal institutions (norms, values and codes of conduct) and depicted informal sector entrepreneurs as operating outside of formal institutional boundaries but within the boundaries of informal institutions (De Castro et al. 2014; Webb et al. 2009, 2013, 2014; Welter and Smallbone 2011; Williams and Vorley 2014). From this institutional perspective therefore, the tendency for entrepreneurs to operate in the informal sector is explained to result from the asymmetry between formal and informal institutions in a society; the greater the incongruence between formal and informal institutions, the more entrepreneurs operate in the informal sector. Until now however, this institutional explanation for informal sector entrepreneurship has tended for ease of analysis to partition off informal entrepreneurs from 'mainstream' formal entrepreneurs and study them as a separate category or sub-discipline. The problem with this is that in lived practice, many entrepreneurs are neither wholly formal nor wholly informal. They operate somewhere in the middle of these two extremes, displaying various levels of (in)formalisation (Chen 2012; De Castro et al. 2014; De Mel et al. 2013; Jones et al. 2006; Welter and Smallbone 2009; Williams 2006). The aim of this paper therefore, is to further advance this institutional approach by evaluating the varying

degrees of informalisation of entrepreneurs and then analysing whether there is an association between the degrees of informalisation of entrepreneurs and the level of asymmetry between formal and informal institutions, as well as the characteristics of the entrepreneurs displaying greater degrees of informalisation and whose norms, values and beliefs do not align with the codified laws and regulations of the formal institutions. Until now, no known studies (either from an institutional perspective or beyond) have sought to enumerate the degree of formalisation of entrepreneurs and as a result, to determine whether lower levels of formalisation are associated with higher levels of institutional asymmetry (with the notable exception of a qualitative study by De Castro et al. 2014). This paper therefore begins to fill that gap by reporting a study of 300 entrepreneurs in the Pakistani city of Lahore, a country in global terms with one of the largest proportions of the workforce (81%) in the informal economy (ILO, 2012), intimating that the asymmetry between formal and informal institutions is very high.

To commence therefore, the first section of this paper reviews how institutional theory has sought to explain informal sector entrepreneurship and following this, and in order to further advance institutional theory, how there has been a growing recognition that in lived practice many entrepreneurs are neither wholly formal nor wholly informal but display varying levels of (in)formalisation. Given the absence of previous studies evaluating the varying levels of formalisation of entrepreneurs, and what influences their degree of formalisation, studies are reviewed that identify the factors explaining participation in the informal sector (rather than their degree of formalisation) to identify the contextual and personal factors that might potentially influence their degree of formalisation. The second section then outlines the methodology used to evaluate both the degree of formalisation of 300 entrepreneurs in the city of Lahore in Pakistan and the factors influencing their degree of formalisation, followed in the third section by the findings of a staged ordinal logistic regression analysis which evaluates whether lower levels of formalisation are associated with higher levels of institutional asymmetry and the characteristics of entrepreneurs displaying lower levels of formalisation and thus higher institutional asymmetry. The fourth and final section then concludes by discussing the theoretical and policy implications of the findings and calling for further studies from an institutional perspective of the factors influencing the varying levels of formalisation of entrepreneurs in different localities, regions and nations and the characteristics of such entrepreneurs.

At the outset however, it is necessary to outline how this paper defines an entrepreneur and their level of formalisation. Here and employing the commonly used definition, an entrepreneur is somebody actively involved in starting an enterprise or the owner/manager of an enterprise (Harding et al. 2006; Reynolds et al. 2002). The starting point for defining the level of formalisation of an entrepreneur meanwhile, is the widely accepted definition of an informal sector enterprise adopted by the 15th International Conference of Labour Statisticians in 1993 (Husmanns 2005; ILO 2012). This defines an informal sector enterprise as a private unincorporated enterprise that is either unregistered or else small in terms of the number of employed persons. By 'unincorporated' is meant a production unit not constituted as a legal entity independent of the individual (or group of individuals) who owns it, and for which no complete set of accounts is kept. It is deemed 'unregistered' if it is not registered under specific forms of national legislation (e.g., tax or social security laws, factories' or commercial acts, professional groups' regulatory acts) and 'small' if the number of employees falls below a specific threshold (e.g., five employees) which is determined nationally (Husmanns 2005; ILO 2011, 2012). This definition thus lends itself to understanding the degree of formalisation since it identifies three component aspects of informality, namely: the unit is not constituted as a legal entity independent of the owner;

no complete set of formal accounts is kept; and it is not registered with the authorities such as for tax purposes. These three components, as will be returned to below, enable the construction of a spectrum of the degree of formalisation of entrepreneurs.

### **Explaining the degree of (in)formalisation of entrepreneurs: an institutional perspective**

Overcoming the lack of a widely accepted explanation for why some entrepreneurs operate in the informal sector, there has recently emerged in institutional theory an explanation which is rapidly gaining widespread acceptance. This argues that all societies have codified laws and regulations (i.e., formal institutions) that define the legal rules of the game (Baumol and Blinder 2008; North 1990; Webb et al. 2013, 2014). All societies however, also have informal institutions, which can be defined as the ‘socially shared rules, usually unwritten, that are created, communicated and enforced outside of officially sanctioned channels’ (Helmke and Levitsky 2004: 727), or what can be seen as the norms, values and beliefs that shape what is socially acceptable (North 1990, Webb et al. 2013, 2014). For these institutional theorists, when the codified laws and regulations of the formal institutions of a society are incongruent with the norms, values and beliefs of its informal institutions, one finds the emergence of economic endeavour not aligned with the laws and regulations of formal institutions but within the boundaries of what informal institutions deem acceptable (Webb et al., 2009, 2013, 2014). Entrepreneurs in the informal sector represent an exemplar; they operate outside of formal institutional boundaries but within the boundaries of informal institutions (De Castro et al. 2014; De Mel et al., 2012; Gerxhani 2004; London et al. 2014; Tonoyan et al. 2010; Williams and Vorley 2014). As Webb et al. (2009) assert, such informal entrepreneurs are ‘illegal’ in the eyes of formal institutions but often seen as ‘legitimate’ from the viewpoint of the norms, values and beliefs comprising a society’s informal institutions. The level of asymmetry or incongruence between the formal and informal institutions thus determines the level of informal entrepreneurship. When the discrepancy is large, entrepreneurs will be more likely to operate in the informal sector. When the formal and informal institutions closely align meanwhile, entrepreneurs will be far less likely to operate in the informal sector.

Until now however, this institutional explanation for informal sector entrepreneurship has tended, not least for ease of analysis, to adopt a dualistic depiction of formal and informal entrepreneurs as discrete groups and in doing so, to partition off the informal entrepreneurs from ‘mainstream’ formal entrepreneurs and study them as a separate category or sub-discipline. However, and as De Castro et al. (2014) for example recently display in qualitative research on entrepreneurs in the Dominican Republic, it is not the case in lived practice that entrepreneurs are either wholly formal or wholly informal. As such, just as there have been calls for places to be positioned on a continuum from wholly formal to wholly informal (Dibben and Williams 2013; Jones et al. 2006; Williams 2014b) and jobs on a spectrum from wholly formal to wholly informal (Williams and Padmore 2013; Woolfson 2007), it is similarly the case that enterprises and entrepreneurs are now increasingly seen as displaying varying degrees of formalisation (e.g., Chen 2012; Ram et al 2002a,b; Small Business Council 2004; Welter and Smallbone 2009; Williams 2006; Williams et al. 2013).

Until now nevertheless, no studies have attempted to evaluate the varying levels of formalisation of entrepreneurs or the characteristics of entrepreneurs displaying differing degrees of formalisation. Instead, most of the literature on informal entrepreneurship has simply examined how many entrepreneurs are informal (Autio and Fu 2014; Williams 2013, Williams and Martinez 2014a) rather than how many display differing degrees of (in)formalisation. Similarly, there is a burgeoning literature on the characteristics of informal entrepreneurs (Aidis et al. 2006; Barbour and Llanes 2007 2013; Bureau and Fendt 2011;

Chavdarova 2014; Delloit 2012; Kus 2014; Mróz 2012; Thai and Turkina 2013; Webb et al. 2013; Williams 2007, 2010, 2013b; Williams and Nadin 2013; Williams and Round 2007). However, with the exception of a qualitative study by De Castro et al (2014) in the Dominican Republic, no studies have examined the characteristics of entrepreneurs displaying differing degrees of (in)formalisation. Moreover, although numerous studies have sought to explain the participation of entrepreneurs in the informal economy (Chen 2012; Hudson et al. 2012; Williams 2013; Williams et al 2013), either by discussing whether they are necessity- and/or opportunity-driven (Adom 2014; Williams 2008, 2009, 2010; Williams and Round 2009; Williams and Youssef 2014), or by adopting institutional theory to explain the prevalence of informal entrepreneurship (Webb et al. 2009, 2013, 2014; Welter and Smallbone 2011; Williams and Vorley 2014), no studies have so far sought to explain the differing degrees of informalisation of entrepreneurs. The intention in this paper, therefore, is to both enumerate and explain the varying levels of formalisation of entrepreneurs as well as the characteristics of entrepreneurs displaying varying degrees of formalisation.

Here, and in order to move towards explaining the varying degrees of formalisation of entrepreneurs, we draw upon the literature (both institutional and beyond) that explains participation in the informal sector to identify potential characteristics that might influence the degree of formalisation of entrepreneurs (rather than simply whether they operate informally or not). This literature has recognised that participation in informal entrepreneurship results from a multiplicity of personal and contextual factors that combine in different ways to produce various outcomes in different socio-spatial contexts (Renooy et al. 2004; Williams 2006; Williams and Windebank 1998). Here therefore, firstly, the personal characteristics are reviewed, secondly, the institutional-level conditions and thirdly, the structural-level factors. When reviewing each factor, and given the focus of this paper on Pakistan, we emphasise how the findings with regard to Pakistan differ to the findings in other contexts for each characteristic.

### **Individual-level (personal) factors**

Reviewing the literature on the individual-level characteristics influencing whether entrepreneurs engage in the informal sector, six characteristics can be identified that might potentially influence the degree of formalisation of entrepreneurs.

#### **Age**

Younger people are less likely to operate formally (e.g., Fortin et al. 1996; Pedersen 2003; Williams and Martinez 2014a). This is also identified in Pakistan (Kemal and Mahmood 1998), although Gennari (2004) finds a more U-shaped pattern with younger and older entrepreneurs more likely to operate informally (Federal Board of Revenue of Pakistan 2008, Gennari 2004), which they explain in terms of the lack of alternative means of social support for older age groups.

#### **Income**

Whilst some argue that informal entrepreneurship is concentrated in lower-income populations (e.g., Ahmad 2008), others assert that although lower-income groups disproportionately engage in informal entrepreneurship, they benefit less, meaning that such endeavour reinforces, rather than reduces, the inequalities produced by the formal economy. The result is that engaging in informal entrepreneurship leads to a 'reinforced marginalisation' of their position (Williams 2014a). This however, differs across populations, not least depending upon the level of social protection available to lower-income populations (Williams and Nadin 2014).

### Education and skill levels

As the level of educational attainment of entrepreneurs increases, the tendency to operate on a formal basis increases (e.g. Baculo 2001; Copisarow 2004; Copisarow and Barbour 2004). In Pakistan, doubtless due to the extensiveness of the informal sector, education attainment results more in higher informal wages than formalisation (Arby 2010; Burqi and Afaqi 1996; Burki and Khan 1990; Khan 1983). As Burqi and Afaqi (1996) argue, those with higher levels of formal education and training are more likely to move from being shagirds (unskilled apprentices) to ustads (master craftspeople) and self-employed. Indeed, Kemal and Mahmood (1998) find in a study of 11 Pakistan cities that informal entrepreneurs are better educated than formal workers. Williams and Gurtoo (2009) come to a similar conclusion in India.

### Gender

Women entrepreneurs are more likely both to start-up ventures and continue operating in the informal economy than men. This is identified both in England (Williams 2009a), Ukraine (Williams 2009b) and Moscow (Williams and Round 2009). It is also the case in Pakistan where, similar to elsewhere, the gendering of entrepreneurship is segregated along sectorial lines (Kemal and Mahmood 1998).

### Age of business

Many studies reveal that business start-ups are likely to operate in the informal sector (Barbour and Llanes 2013; Dellot 2012; Small Business Council 2004; Williams and Martinez 2014a). This is because the informal sector operates as a test-bed for business ventures (Williams and Martinez 2014a). In Pakistan, this is similarly the case, although a much larger proportion of more established businesses also operate in the informal sector (Kemal and Mahmood 1998).

### Exclusion from the formal sector

For many scholars, informal entrepreneurship is argued to be more prevalent amongst necessity-driven entrepreneurs who engage in such entrepreneurship due to their involuntary exclusion from the formal realm and as a last resort in the absence of alternative means of livelihood (Castells and Portes 1989; Slavnic 2010; Taiwo 2013). Others however, argue that participation in informal entrepreneurship is often voluntary in order to escape the costs of formality (De Soto 1989, 2001; Small Business Council 2004). In Pakistan, a similar debate exists with some arguing that informal entrepreneurship is a matter of choice and others that it is due to a lack of choice (see Kemal 2007).

## **Institutional level factors**

Besides personal characteristics, and drawing not least on institutional theory, various institutional-level factors influence whether entrepreneurs engage in the informal sector. Again, these can be investigated as determinants of the degree of (in)formalisation of entrepreneurs.

### Public sector corruption

Public sector corruption is heralded as a key factor leading entrepreneurs to exit the formal economy and to operate informally (Buehn and Schneider 2010; Friedman et al. 2000; Schneider and Williams 2013). In Pakistan, a similar negative relationship is found. Ahmad

(2009) and Gulzar et al. (2010) argue that public sector corruption reduces the trust of entrepreneurs in government and drives them to operate in the informal sector.

#### Tax rates

A common argument is that higher tax rates lead to greater levels of informality (Gutmann 1977; Tanzi 1980). However, recent cross-national comparative studies in advanced economies find no significant association between tax rates and levels of informality (Eurofound 2013; Vanderseypen et al. 2013; Williams 2014). In Pakistan, a similar assumption exists that higher tax rates lead to greater levels of informality (e.g., Ahmed and Ahmed 1995; Arby 2010; Hussain and Ahmed 2006; Kemal 2003, 2007). Few have questioned this. Of course, it may well be that although high tax rates have no impact in countries where trust in government is high, in countries such as Pakistan where trust in government is low, higher tax rates will indeed lead to greater informality (Packard et al. 2012).

#### Risk of detection and punishment

Grounded in a rational economic actor model, an argument is that informal entrepreneurs weigh up the perceived and actual costs of operating informally against the benefits, and work informally if the benefits outweigh the costs. The result is a view that the higher the risk of detection and punishment, the lower will be the level of informality (Allingham and Sandmo 1972; Grabiner 2000). In Pakistan similarly, the argument is that informality is high because the risk of detection is low, due to the low enforcement of laws, and punishment rare (FBR 2008; Hussain and Ahmed 2006; Kemal 2007).

### **Structural-level factors**

Beyond individual and institutional factors, structural conditions also play a significant role in determining whether entrepreneurs operate in the informal sector, which can be evaluated as factors influencing the degree of (in)formalisation of entrepreneurs.

#### Sector

Given that some sectors display greater levels of informality than others, the sectorial composition of economies influences the overall size of the informal sector. In developing economies, there is evidence that informalisation is concentrated in the distribution and construction sectors, with lower levels of informality in other sectors such as manufacturing (Castells and Portes 1989; ILO 2012). In Pakistan, similar tendencies are identified (Kemal and Mahmood 1998). The sector in which entrepreneurs operate therefore, may have a significant impact on their degree of (in)formalisation.

#### Ease of registration

The ease of registration is a major barrier to formalisation (De Soto 1989; Small Business Council 2004). This covers the number of procedures, time and cost involved in securing registration with various regulatory authorities, such as tax, social security and labour departments. The belief is that by simplifying registration, such as lowering the costs and/or time required to register a business, or using a one-stop service to eliminate the need to visit several government departments (e.g., Williams and Renooy 2013), formalisation will increase. Others however, show that simplifying registration does not always lead to formalisation (Bruhn and McKenzie 2013). The World Bank Doing Business survey (2013) ranks Pakistan 98<sup>th</sup> out of 185 economies in terms of its 'ease of starting a business' with a Pakistani entrepreneur having to complete 11 procedures, invest 10% of income per capita

and spend at least 21 days to comply with the registration requirements for starting a new firm. This burdensome regulatory environment is for many a key determinant of informality in Pakistan (Gulzar et al. 2010; Iqbal 1998; Kemal 2007; Shabsigh 1995).

#### Awareness of regulations

A lack of awareness of the regulations is asserted to increase informality. In Sri Lanka, de Mel et al., (2013) find that just 17% of informal entrepreneurs understood the registration process believing that it took a month to register a business whilst in practice it takes a week or less. Similarly, in Bolivia, a study finds that two-thirds of unregistered enterprises did not know where to find the tax office and only 10% had heard of the commerce registry (McKenzie and Sakho 2010). As such, raising awareness about how to register has been suggested as a way forward (Williams 2006; Jones et al. 2004). In Pakistan, a similar widespread lack of awareness amongst informal entrepreneurs about the regulations has been identified (Chaudhry and Munir 2010; FBR 2008). Awareness of the regulations therefore, may determine the level of (in)formalisation.

#### Tax morality

Low levels of tax morality, by which is meant the intrinsic motivation to pay taxes, display the incongruence between formal institutions (laws, codes and regulations) and informal institutions (values, beliefs and norms). Many studies thus find that lower levels of tax morality are associated with greater informality (Feld and Larsen 2009; Kirchler 2007; Torgler 2011; Torgler and Schneider 2009; Williams and Martinez 2014b). In Pakistan, it is widely recognised that the norms, values and beliefs differ to the laws and regulations, resulting in what formal institutions deem to be illegal activities being legitimate in terms of the norms, values and beliefs (FBR 2008). Indeed, Kemal (2007) cites this as one of the main reasons for informality amongst Pakistani entrepreneurs, as do Chaudhry and Munir (2010).

#### Resistance towards government

Studies reveal that formalisation is lower where there are feelings of resentment and of being let down by the state (Torgler 2003, 2011), with informal entrepreneurs often heralded as a popular resistance movement (De Soto 1989; Sauvy 1984). Such resistance towards government may arise for at least three reasons. Firstly, it may be due to a lack of perceived procedural fairness, which refers to the extent to which people believe they are paying their fair share compared with others (Kirchgässner 2011; Wenzel 2004). Secondly, it may arise due to the lack of the perceived redistributive justice, which refers to whether they receive the goods and services they believe that they deserve given the taxes that they pay (Kirchgässner 2010; Richardson and Sawyer 2001). Third and finally, it may arise due to the lack of procedural justice, which is the extent to which they believe that the tax authority has treated them in a respectful, impartial and responsible manner (Braithwaite and Reinhart 2000; Murphy 2005). In Pakistan, there is a widespread belief not only that taxes are unfairly expropriated by the civil/military bureaucracy for their personal use (FBR 2008) and that citizens do not get the public goods they deserve for the taxes they pay, but also that the authorities rarely treat them in a respectful and impartial manner (Ahmad 2009; Kemal 2003).

Having used studies explaining participation in the informal sector to identify potential factors that might influence the degree of (in)formalisation of entrepreneurs, the next section outlines a methodology for evaluating this. Prior to doing so however, it is important to note firstly, that the relevance of each factor is likely to vary in different contexts, and secondly, that individual factors will not always have the same impact on the level of formalisation in

all contexts (Renooy et al. 2004; Welter and Smallbone 2011; Williams and Windebank 1998). Numerous studies display how individual factors (e.g., tax rates) have different impacts in different contexts and how its influence varies according to its interplay with other factors (e.g. Welter 2011; Welter and Smallbone 2011; Williams and Windebank 1998). For example, in contexts where trust in government is low due to persistent public sector corruption, higher taxes may result in greater informality. However, if tax morality is high and there is strong awareness of the benefits of taxation along with procedural fairness, high tax rates may not lead to greater informality. Individual factors therefore, have variable impacts contingent upon how they interplay with the overall constellation of conditions existing in a particular context at any particular time. The result is that only context-bound, rather than universal, understandings of the factors influencing the degree of formalisation of entrepreneurs are possible. Here therefore, we turn to identifying the factors influencing the degree of informalisation of entrepreneurs in one specific context, namely the city of Lahore in Pakistan.

## **Methodology: examining the degrees of informalisation of entrepreneurs in Pakistan**

### **Setting the scene**

According to the 2010-11 Labour Force Survey 74% of the total labour force in Pakistan operates in the informal economy (Pakistan Bureau of Statistics 2011) and 81% according to the ILO (2012). Whatever the exact figure, this is one of the highest levels of informality in the world and the widespread consensus is that the informal economy is growing (Burqi and Afaqi 2005; Gulzar et al. 2010). Until now however, the only study on the prevalence of informal entrepreneurship is an ILO study conducted in 2003/4. This reveals that 32.9% of the non-agricultural workforce is engaged in informal sector entrepreneurship as their main job (ILO 2012). However, there are no known contemporary studies on who engages in informal sector entrepreneurship or why they do so. Existing studies were undertaken a quarter of a century ago (e.g., Guisinger and Irfan 1980; Kazi 1990; Nadvi 1990). No studies moreover, analyse why entrepreneurs operate at varying levels of formalisation or the characteristics of entrepreneurs displaying differing degrees of informalisation. Consequently, this paper reports a mixed methods approach conducted in 2012 involving a survey 300 entrepreneurs using face-to-face structured interviews, followed by 15 in-depth interviews, in the city of Lahore. This is the first known survey of the degree of formalisation of entrepreneurs and the factors influencing their degree of (in)formalisation.

### **Data**

To gather data on the degree of informalisation of entrepreneurs in Lahore and the reasons for their level of (in)formalisation, face-to-face interviews were conducted in either Urdu or the local dialect of Punjabi, a regional language widely used by entrepreneurs in Lahore. Following a pilot study of 30 entrepreneurs in September 2012, the main survey took place between October 2012 and January 2013.

To select participants, maximum variation sampling was used in order to gather data on a wide variety of entrepreneurs (Adom and Williams 2012; Williams and Nadin 2012). This was achieved by dividing the city into high-, middle- and low-income localities and following this, a spatially stratified sampling method was used to select entrepreneurs within each locality employed in three different sectors, namely retailing, manufacturing and instantly consumable food (ICF). The relative sample size for each sector was determined using its relative size derived from the last Census of Population (2001) and Labour Force

Survey (2010-11). This sampling frame generated data from heterogeneous types of entrepreneur from various sectors in a wide range of localities. The intention in doing so was to prevent studying entrepreneurs only from a specific cohort or place who might have similar reasons for their level of formality.

In developed nations, despite many studies showing that research participants openly discuss this sensitive topic (Eurofound 2013, Williams 2006), the perception persists that this is a difficult topic to research. In developing nations, the notion that informalisation is a sensitive topic and problematic to research is arguably even less applicable, not least because 81% of the non-agricultural workforce in Pakistan are in informal jobs or work in informal enterprises (ILO 2012). Nevertheless, the structured face-to-face interview schedule adopted a gradual approach to more sensitive questions, commencing with socio-demographic questions on age, gender, income and education, followed by questions on the characteristics of the business, such as the type of product or service, premises, business tenure and reasons for starting the business. The third section then sought data on registration issues, such as the types of registration possessed, reasons for not registering, the advantage of registration, level of difficulty of registering their businesses, tax morality, type of accounts they keep for their businesses and why they chose to operate this enterprise. The final section then covered the type of customers and suppliers of the business and the problems they faced as a business. In early 2013 moreover, semi-structured in-depth interviews took place with 15 entrepreneurs, randomly selected from the main survey respondents. These interviews focused on the reasons for their level of formalisation. On average, each interview lasted between 90-120 minutes. No evidence was found of this being a sensitive topic for participants and that they did not wish to reveal their informality.

## **Variables**

### **Dependent variable**

To evaluate the degree of informalisation of entrepreneurs, the three variables discussed in the introduction to this paper that define informality amongst entrepreneurs are employed, namely: (1) legal status; (2) type of accounts kept and (3) tax registration status. As Table 1 displays, these are used to construct an index of the degree of informalisation of individual entrepreneurs using a four-point scale ranging from wholly formal through largely formal and largely informal to wholly informal.

INSERT TABLE 1 ABOUT HERE

To determine their legal status, if the entrepreneur reported they were registered as a limited liability company, they were deemed to have a legal status as a company. Whether they kept formal accounts was determined by whether they complied with the Companies Ordinance 1984 as opposed to having either no formal accounts, informal records for personal use or simplified accounts. Finally, whether they were registered with the tax authorities for tax purposes was determined by whether the enterprise was registered with the tax department under the Income Tax Ordinance 2001.

### **Independent variables**

Given the above literature review of the factors identified as prospective determinants of the level of formality of entrepreneurs, the following individual-, institutional- and structural-level independent variables were analysed.

Individual-level variables:

Age: a categorical variable with four categories (15-24, 25-39, 40-64 and 65+) coded according to the mean of each category and a limiting value of the last category (i.e., 65).

Income: a categorical variable measuring the total household income per month with five categories (<20000, 20000-29,999, 30000-39999, 40000-49999 and 50000+) coded according to the mean of each category and limiting values of the first and last category (i.e. 20000 and 50000 respectively).

Education: a categorical variable with five categories (no education, primary, secondary, diploma and university) coded 0, 5, 12, 14 and 16 respectively indicating the number of years of education completed.

Gender: a categorical variable with two categories: men and women coded 1 and 2 respectively.

Age of business: a continuous variable measured by the number of years since the business started.

Economic marginality: a dummy variable which records the response to: 'Main reason for doing this business is that I could not find a job' and 'Main reason for doing this business is that I need additional income', with value 1 if the entrepreneur's response is in the affirmative to either of the two statements and 0 if negative to both statements.

Institutional variables:

Tax level: a dummy variable which captures the perceived affordability of taxes by recording a value 1 if the respondent states that 'The main reason for not registering my business is taxes are too high' and 0 otherwise.

Public sector corruption: a dummy variable which attempts to capture the perceived level of corruption in the registration system by recording a value of 1 if the respondent states that 'The main reason for not registering my business is registration system is corrupt' and 0 otherwise.

Risk of detection: measured on a Likert scale with value 1 if the respondent believes that it is 'very risky' to run an unregistered business in Pakistan, value 2 if he/she is of the opinion that it is 'somewhat risky' and value 3 if he/she says it is 'not risky'.

Structural variables:

Resistance against the state: a dummy variable with value 1 if the response to the following statement is positive: 'The state does not do anything for the people so why should we obey the law' (and register our business) and value 0 otherwise.

Difficulty of registration: a dummy variable with value 1 if the respondent states that 'The main reason for not registering my business is: Registration system is very complicated' and 0 otherwise.

Tax morality: measured on a Likert scale with value 1 if the respondent is of the opinion that it is 'highly acceptable' to run an unregistered business in Pakistan, value 2 if he/she holds the opinion that it is 'somewhat acceptable' and value 3 if he/she believes that it is 'not acceptable'.

Unawareness of the registration system: a dummy variable with value 1 if the respondent states that 'The main reason for not registering my business is: I am not aware of the registration process' and 0 otherwise.

Sector: a categorical variable with three categories: manufacturing, retail and instantly consumable food items coded 1, 2 and 3 respectively.

## Methods

As the dependent variable is ordinal, we here use ordinal logistic regression analysis. This is

preferable to using both a simple OLS technique since the assumptions of a non-interval variable are violated, as well as multinomial regression in which case the ordinal information contained in the dependent variable will be lost.

The analysis of the data is presented in the form of staged models for the ordinal logistic regression in order to show how the significance of individual variables may vary with the introduction of other variables. Different 'sets' of variables are therefore sequentially introduced into the regression analysis. In the first model (M1), we include solely the individual-level variables to see which are significant. The second model (M2) then includes the individual- and institutional-level factors to see which remain significant and the third and final model (M3) covers the individual-, institutional- and structural-level factors to see which are significant. To determine whether the addition of a new set of variables results in a better fit, likelihood ratio tests are used.

Having conducted a multi co-linearity test to check the validity of the final model (M3), the categorical variables had a variance inflation factor of less than 5 whereas the rest of the variables included had a variance inflation factor of less than 2.5. This reveals that the model is stable and no strong relationship exists between the independent variables. Further, a linktest to check for model specification resulted in a significant  $\chi^2$  (p-value of 0.025) and insignificant  $\chi^2$  (p-value of 0.409). In consequence, there is no omitted variable bias and the model seems well specified.

## **Results: explaining the degree of informalisation of entrepreneurs in Pakistan**

### **Descriptive findings**

Of the 300 entrepreneurs surveyed in Lahore during 2012, and as Table 2 reveals, 62% operate wholly informal enterprises, 31% largely informal and 7% largely formal enterprises. None of the entrepreneurs operated wholly formal enterprises. Consequently, nearly two in five (38%) entrepreneurs are neither wholly formal nor wholly informal but rather, somewhere in-between these two extremes in terms of their level of formalisation, with most being largely informal rather than largely formal.

INSERT TABLE 2 ABOUT HERE

Which groups of entrepreneur therefore, have undergone a greater degree of formalisation compared with others? As Table 2 displays, it appears that as the age of the informal entrepreneur increases, there is a greater likelihood of the entrepreneur taking steps towards formalisation. It is similarly the case that as the level of education increases, the more likely they are to take moves towards formalisation. As the level of formalisation increases, so does the monthly income of the entrepreneur and the sector in which they operate appears to have some bearing on the degree of formalisation, with those operating in the instantly consumable food (ICF) sector being more likely to be wholly informal whilst those operating in the retail sector enterprises being more formalised. Interestingly, the more entrepreneurs had formalised their business, the more acceptable they viewed operating informally, suggesting that partial formalisation reduces some of the worst negative aspects of informality such as the bribes from local officials or the fear of detection.

### **Factors influencing the degree of (in)formalisation of entrepreneurs**

It can be hypothesized that the degree of formalisation of entrepreneurs varies according to individual-level variables (gender, age, education, income, economic marginality, age of

business venture), institutional-level variables (public sector corruption, risk of detection, tax level) and structural-level variables (tax morality, resistance against the state, sector, difficulty of registration, unawareness of the registration system). To analyse the effect of these independent variables on the degree of (in)formalisation, an additive ordered logit model is used. The first stage model (M1) examines the individual-level factors to examine their effects while the second stage model (M2) adds the institutional factors alongside the individual-level factors and the third and final model (M3) examines the influence of each factor on the degree of formalisation when the individual, institutional and structural-level factors are all included. Table 3 reports the results.

#### INSERT TABLE 3 ABOUT HERE

##### Model 1: individual-level factors influencing the degree of (in)formalisation

The first stage in the analysis was to investigate the effect of individual-level explanatory variables (M1). There is evidence that the degree of formalisation increases as the age of the entrepreneur and the level of education increases. Indeed, those aged over 65 are over 150 times more likely to operate on a largely formal basis than the reference category of 15-24 year old entrepreneurs, and an entrepreneur who has a primary level education is 9.7 times more likely to operate on a largely formal basis than an entrepreneur who has no educational qualifications ( $p < 0.01$  in both cases). There is also evidence that the degree of formalisation increases as the venture becomes more established and the income of the entrepreneur increases ( $p < 0.01$  in both cases). For each year a business operates, the odds of a higher level of formality increase by 4.2%, reinforcing the wider finding that the informal sector is a test-bed used by nascent entrepreneurs to determine whether there is a market for their products (Williams and Martinez 2014a) and that as ventures mature, there is a process of formalisation. Given the extensiveness of the informal sector in Pakistan compared with other countries (ILO 2012; Williams 2013), studies elsewhere might well show greater odds of a higher level of formality for each year a business operates than this finding in Pakistan. Perhaps surprisingly however, there is no relationship between the gender of the entrepreneur and the level of formalisation. Neither is there a relationship between necessity-driven entrepreneurship and the degree of formalisation. Entrepreneurs starting their businesses as a matter of choice are as likely to run their enterprise on a more informal basis as necessity-driven entrepreneurs. Great care is therefore required in future studies not to associate greater levels of informality with necessity-driven entrepreneurship and formality with opportunity-driven entrepreneurship. This study provides no evidence that this is the case.

To provide a more graphic representation of how these personal factors influence the level of formalisation of an entrepreneur, Table 4 reports the predicted probabilities of being at each level of formalisation, conditional on age, education and total monthly income of entrepreneurs, which are the three most significant individual-level variables in M1. This reveals that an entrepreneur aged over 65 has a 31% probability of being largely formal, while this probability is just 0.54% amongst 15-24 year old entrepreneurs. Similarly, an entrepreneur with university level education has a 17% probability of being largely formal, while this is just 1% for those with no formal education, suggesting that those who are educated better understand the benefits of formality and can navigate the procedures required in order to be so. This table also displays the benefits of greater levels of formality. Those earning less than PKR 20,000 per month have an 85% probability of being wholly informal compared with just 47% amongst those earning over PKR50,000.

#### INSERT TABLE 4 ABOUT HERE

## Model 2: individual and institutional-level factors influencing degree of (in)formalisation

When the institutional-level factors are added alongside the personal characteristics in model 2 (M2), the likelihood ratio test to evaluate the difference between M1 and M2 indicates that adding the institutional-level influences of corruption, risk of detection and tax rates results in a significant improvement in model fit (LR Chi2(3)= 41.63; Prob>Chi2= 0.000).

Indeed, besides the personal characteristics of the age, educational level, income and maturity of the venture of the entrepreneur continuing to significantly influence the level of formalisation of entrepreneurs, so do all of the institutional-level factors, namely public sector corruption, risk of detection and tax rates ( $p < 0.01$  in all cases). An entrepreneur citing corruption as the main reason for operating informally is 3.8 times more likely to operate at a lower level of formality than those not believing the system is corrupt (odds ratio= 0.263). This provides support for the view that entrepreneurs voluntarily exit the formal economy to avoid the public sector corruption confronting them (De Soto 1989; Levin and Satarov 2000; Torgler and Schneider 2009). As a restaurant owner stated who had been asked for bribes from several government departments, and who now operated on a largely informal basis, 'Every disease has its own medicine, and the medicine for this situation is to work outside their corruption ... nothing is going to get better.'

It also appears to be the case that improving the risk of detection of informality is a way forward, as the rational economic actor model suggests (e.g., Allingham and Sandmo 1972). The finding is that the greater the perceived risk of detection, the greater is the degree of formalisation. Those believing that high tax rates are their main reason for operating informally moreover, are significantly more likely to operate on a more informal basis. Unlike advanced economies therefore, where increasing tax rates does not lead to greater informalisation, this is not the case in Pakistan. Given the widespread perception of corruption and distrust in government, increasing tax rates leads to greater informality.

## Model 3: individual, institutional and structural-level factors influencing degree of (in)formalisation

When structural factors are added to the institutional- and individual-level variables in model 3 (M3), the likelihood ratio test evaluating the difference between M1 and M3 reveals that adding structural and institutional variables results in a statistically significant improvement in model fit (LR Chi2(9)= 57.59; Prob>Chi2= 0.000). Similarly, the likelihood ratio test between M2 and M3 also shows a better fit in the case of M3 compared with M2 (LR Chi2(6)= 15.96; Prob>Chi2= 0.01). This suggests that the level of formalisation is best explained using the full range of factors.

In this final integrative model (M3), gender and economic marginality remain statistically insignificant as determinants of the level of formalisation, akin to previous models, while the rest of individual and institutional factors remain statistically significant predictors of the level of formalisation. Examining the structural influences introduced, neither the sector in which entrepreneurs operate, nor the difficulty of registration or the awareness of the registration system, are significant determinants of the level of formalisation. However, both the level of tax morality and the level of resistance against the state are significant determinants of the level of formalisation, thus reinforcing the view that the degree of informalisation is a result of the level of institutional incongruence between formal and informal institutions.

The finding is that the level of formalisation is greater amongst those with higher levels of tax morality and lower levels of resistance to the state, and thus those whose own values, beliefs and norms are more closely aligned with the codified laws and regulations of the formal institutions. Indeed, those with higher tax morality are 2.4 times more likely to operate largely formal ventures. Indeed this quantitative finding that formalisation increases with higher tax morality and lower resistance to the state is reinforced and enriched by the qualitative interviews conducted. A thematic analysis of these in-depth interviews reveals three primary reasons for entrepreneurs having lower tax morality and resistance to the state.

Firstly, resistance and lower tax morality is due to a lack of perceived tax fairness, which refers to the extent to which entrepreneurs in this case believe they are paying their fair share compared with others (Wenzel 2004). The in-depth interviews reveal a widespread perception amongst the entrepreneurs interviewed that the laws, regulations and codes of formal institutions are for the benefit large corporations rather than for them. As a largely informal restaurant owner puts it, 'Laws are only made to favour big business owners'. Indeed, a common statement was that large businesses use legal loopholes to engage in legitimate tax avoidance, whilst this is not possible for them as small-scale entrepreneurs. As a retailer of automotive spare parts who operates on a largely informal basis stated, 'The law serves only the powerful and rich. They know how to use the loopholes so that they can abuse the law in their favour.' For many of these entrepreneurs therefore, there is a perception that the tax system is not fair because they pay taxes whilst influential big businesses avoid paying any tax at all and do so legally due to tax loopholes.

Secondly, resistance and lower tax morality arises due to the lack of the perceived redistributive justice, which refers to whether they receive the goods and services they believe that they deserve given the taxes that they pay (Richardson and Sawyer 2001). As a retailer of electronic accessories stated who operates a largely informal business, 'Paying taxes does not hurt if we get something in return', or as a restaurant owner selling traditional Pakistani food asserts who runs a wholly informal enterprise, 'It is absolutely not worth the effort to formalise ... What we pay, it never comes back to us'.

Third and finally, resistance and lower tax morality arises due to the perceived lack of procedural justice, which is the extent to which they believe that the authorities have treated them in a respectful, impartial and responsible manner (Braithwaite and Reinhart 2000; Murphy 2005). Indeed, the in-depth interviews reveal that their attitude towards formalisation is influenced by the lack of procedural justice in relation to issues that have nothing to do with their venture. As a restaurant owner who operates on a largely informal basis asserts,

I can never forgive the Punjab Institute of Cardiology (a state-run hospital) for giving me an adulterated medicine that caused a serious infection in my eye .....there is no one from the ministry of health to question the hospital .... I am not going to pay them (the government) anything from my income.

In another similar example, a timber manufacturer reported that he was allegedly a victim of a conspiracy jointly plotted by corrupt government officials - the intermediary party - and an 'influential' buyer when he had sold a property,

My PKR 40 million was never paid by the government ..... I feel totally helpless .....  
Now I will grab everything I can off the state, because they have done injustice to me.

A thematic analysis of these in-depth interviews thus reveals that resistance to the state and low tax morality amongst these Pakistani entrepreneurs is due to a perceived lack of procedural fairness, redistributive justice and procedural justice. This has a significant impact

on the degree of formalisation of entrepreneurs.

## **Discussion and conclusions**

The starting point of this paper was that although there has been a burgeoning literature which adopts an institutional approach when explaining entrepreneurship in the informal sector, there has so far been little attempt in this literature to transcend the dichotomous depiction of entrepreneurs as either formal or informal, and to recognise a continuum of entrepreneurship ranging from wholly formal to wholly informal with many varieties in-between. This paper has thus provided the first known study to enumerate and explain the degree of formalisation of entrepreneurs and the characteristics of entrepreneurs displaying varying degrees of formalisation. Reporting a survey of 300 entrepreneurs in the city of Lahore in Pakistan, this has revealed that 62% operate wholly informal enterprises, 31% largely informal and 7% largely formal enterprises. None operated wholly formal enterprises. Consequently, nearly two in five (38%) entrepreneurs are neither wholly formal nor wholly informal but rather, somewhere in-between these two extremes in terms of their level of formalisation, with most being largely informal rather than largely formal.

Drawing upon the institutional approach and the literature on the factors explaining the participation of entrepreneurs in the informal sector (rather than their degree of formalisation), a range of personal, institutional and structural factors that might potentially influence their degree of formalisation have been identified and then tested. The intention in so doing has been to test whether lower levels of formalisation are associated with higher levels of institutional asymmetry and to determine the characteristics of entrepreneurs displaying lower levels of formalisation and thus higher institutional asymmetry. Using a staged ordinal logit regression analysis, this has revealed the factors influencing the degree of formalisation of entrepreneurs in this particular socio-spatial context. Synthesizing the findings, Figure 1 reveals that entrepreneurs operating on a wholly informal basis are more likely to be low-income, younger entrepreneurs with lower educational levels. They perceive little risk of detection but a high level of public sector corruption and possess a low tax morality, meaning that they view tax rates to be too high, and view there to be little tax fairness, redistributive justice or procedural justice in how the state operates. For these entrepreneurs therefore, there is a high level of institutional asymmetry. Meanwhile, entrepreneurs operating on a largely informal basis are slightly older and have higher incomes. Although they perceive it as more risky to operate informally and possess a higher tax morality, they again perceive a high level of public sector corruption and thus perceive taxes as too high and there to be little tax fairness, redistributive justice or procedural justice in how the state operates. Those entrepreneurs operating on a largely formal basis, in contrast, are older higher-income entrepreneurs often with a higher level of education. They perceive it as very risky to operate informally and possess a relatively high tax morality, meaning that they view tax rates as reasonable and believe that there is tax fairness, redistributive justice and procedural justice in terms of how the state operates, despite recognizing that there is a relatively high level of public sector corruption. In other words, there is a lower level of institutional asymmetry.

INSERT FIGURE 1 ABOUT HERE

In terms of theoretical advances therefore, this paper firstly reveals that conceptualising entrepreneurship in the informal sector as a separate category or sub-discipline is no longer tenable. Squeezing all entrepreneurs into one side or the other of an informal/formal dichotomy fails to recognise that two in five entrepreneurs in Pakistan are in lived practice

neither wholly formal nor wholly informal. Instead, it is necessary to conceptualise entrepreneurs on a spectrum from wholly formal to wholly informal displaying varying degrees of formalisation. This paper has for the first time enumerated the degree of formalisation of entrepreneurs, albeit in only one specific socio-spatial context. The second theoretical contribution is that this paper has advanced the burgeoning institutional approach by showing how the institutional incongruence between formal institutions (codes, regulations and laws) and informal institutions (values, norms and beliefs), as expressed in a limited perceived level of tax fairness, procedural justice and redistributive justice, leads many entrepreneurs to have low tax morality and to operate at varying levels of informalisation. The result is that we have displayed how lower levels of formalisation are associated with higher levels of institutional asymmetry. The third theoretical contribution, and turning to the characteristics of entrepreneurs displaying lower levels of formalisation and thus higher institutional asymmetry, we have shown that in Pakistan these tend to be lower-income, younger and less educated entrepreneurs. Whether these findings hold in other localities, regions and nations now needs to be investigated.

In terms of policy implications, the major contribution of this paper is that it reveals that reducing the asymmetry between the formal and informal institutions will improve the level of formalisation of entrepreneurs. To achieve this, two options exist. On the one hand, the norms, values and beliefs of the population regarding their tolerance of informalisation can be targeted so that these informal institutions are aligned with the codified laws and regulations of formal institutions. This can be achieved through awareness raising campaigns about the costs of operating informally and benefits of operating formally, as well as tax education initiatives and normative appeals (see Eurofound 2013; Williams 2014b). On the other hand, the formal institutions could also be changed to align with the norms, values and beliefs of the wider society. This study reveals that this can be achieved by ensuring that citizens believe they are paying their fair share of taxes compared with others, receive the goods and services they believe that they deserve given the taxes that they pay, and believe that the tax authority has treated them in a respectful, impartial and responsible manner. Such policy measures it has been here shown will need tailoring towards low-income, younger and less educated entrepreneurs since these are the groups displaying the greatest degree of informalisation.

In practice of course, these two policy approaches are not mutually exclusive. Changes in formal institutions shape, and are shaped by, changes in informal institutions, and changes in both are required to reduce the level of institutional incongruence. These two approaches thus need combining to create greater symmetry between formal and informal institutions and reduce the degree of informalisation of entrepreneurs. For those who do not still adhere after doing this, it will be then necessary to use direct controls to increase the perceived or actual risk of detection and penalties. Whether this combination and sequencing of measures is the most effective however, will require evaluation.

Consequently, if this paper stimulates those adopting an institutional perspective and beyond to shift away from research on entrepreneurship in the informal economy as if it were separate from entrepreneurship in the formal economy, and towards research on the degree of (in)formalisation of entrepreneurs, then it will have achieved its major objective. What is now required are studies in other socio-spatial contexts, using either a similar methodology to that adopted in this paper or more qualitative methods, which evaluate whether it is similarly the case that greater levels of institutional asymmetry lead to higher degrees of informalisation. If this then leads to greater policy analysis of the changes required in formal and informal institutions in order to move entrepreneurs along the spectrum towards greater degrees of formalisation, and evaluations of what combinations and sequences of policy measures can

achieve this, along with what groups should be targeted, then it will have achieved its wider intention.

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Table 1: Informal entrepreneurship: decision matrix of the degree of informalisation

	Legal status as company	Tax registration	Formal accounts	Score
Wholly formal	√	√	√	3
Largely formal				2
Option 1	X	√	√	
Option 2	√	√	x	
Option 3	√	x	√	
Largely informal				1
Option 1	X	x	√	
Option 2	X	√	x	
Option 3	√	x	x	
Wholly informal	X	x	x	0

Table 2: Characteristics of entrepreneurs: by degree of informalisation

	Wholly informal	Largely informal	Largely formal	Wholly formal	All
All respondents	62	31	7	0	100
Age:					
- 15-24	87	13	0	0	8
- 25-35	67	25	8	0	48
- 36-64	53	41	6	0	41
- 65+	33	33	34	0	8
Highest educational level:					
- No education	91	11	0	0	15
- Primary	70	28	2	0	27
- Secondary	58	37	5	0	40
- Diploma	29	53	18	0	9
- University	44	26	30	0	9
Gross income:					
- <20000	92	7	1	0	27
- 20,000-29,999	65	32	3	0	33
- 30,000-39,999	29	60	11	0	18
- 40,000-49,999	52	38	10	0	10
- >50,000	41	38	21	0	12
Sector:					
- Retail	47	39	34	0	33
- Manufacturing	57	38	5	0	33
- Instantly consumable food items	83	16	1	0	33
Tax morality:					
Highly acceptable to operate informal enterprise	22	23	50	0	23

Table 3. Ordinal logistic models for the determinants of the degree of formalisation of entrepreneurs in Lahore

Variable	M1	Odds Ratio	M2	Odds Ratio	M3	Odds Ratio
Personal factors:						
Gender	-0.988	0.372	-1.182	0.307	-0.963	0.382
Age 25-35	2.519**	12.412	2.778**	16.083	2.272**	9.699
Age 40-64	3.078***	21.717	3.249***	25.776	2.646***	14.100
Age 65+	5.128***	168.624	5.804***	331.470	5.734***	309.207
Income 20,000-30,000	1.351**	3.862	1.374*	3.951	1.356**	3.880
Income 30,000-40,000	2.693***	14.781	2.829***	16.933	2.692***	14.758
Income 40,000-50,000	1.820**	6.171	2.058**	7.826	2.175***	8.806
Income 50,000+	2.369***	10.685	2.349***	10.474	2.399***	11.010
Education primary	2.271**	9.687	2.297***	9.946	1.876**	6.528
Education secondary	2.652***	14.188	2.686***	14.677	2.155***	8.626
Education diploma	3.727***	41.565	3.939***	51.365	3.113***	22.491
Education university	3.997***	54.412	4.079***	59.103	3.359***	28.761
Economic						
marginality	-0.549	0.577	-0.264	0.768	-0.406	0.666
Age of business	0.042***	1.042	0.038***	1.038	0.030*	1.030
Institutional-level factors:						
Public sector corruption			-1.337***	0.263	-0.969*	0.379
Risk of detection			-1.046***	0.351	-0.898***	0.407
Tax level			-1.539***	0.215	-1.115**	0.328
Structural-level factors:						
Tax morality					0.603**	1.828
Sector 2					-0.505	0.604
Sector 3					-0.824	0.438
Resistance against the state					-0.876**	0.4166
Difficulty of registration					-0.603	0.547
Unawareness of the registration system					-0.430	0.651
Number of observations	271		271		271	
Wald chi2	80.62***		114.84***		112.73***	

Notes: Dependent variable level of formality on a four-point scale. The reference groups are Age 15-24, Sector 1, Income <20000, No education. Significance levels: \* p<0.10, \*\* p<0.05, \*\*\* p<0.01.

Table 4. Predicted level of formalisation from ordered logit model (M1)

	Wholly Informal	Largely Informal	Largely Formal
<b>Age:</b>			
15-24 years	92%	7%	1%
25-35 years	65%	29%	6%
40-64 years	56%	35%	9%
65+ years	26%	43%	31%
<b>Education:</b>			
No Education	92%	7%	1%
Primary	67%	28%	5%
Secondary	60%	33%	7%
Diploma	42%	44%	14%
University	38%	45%	17%
<b>Income:</b>			
<20,000	85%	14%	1%
20,000-30,000	66%	30%	4%
30,000-40,000	42%	45%	13%
40,000-50,000	58%	36%	6%
50,000+	47%	43%	10%

Figure 1. Typology of the characteristics of entrepreneurs by their level of formalisation

<b>Personal factors</b>		
<ol style="list-style-type: none"> <li>1. Young in the age category of less than 25 years</li> <li>2. Secondary education</li> <li>3. Household income &lt;20,000 rupees</li> </ol>	<ol style="list-style-type: none"> <li>1. Young in the age category of 25-35 years</li> <li>2. Secondary education</li> <li>3. Household income between 30,000-40,000 rupees</li> </ol>	<ol style="list-style-type: none"> <li>1. Mature in age category 45-65 years</li> <li>2. University graduates</li> <li>3. Household income above 50,000 rupees</li> </ol>
Wholly	Largely	Largely
Informal	Informal	Formal
<ol style="list-style-type: none"> <li>1. Very high perceived level of public sector corruption</li> <li>2. Do not perceive it risky to run an unregistered business</li> <li>3. Tax rates perceived as too high</li> <li>4. Low tax morality</li> <li>5. High resistance against the state due to low perceived level of tax fairness, redistributive and procedural justice</li> </ol>	<ol style="list-style-type: none"> <li>1. Very high perceived level of public sector corruption</li> <li>2. Perceive it as somewhat risky to run an unregistered business</li> <li>3. Tax rates perceived as too high</li> <li>4. Medium level of tax morality</li> <li>5. High resistance against the state due to low perceived level of tax fairness, redistributive and procedural justice</li> </ol>	<ol style="list-style-type: none"> <li>1. High perceived level of public sector corruption</li> <li>2. Perceive it very risky to run an unregistered business</li> <li>3. Tax rates perceived as quite reasonable</li> <li>4. High tax morality</li> <li>5. Low resistance against the state</li> </ol>

**Contextual factors**