DOES FINANCIAL DEVELOPMENT AND IMPROVED INSTITUTIONS REALLY ADVANCE FORMAL ENTREPRENEURSHIP IN DEVELOPING COUNTRIES?

Abstract: To effectively combat poverty worldwide, many development policies place particular emphasis on entrepreneurship, thanks to its ability to drive economic growth. However, there is the challenge of reducing the informal sector and promoting the formal sector. Many initiatives have therefore,been undertaken to promote formal entrepreneurship in developing countries, but little is known about the role of institutions and financial development. The aim of this article is to analyze the effects of financial development and institutions on formal entrepreneurship in developing countries. To achieve this, the system GMM method was applied to a sample of 94 developing countries between 2006 and 2018. It yielded the following results: financial development has a positive effect on formal entrepreneurship; institutions have mixed effects on formal entrepreneurship; institutions encourage financial development to foster formal entrepreneurship; and, other macroeconomic magnitudes have mixed effects. The study recommends that the leaders of these countries develop their financial systems, fight corruption more effectively, reduce regulatory constraints on business start-ups and encourage the achievement of economic policy objectives, in order to expand the size of the formal sector.

Key words: Formal entrepreneurship, institutions, Financial Development, formal sector,Informal sector.

I. Introduction

The concern to expand the formal sector in developing countries (DCs) has attracted particular attention from academics and politicians alike. The formal sector is slow to achieve significant growth in this context, while the contribution of the informal sector and its expansion are increasingly being observed. Indeed, the informal sector accounts for over 70% of GDP in developing countries, while the formal sector barely exceeds 30% (Schneider and Ernst, 2013). According to Medina and Schneider (2019) and De Soto (1989), the informal sector replaces the formal sector because the latter is unable to recruit the entire existing workforce. Indeed, some two million men and women, or over 61% of the world's employed population, make their living in the informal economy. For the most part, this is not a deliberate choice, but the consequence of a lack of formal employment opportunities. The proportion of informal employment varies around the world, from 25% of all jobs in Europe and Central Asia to almost 86% in Africa. 80% of rural employment is informal, compared with 43.7% in urban areas (Bonnet et al., 2019). Own-account workers account for almost half of those in informal employment (45%), while the vast majority (86.1%) of self-employed workers work informally. In most emerging and developing countries, there are

significantly more men than women working on their own account in the informal sector; sub-Saharan Africa is the exception, where the proportion of women and men is equal, accounting for 52% of all informal workers.

More specifically, 70% of workers are self-employed in Sub-Saharan Africa, 60% in North Africa, 60% in Latin America and 58% in Asia. Between 2006 and 2018, the average rate of newly created formal businesses was 23.53%, compared with an average rate of informal entrepreneurship of 76.47% (WDI, 2022). Another group is employees, which includes full-time, part-time or temporary salaried workers, casual and contract workers, undeclared employees, homeworkers and others. Temporary and part-time workers are much more likely to be employed in the informal sector than those in permanent full-time jobs (see figure 1 in appendix for share of informal employment in total employment). Overall, men are more likely than women to work under this type of arrangement. In developing countries, however, the opposite is true. For example, among part-time workers in these countries, 85.8% of women are informally employed, compared with 79.6% of men, while informality rates are 43.3% for women and 41.9% for men in permanent full-time employment (ILO, 2018). We note that the large self-employed workforce unfortunately remains cloistered in underemployment and does not sufficiently help to achieve economic growth objectives, hence the concern to expand the formal sector. Indeed, developing countries boast a large proportion of self-employed workers, compared with developed countries (60.50% versus 14.88% respectively). However, we note that 58.25% of self-employed workers in developing countries were involved in vulnerable entrepreneurship, while in developed countries the vulnerability rate was only 10.97% between 1991 and 2019. This reflects the efforts that developing countries must make in order to become developed countries (ILO, 2020).

It is with this same logic that this study aims to analyze the necessary means that can help expand formal entrepreneurship in DCs. The literature to date has shown that formal entrepreneurship is essential if developing countries are to escape poverty (Acs and Virgill, 2009; Nguimkeu, 2014; Lepojevic et al., 2016; Chowdhury et al., 2019; Peprah et al., 2020). Indeed, formal entrepreneurship contributes to the constitution of national income, as formal businesses pay taxes, which are one of the sources of state funding. The formal sector comprises businesses that operate legitimately and legally (Hart, 1973). These companies are known to the public administration and produce goods and services that comply with the compliance protocol. Products from this sector make an effective contribution to consumer satisfaction, and since they are produced under the right conditions, they do not harm the consumer. In terms of job supply, the formal sector is the one that offers the most paid employment, since most businesses are not single-person enterprises. This helps to limit the high unemployment rate in these countries. Indeed, 8.1% and 8.2% of people are unemployed in Latin America and the Caribbean respectively (ILOSTAT, 2019).

Formal enterprises are considered to be the main source of growth. According to the principle of national accounting, it is the output of these companies that constitutes the totality of national production. And it is from business activity that an economy functions. For the company is in itself a unit of production, a unit of redistribution and a social unit, making the (formal) enterprise the center of economic activity. Instilling formal entrepreneurship in a society can therefore increase a nation's innovative potential (Schumpeter, 1934), but also the skills of its employees, thus offering an opportunity to increase national production (Say, 1807; Aparicio et al., 2016). In addition, entrepreneurship has a societal value as it helps to broaden tax revenue, strengthen national competitiveness and create quality jobs, raise competitiveness, promote the export of national production (Storey et al., 1987; Santos, 2012; Stoica, 2020). Formal entrepreneurship is thus defined as "the activities of an individual or

group aimed at launching economic activities in the formal sector under a legal business form" (Klapper et al., 2007). This sector is therefore strongly favored in developing countries, to the detriment of the informal sector.

The informal sector, on the other hand, groups together activities that are certainly legitimate, but not recognized by the public administration (Hart, 1973; Darbi et al. 2018). It is a traditional sector in which individuals act on the bangs of legislation without respecting the required compliance protocol; and which coexists with formal entrepreneurship. Formally, informal entrepreneurship involves businesses that are not registered by the state or hidden from the state for tax and/or benefit purposes (Williams and Nadin, 2010; Williams, 2017). The concern with these companies is that they cannot innovate, export or import, win public contracts; they are small, have an unskilled and underemployed workforce, lack capital, etc. (Hart, 1973). This state of affairs proves that an economy cannot rely on its informal sector to develop. That's why we focus on entrepreneurship in its formal form, which has all the qualities an economy needs to develop.

In the existing literature, some authors (Schumpeter, 1934; Kirzner, 1973; Baumol and Strom, 2007) have defined entrepreneurship as the main source of economic growth. Moreover, entrepreneurship has always been considered a determining and very crucial factor for the economic development of any country (Schumpeter, 1934; 1942; Carree and Thurik , 2005; Holcombe, 2007; Stel et al., 2005; Coulibaly et al., 2018; Glaeser, 2020 ; Diallo et al., 2023; Gutterman, 2022). As well as being a source of new jobs and stimulating economic growth, entrepreneurship helps to improve the competitiveness of developed and developing economies, enabling them to better adapt to economic and structural change (Audretsch, 2002). However, this growth-generating entrepreneurship is still fragile in developing countries, because certain conditions favorable to the sector are not present in this context. In the Schumpeterian tradition (1934), the development of entrepreneurship is linked to finance and the institutional environment. In fact, the level of an economy's financial system determines the level of production in the real economy (Schumpeter, 1912; Show, 1973; McKinnon, 1973; Levine, 1997). Here, FD occurs when the financial structures (financial institutions and financial markets) in a given economy manage to minimize the frictions that usually exist in the financial and banking markets (Levine, 1997). A developed and mature financial system is therefore characterized by access to financial services for all economic agents, and by the existence of intermediation institutions and diversified instruments to meet the diversity of demand and recycle available savings into financing the economy (Levine, 1997). However, the level of FD is still very low in developing countries.

Indeed, the evolution of the global index of financial development remains considerably low compared to developed countries. On average, it rose from 13% in 1985 to 24% in 2018, in contrast to developed countries, where it rose from 31% in 1985 to 55% in 2018 (IMF, 2022). The same observation is made when we look specifically at the development of financial institutions and financial markets. In contrast to developed countries, which have gone from 41% and 19.6% respectively in 1985 to 63% and 44.6% in 2018 (IMF, 2022), the development of financial institutions and markets in developing countries has gone from 20% and 6% respectively in 1985 to 36% and 10% in 2018. What's more, these entrepreneurs are denied credit even though they have (in some cases) very high-quality projects (Nguimkeu, 2014). Developing countries therefore need to develop their financial systems, because the literature shows that financial development is a source of development because it encourages productive entrepreneurship and consequently economic growth (Schumpeter, 1912; McKinnon, 1973; Show, 1973; Stiglitz, 1989; Aghion and Howitt, 1998). Developed financial systems mobilize the necessary financial resources and allocate them as efficiently

as possible. In this sense, they promote capital accumulation, innovation, employment and high productivity (Levine, 2005). In short, a poor-quality financial system makes it impossible to control financial risks and leads to inefficient financial intermediation, thereby slowing down economic activity (Lo and Ramde, 2019). The poor development of the financial system (Thai and Turkina, 2014) seems to justify the low level of formal entrepreneurship in developing countries.

When we think about improving the financial system, we also think about the quality of the institutions that govern the economic environment. Productive entrepreneurship requires an efficient financial system, which in turn requires a solid institutional structure. For an entrepreneur, finance and institutions are indispensable (Schumpeter, 1934). In this case, institutions are the second factor requiring improvement if formal entrepreneurship is to grow (Nguimkeu, 2014). North (1990) defines institutions as the set of formal or informal rules and norms designed to govern interactions between agents. Institutions are conceived as the basis of all economic development. And if there are disparities in levels of development around the world, it's because of the disparity in levels of institutions between countries. The most developed countries are those with high-quality institutional endowments, while the poorest countries are those with weak institutions. For Acemoglu et al (2005), a nation with economic institutions that facilitate and encourage factor accumulation, innovation and the efficient allocation of resources is more likely to prosper. The quality of institutions is therefore linked to the level of entrepreneurial development (Williamson, 1963). Many authors have shown that it is the quality of institutions that defines the level of entrepreneurship in an economy (North, 1990; Sobel, 2008; McMullen et al., 2008; Omri, 2020; Dutta and Meierrieks, 2021). However, the quality of institutions remains low in developing countries.

Indeed, between 1996 and 2019, the average index of corruption control is -0.55 in developing countries versus 0.98 for developed countries; political stability averages -0.44 versus 0.77 for developed countries; regulatory quality is -0.56 versus 0.95; and the rule of law averages -0.57 versus 0.98. These statistics demonstrate the need to improve the quality of institutions in developing countries. Since institutions are the basis of all development (North, 1990), improving them would be a means of developing the financial system, and consequently entrepreneurship. A good institutional environment is favorable to the financial system and to entrepreneurship (Schumpeter, 1934). Good institutional quality not only promotes financial development and entrepreneurship independently, but also acts as an effective intermediary, ensuring good coordination between the financial sector and entrepreneurship (Stiglizt, 1998; Omri, 2020). That's why this article attempts to show that improving the quality of institutions is better for entrepreneurship of this kind in developing countries than mere financial development. It analyzes the effects of financial development on gender entrepreneurship, on the one hand, and those of institutions on the relationship between entrepreneurship and financial development, on the other, in the context of developing countries. Indeed, some authors have shown that improving the quality of institutions encourages financial development (Girma and Shortland, 2008; Huang, 2010; Law and Azman-Saini, 2012). In short, a financial sector associated with quality institutions is more conducive to entrepreneurship (Schumpeter, 1942; Omri, 2020). This leads this work to think of an expansion of formal entrepreneurship through an improvement in the quality of institutions.

The inherent limitation of all this literature is that it does not address the issue of formal entrepreneurship by simultaneously testing institutions and financial development. While some studies have attempted this, they have either ignored the particularity of formal entrepreneurship (Dutta and Meierrieks, 2021) or the context of developing countries (Omri,

2020). This study completes this initial gap. Another advantage of this work is that it analyzes the direct and indirect effects of institutions on formal entrepreneurship. It assumes that institutions not only act in favor of financial development and entrepreneurship independently, but are also an effective intermediary that ensures good coordination between the financial sector and entrepreneurship. We construct a theoretical contribution and provide new empirical verification that shows that the problem of formal entrepreneurship in developing countries must begin with the question of institutions, and that the process of finance towards entrepreneurship will be a simple outcome.

The aim of this work is to analyze the effects of development in financeand institution on formal entrepreneurship in developing countries. More specifically, we will test their direct effects as well as the indirect effect of institutions. Thus, if formal entrepreneurship is to be promoted in developing countries, it is important to go through FD and institutions. But, above all, the process must start by improving the institutions that will trigger the development of the financial system and, consequently, the development of formal entrepreneurship. The underlying hypothesis is that improving the quality of institutions leads to financial development, which in turn encourages formal entrepreneurship in developing countries.

The choice of this work makes perfect sense in developing countries, as almost all of them have problems of poor institutional quality, weak financial development and a weak formal sector. The benefit of this work lies in its contribution to the expansion of formal entrepreneurship theory in developing countries. In particular, it analyzes the interaction effect of institutional improvement and financial development on formal entrepreneurship and brings a gap with work that has claimed that financial development and improved institutional quality discourage formal entrepreneurship in DCs independently of each other (Thai and Turkina, 2014). This work proves that none of these factors can act alone, and that the optimal pattern is one of institutions passing through financial development to achieve entrepreneurship. It is even more important for the way it analyzes interaction, based on the calculation of net effects that are totally absent from previous work. It is therefore the subject of the first work to analyze this theme in this way in this context, to our knowledge. The rest of this work deals with the literature in II, the methodology in III, the presentation and discussion of the results in IV and the conclusion in V.

II. Theoreticalframework and literaturereview

II.1 Theoretical framework: Electric Theory of Entrepreneurship

Financial development occurs when a financial system is less frictional, i.e., when it mobilizes funds easily and is readily accessible to all (Levine, 1997). It has long been recognized in the economic tradition as promoting economic growth and innovation (Bagehot, 1873; Schumpeter, 1912; Schumpeter, 1942; Golsmith, 1969, King and Levine, 1993). Indeed, a developed financial system is one that reduces friction within banks and financial markets; one that is accessible to all economic agents. It aims to promote economies of scale by reducing the cost of access to information and transaction costs. Its action is confirmed through financial intermediation, which intervenes by mobilizing savings; optimizing the allocation of financial resources; exercising control over the companies financed; facilitating risk management and facilitating the exchange of goods and services (Levine, 1997). A well-developed financial sector leads to capital accumulation and technological innovation.

North (1990) defines institutions as the set of rules and norms that govern interactions between individuals. They constitute the rules of the game set up to guide people's behavior.

Their distinctive feature is that they are central to the development of economic activity. In this sense, the author believes that the level of development of each economy depends on the level of development of its institutions. The Third World remains underdeveloped because of its weak institutions. Here, formal institutions are written ones, while informal ones are based on tradition and custom. This work focuses on formal institutions, which are written rules accessible to all and which govern human action with the capacity to liberate or restrict economic activity; they are universal in character. Informal institutions, on the other hand, have a limited scope because they apply only to individuals who share the same culture, whereas formal institutions apply to all those who carry out activities in a given environment. The mobilization of financial development and institutions in the promotion of economic growth has led to a particular focus on formal entrepreneurship, seen as "the activities of an individual or group aimed at launching economic activities in the formal sector under a legal business form" (Klapper et al., 2007).

Thus, the challenge of growth in developing countries has prompted many leaders to turn to entrepreneurship after the failure of the export and import substitution policies initiated just after independence (Acs and Virgill, 2010). The interest in entrepreneurship, based on the work of Hart (1973), led Verheul et al (2002) to develop the Electric Theory of Entrepreneurship. In this theory, the authors attempt to understand and analyze what motivates entrepreneurial activity in a given country at both macro and micro levels. Four main categories of factors explain the level of entrepreneurship in a given country: demand (economic opportunities), supply (of resources and capabilities), quality of governance and cultural factors. According to this theory, financial development is used as an economic opportunity (Verheul et al., 2002), since it is exogenous to the company.

In line with this theory, some authors have stressed that entrepreneurship cannot evolve without external financing, which is why finance remains at the heart of entrepreneurship (Schumpeter, 1912; Omri et al., 2015; Wujung and Fonchamnyo, 2016; Dutta and Meierrieks, 2021). Indeed, Schumpeter (1912) in his "theory of economic evolution" defines the entrepreneur and the banker as those responsible for the development process. The entrepreneur brings new projects to life, and the banker provides the resources needed to carry them out. Through its function of financial intermediation, financial development enables the mobilization of savings; the optimal allocation of financial resources; the exercise of control over financed enterprises; the facilitation of risk management; and the facilitation of the exchange of goods and services (Levine, 1997). Thus, a country with a well-developed financial sector provides more economic opportunities, promotes innovation and economic growth (Rousseau and Silla, 2003). However, financial constraints impose a sizeable burden on formal entrepreneurship, as the number of guarantees and other conditions to be met in order to benefit from bank credit discourage entrepreneurs with good projects (Evans and Jovanovic, 1989). Those entrepreneurs who, despite everything, are determined to realize their project, are sometimes forced to convert to informal entrepreneurship (via self-employment) where there are no restrictions.

Studies in this area have shown generally (Omri, 2020; Dutta and Meierrieks, 2021) and particularly in the context of developing countries that bank financing (De Soto, 1989; Nguimkeu, 2014; Thai and Turkina, 2014; Wujung and Fonchamnyo, 2016; Ajide and Ojeyinka, 2022) remains the main barrier for entrepreneurs, and that financial development is the suitable solution since it reduces the financial constraints that discourage entrepreneurs. This is of particular interest in this context, as individuals are in need of equity capital, and the only means of enabling them to realize their projects is bank credit. Financial development in these countries remains the only feasible solution when state subsidies and personal funds are insignificant in supporting economic activity.

Regarding institutions, previous studies (Thai and Turkina, 2014; Chowdhury et al., 2019; Chambers and Munemo, 2019) have shown that the quality of entrepreneurship in an economy depends on the quality of its institutions. Indeed, sound laws, transparent registration procedures and good political and economic institutions are conducive to formal entrepreneurship (Williams and Martinez-Perez, 2017). When institutions are of poor quality, they constitute an additional barrier to entrepreneurs. In a context where administrators are rent-seeking by serving their interests to the detriment of the collective interest, corruption becomes like an additional cost that formal entrepreneurs pay, which can push them into the informal economy because they seek to escape extortion (De Soto, 1989). Otherwise, formal institutions are a barrier to formal entrepreneurship when they protect or maximize elite rents (Acemoglu and Robinson, 2012). The high level of taxes and burdensome registration procedures imposed on entry also act as a brake on formal entrepreneurship (Williams, 2016). In addition, formal institutions block entrepreneurs who want to leave the informal sector. Indeed, these entrepreneurs voluntarily practice informality to avoid red tape, waste time and bypass the rigid requirements of the administration (Nguimkeu, 2014).

It is necessary for the state to intervene in economic activity, but with restrictions to enable entrepreneurs to remain in the formal sector. However, the effectiveness of this intervention lies in transparency (Williams and Martinez-Perez, 2017). Indeed, entrepreneurs need to be informed about the management of their contribution in order to maintain the social contract between the state and citizens. Otherwise, informal entrepreneurship is a demonstration of a clear willingness to operate illegally by entrepreneurs who believe they are doing the best redistribution instead of the government. In this way, we corroborate Kaufman et al (2006) and Thai and Turkina (20014), for whom good economic and political institutions encourage entrepreneurship at national level. Based on the link between institutions and finance, La porta et al (1997) show that savers invest more in companies where institutions are well developed. Indeed, in countries with legal systems that facilitate contracts between private agents, and protect property rights and investors' rights, savers' resources contribute to the expansion of financial markets. Conversely, when property and investor rights are poorly protected by a financial system, financial development tends to slow down (Levine, 1999; Pagano and Volpin, 2001).

In addition to financial development and institutions, other factors such as individual wealth, human capital, the size of the working-age population, which are endogenous to entrepreneurship, and foreign direct investment favor formal entrepreneurship (Lucas, 1962; Verheul et al., 2002). In short, the Electrical Theory of Entrepreneurship offers a framework that edifies the factors that influence entrepreneurship at both macro and micro levels. Considered a contribution to the supply-side Electrical Theory of Entrepreneurship, this study surpasses previous studies on formal entrepreneurship (Kaufman et al., 2006 and Thai and Turkina, 2014; Wujung and Fonchamnyo, 2016; Dutta and Meierrieks, 2021; Ajide and Ojeyinka, 2022), informal entrepreneurship (Nguimkeu, 2014; Chowdhury et al., 2019; Chambers and Munemo, 2019) and both (Ormi, 2020) by demonstrating how good institutions and financial development encourage formal entrepreneurship. Then how, just improving the quality of institutions is enough to encourage financial development, which in turn will encourage formal entrepreneurship.

II.2 Review of empirical literature

Institutions and formal entrepreneurship

In the literature on the link between institutions and formal entrepreneurship, several studies (Kaufmann et al., 2006) have shown that sound laws, transparent registration procedures and

good economic and political institutions are positively linked to national rates of formal entrepreneurship. Their arguments are supported by the European Commission (2003), which states that improved economic regulation encourages entrepreneurs to move from informal to formal entrepreneurship.

In addition, a study by Klapper et al (2011) confirms that better regulation of the business environment encourages entrepreneurs to operate in the formal sector. Using a structural equation modeling approach, Thai and Turkina (2014) find that good governance increases formal entrepreneurship and decreases informal entrepreneurship in the case of developing countries. Dau and Cuervo-Cazurra (2014) found that pro-market institutions encourage formal entrepreneurship and reduce informal entrepreneurship. But, that their ability to reduce informal entrepreneurship is greater than their ability to propel formal entrepreneurship. For 18 Asia-Pacific countries, Autio and Fu (2015) study the effects of economic and political institutions on formal and informal entrepreneurship. Their findings reveal that many of these institutions exert substantial effects on both forms of entrepreneurship. They also add that a one percent increase in the quality of these institutions could double the rates of formal entrepreneurs and halve the rates of informal entrepreneurs.

Chowdhury et al (2019) found in a sample of 70 countries that the quality of entrepreneurship is a function of the quality of institutions. This is why developed countries have better quality entrepreneurship than developing countries. More recently, for 119 countries over the period 2001-2012, Chambers and Munemo (2019) analyze the impact of start-up regulations and the institutional quality of entrepreneurial activity. Their findings reveal that new business creation is significantly lower in countries that lack quality government institutions. Continuing in the same vein, Omri (2020) shows in his analyses of emerging countries that good-quality institutions are a favorable factor for formal entrepreneurship, but discourage so-called informal entrepreneurship. He goes on to suggest that an improvement in the quality of institutions encourages entrepreneurs to migrate from the informal to the formal sector.

On the other hand, Schneider and Enste (2000), Klapper et al. (2007) indicate that due to cumbersome regulations, lack of supervision and other weaknesses in the business environment, many entrepreneurs have found it optimal to avoid regulation and engage in informal entrepreneurship. On the other hand, weak legal structures, the bureaucratic impediments of an over-regulated market and the lack of clarity in the rules governing the creation of a formal enterprise encourage people to engage in the informal economy (De Soto, 1989). This literature shows that the size of formal entrepreneurship is a function of the quality of institutions.

Financial development and formal entrepreneurship

Financial development, through the diversification of financial instruments and improved access to financial services, helps to reduce the cost of external financing for companies, thus promoting a growing entrepreneurial dynamic (Mowery and Rosenberg, 1989). Thus, financial development is a prerequisite for entrepreneurial dynamism. However, the problem of financial constraints on entrepreneurship remains at the heart of the debate, for academics and economists alike. In developing and emerging countries, lack of access to finance is all too often an obstacle to the creation, growth and sustainability of these businesses. In this regard, the World Bank (2013) reports that, of the more than 400 million micro, small and medium-sized enterprises in developing economies, more than half have insufficient access to finance.

Yet it has been found that ease of access to finance has a positive effect on the quality and level of entrepreneurial activity. Numerous previous studies show that the lack of access to finance encountered by entrepreneurs is often cited as the greatest obstacle to the creation and development of new businesses (Goedhuys and Sleuwaegen, 2009; Omri et al., 2015). In this instance, Klapper et al. (2007) assert that financial development significantly stimulates new registered businesses and significantly reduces informal entrepreneurship due to the lack of bank financing.

Aghion et al (2007) study the effect of lending constraints on the entry and post-entry growth of new businesses. In their model, they predict and highlight the importance of financial development for entrepreneurship. Specifically, an increase in financial development promotes the entry of small businesses, discourages the entry of large businesses that have no better long-term prospects, and promotes the growth of all businesses that survive post-entry. Furthermore, Klapper and Love (2011) argue that financial development stimulates new registered businesses, suggesting that better access to finance leads to a more robust private sector.

King and Levine (1993) show that financial development positively affects entrepreneurship, its productivity and the success of innovation for sustainable economic growth. Using data from 21 countries, Klapper et al (2006) estimate a Tobit model to study the effect of financial development and other regulations on entrepreneurship. They conclude that the rate of new business entry is particularly high in sectors that are most dependent on external financing for their growth in the economy, with high levels of financial development. Aghion et al (2007) confirm the findings of Klapper et al (2006) in their exploration of the effect of lending constraints on the entry and post-entry growth of new businesses, using data from 16 OECD economies. Their findings are also in line with those of Beck et al. (2001), Omri and Ayadi-Frikha (2014), who emphasize the importance of the financial sector for firm entry and growth in sectors most dependent on ex terne financing.

In the case of sub-Saharan Africa, Goedhuys and Sleuwaegen (2009) also show that the development of entrepreneurship is limited by financial development, insecurity and poor infrastructure. Using data from 41 developed and developing countries, Llussá (2009) investigates the effect of financial development on entrepreneurship, and finds a positive association between the two variables. The same result was found by Kar and Özsahin (2016) for 17 emerging economies, by Wujung and Fonchamnyo (2016) for Cameroon, by Fan and Zhang (2017) for 31 provinces in China.

In a study of 20 African countries between 2006 and 20017, Ajide and Ojeyinka (2022) analyzed the effect of financial development on entrepreneurship using the GMM system method. Their results showed that financial development does not encourage entrepreneurship, and that there is a threshold above which financial development has a positive effect on entrepreneurship. Amin et al (2023) found in 48 Asian countries that financial development encourages entrepreneurship.

The role of institutional quality in the relationship between financial development and formal entrepreneurship

Omri (2020) carries out work in emerging countries in which he assesses the effects of financial development and institutional quality on formal versus informal entrepreneurship. In an interaction between financial development and institutional quality, he finds that improving institutional quality encourages financial development, which in turn promotes

formal entrepreneurship and discourages informal entrepreneurship. Thus, institutions are a favorable intermediary in the relationship between financial development and formal entrepreneurship.

Hameli et al (2021) carried out work in the Arab Emirates between 2006 and 2017 in which they analyzed the effect of financial development and other macroeconomic magnitudes on entrepreneurship. They find from GMMs and instrumental variables that financial development has a positive effect on entrepreneurship. They also confirm that institutions have a mediating effect that amplifies the effect of financial development on entrepreneurship.

In their study of 136 countries, Dutta and Meierrieks (2021) found from an instrumental variable model that financial development encourages entrepreneurship where political and economic institutions are of good quality. Institutions mediate the impact of financial development on entrepreneurship. Ajide and Ojeyinka (2022) found in their work that financial development has a negative effect on entrepreneurship in Africa. They also find that the tendency of financial development to promote entrepreneurship is conditioned by regulations and high-quality institutions.

All this literature shows that both institutional quality and financial development affect formal entrepreneurship. But no study, to our knowledge, has simultaneously analyzed the direct effects of these two components and their interaction on formal entrepreneurship in the context of developing countries in particular. Since formal entrepreneurship is difficult to achieve in developing countries, this work assumes that improving the quality of institutions will lead to the development of the financial system, and consequently foster formal entrepreneurship.

III. Methodology

In economics, the interest in entrepreneurship as part of the growth process can be traced back to the work of Castillon (1755), for whom entrepreneurship is a source of wealth. This interest has grown steadily in economic analysis, and continues to chronicle our times, where numerous parameters have come into play to facilitate the productivity of entrepreneurship. Following the segmentation of entrepreneurship, informal entrepreneurship has been the subject of numerous debates, in which it has emerged that informal entrepreneurship is a disadvantage in the growth process, as it abounds in numerous resources that remain unknown to the administration and do not contribute to the constitution of national wealth. That's why it's imperative to encourage more formal entrepreneurship, especially in the context of developing countries seeking to lift themselves out of poverty. To achieve this, certain requirements need to be met, notably improving the quality of institutions and developing the financial sector (Nguimkeu, 2014).

III.1 Data sources

The aim of this study is to analyze the effect of financial and institutional development on formal entrepreneurship in 94 (see table A 2 appendix for list of countries) developing countries between 2006 and 2018. The size of our sample is due to data availability. The choice of study period is also justified by data availability and above all because we want to avoid the shocks created by the Covid-19 pandemic. This pandemic had a very heavy impact on economies, and we are isolating this more recent period so as not to influence the results. We have mobilized four sources of data for this study. These are the Global Entrepreneurship Monitor (GEM), the International Monetary Fund (IMF), the Worldwide Governance Indicator (WGI) and the World Development Indicator (WDI). Details of the definition of the variables, the reasons for their choice and their sources are given in Appendix Table A 1.

III.2 Model specification

We make use of the GMM method in a system for 94 (see Table A 2 in the appendix for the list of countries) developing economies over a period from 2006 to 2018. Consequently, the following specification is used to explore the influence of deferent institutional factors and their interaction with financial development on formal entrepreneurship. Thus, the model we propose is specified as follows:

$$forme\_entre_{it} = \alpha_0 + \alpha_1 INSTI_{it} + \alpha_2 FD_{it} + \alpha_3 DF_{it} * INSTI_{it} + \sum_{j=1}^{K} \theta_j M'_{jit} + v_t + \varepsilon_{it} \quad (1)$$

Where:*form_entre*is formal entrepreneurship; $i(i = 1, \dots, 94)$ denotes any country, t $(t = 1, \dots, 13)$ denotes any period and α_0 the constant term that varies from one country to another independently of time.

In line with previous literature (Omri, 2020), we define formal entrepreneurship as the number of newly registered businesses as a percentage of the working-age population. Following the work of Ben Youssef et *al*. (2018), we measure formal entrepreneurship by the number of newly created businesses as a percentage of the working-age population.

INSTI is a matrix that groups the six indicators of Kaufmann et *al* (2010) into three categories: economic institutions (government efficiency and regulatory quality); political institutions (political stability and voice and accountability) and legal institutions (control of corruption and rule of law). In the application, we test each indicator for a single regression. This means we will run six regressions based on the six indicators. *DF* represents the International Monetary Fund (IMF) financial development index proposed by Cihak et *al*. (2013). $FD * INSTI$ is the interaction between financial development and institutional quality; M' is the vector of control variables included in the model; j is the number of control variables introduced; v_t is the country-specific effect; ε_{it} is the error term. α_1 , α_2 and α_3 are coefficients whose significance is of great interest. It is therefore desirable for all three coefficients to be positive.

To avoid the pitfall of models with interactive regressions, each interaction parameter should be analyzed as conditional marginal effects to give more economic and political meaning to the estimates (Brambor et al., 2006).

Methodological approach

The system GMM (S-GMM) method is chosen in this section for the following reasons. Firstly, the number of countries (N = 94) is greater than the number of years (T = 13), thus controlling for dynamic panel bias (Roodman, 2009). The condition N > T for the application of GMMs is therefore satisfied. Secondly, the ability of sys-GMM to reduce fine-sample bias allows for more efficient results than the difference GMM method (D- GMM) according to Baltagie (2008). Thirdly, it takes into account cross-country variations in the regressions. Fourthly, this method is also effective because it resolves endogeneity and double causality problems in the regression. To solve the endogeneity problem, we define a variant of equation (1). This allows us to define the following models (2) and (3):

$$form\_entre_{it} = \alpha_0 + \alpha_1 form\_entre_{it-1} + \alpha_2 INSTI_{it} + \alpha_3 FD_{it} + \alpha_4 FD_{it} * INSTI_{it} + \sum_{j=1}^{K} \theta_j M'_{jit} + v_t + \varepsilon_{it} \quad (2)$$

$$form\_entre_{it} - form\_entre_{it-1} = \alpha_1 form\_entre_{it-1} - form\_entre_{it-2}) + \alpha_2(INSTI_{it} - INSTI_{it-1}) + \alpha_3(FD_{it} - FD_{it-1}) + \alpha_4(FD_{it} * INSTI_{it} - FD_{it-1} * INSTI_{it-1}) + \sum_{j=1}^{K} \theta_j (M'_{jit} - M'_{jit-1}) + (v_t - v_{t-1}) + (\varepsilon_{it} - \varepsilon_{it-1}) \quad (3)$$

Where $form\_entre_{it-1}$ is the lagged value of formal entrepreneurship. Including this value in the regression may violate the orthogonality assumption. Arellano and Bond (1991) recommend D-GMMs, which use first-difference variables to eliminate country-specific effects. Since the correlation between lagged dependent variable and error term persists, they propose the use of both dependent and independent variables as instruments. The inability of these instruments to provide sufficient information on future changes led Blundell and Bond (1998) to propose the System GMM (S-GMM) estimator, which takes into account sets of equations with level and lagged variables. The S-GMM estimator is thus better suited than the D-GMM estimator, which may suffer from certain sample mismatches since it offers weak instruments.

Strictly exogenous instruments exclusively influence formal entrepreneurship through the endogenous variables tested. The Hansen difference test (DHT) is used to test the exogeneity of the instruments. Validation of the instrument restriction test requires rejection of the alternative hypothesis that variables assumed to be exogenous explain formal entrepreneurship. Confirmation that strictly exogenous variables affect formal entrepreneurship through the channels considered consists in rejecting the alternative Sargan Over Indentifying Restriction (OIR) hypothesis (Beck et al., 2003).

In integrating the S-GMM method in this way, the two-stage method is preferred because it is suitable for solving the heteroscedasticity problem, unlike the single-stage method, which is suitable for homoscedasticity. As the aim of this work is to analyze the effects of institutions and financial development on formal entrepreneurship, it offers the advantage of using the most comprehensive index of financial development and the most widely exploited index of governance. Using only part of one of these indices may lead to biased results.

IV. Resultspresentation

IV.1 Statisticalresults

Table 1 : Descriptive Statistics

Variable	Obs	Mean	Std.Dev.	Min	Max
form_entre	1024	23778.02	57500.33	10	456000
FD	1222	0.256	0.16	0	0.793
CC	1218	-0.265	0.755	-1.728	2.465
EG	1217	-0.219	0.737	-2.484	2.437
PS'	1217	-0.255	0.872	-2.81	1.615
QR	1217	-0.158	0.727	-2.268	2.261
RL	1217	-0.267	0.719	-1.958	2.1
VR	1216	-0.196	0.782	-2.233	1.687
DGPC	1216	2.562	4.22	-47.591	32.997
Educ_sec	914	78.218	26.579	9.689	154.82
Educ_ter	883	32.878	24.216	.593	113.217
FDI	1212	6.005	15.964	-37.173	280.132

Source :Authors

The information provided in Table 1 shows that, on average, institutional arrangements vary between - 0.27 and - 0.16. This shows that within a range of - 2.5 to 2.5, institutions in DCs are of low quality, making for a complex business environment. There were 23,778 newly registered companies in DCs between 2006 and 2018, representing a formality rate of 23.53

percent in 13 years. This shows that the majority of businesses in developing countries are informal. Financial development also remains low, with an average of 0.26. This shows that access to financial services is difficult.

Table 2 :Correlation Matrix

	1	2	3	4	5	6	7	8	9	10	11	12
1. form_entre	1											
2. FD	0.53***	1										
3. CC	-0.01	0.16***	1									
4. EG	0.28***	0.72***	0.03	1								
5. PS	-0.16***	0.24***	0.62***	0.38***	1							
6. QR	0.20***	0.40***	-0.63***	0.71***	-0.11***	1						
7. RL	0.12***	0.61***	0.55***	0.77***	0.70***	0.23***	1					
8. VR	0.01	0.09***	0.93***	-0.09***	0.56***	-0.66***	0.44***	1				
9. DGPC	0.07**	-0.06**	-0.02	-0.03	-0.03	-0.03	-0.067**	-0.03	1			
10. Pop15_64	0.37***	0.62***	0.10***	0.57***	0.28***	0.32***	0.44***	0.01	0.05*	1		
11. Educ_sec	0.31***	0.55***	0.10***	0.56***	0.35***	0.33***	0.45***	0.07**	0.03	0.80***	1	
12. Educ_ter	0.45***	0.59***	0.08***	0.54***	0.26***	0.33***	0.39***	0.06**	0.02	0.79***	0.79***	1
13. FDI	-0.02	0.13***	0.06**	0.16***	0.12***	0.10***	0.17***	0.06*	-0.02	0.09***	0.07**	0.08***

Source :Authors

According to the results in Table 2, there is a positive and significant correlation at 5% between FD and formal entrepreneurship. This result implies that improving the quality of the financial sector is likely to lead to an increase in formal entrepreneurship in developing countries. Similarly, institutional variables such as QR, RL, EG and VR have a positive and significant correlation with formal entrepreneurship at the 5% level; i.e., any variation in these variables would lead to a variation in the level of formal entrepreneurship. The same result is observed with DGPC, Pop 15-64, Educ_sec and Educ_ter. However, CC and PS are negatively correlated with formal entrepreneurship. This shows that excessive corruption and all the other variables are also correlated with each other, revealing strong correlations. To confirm the correlation results obtained and correct these strong correlations, we carry out econometric tests using the GMM method in a two-stage system adapted to this type of problem.

IV.2 Econometric results

Table 3 below presents the results of the sys-GMM method relating to the empirical association between formal entrepreneurship, the financial aspect and the institutional aspect.

Table 3 :EconometricResults

	(1) form_entre	(2) form_entre	(3) form_entre	(4) form_entre	(5) form_entre	(6) form_entre
L.form_entre	0.673***	0.853***	0.700***	0.673***	0.685***	0.694***
	(17.12)	(31.23)	(17.01)	(15.62)	(16.40)	(16.03)
CC	0.0237***					
	(5.32)					
VR		0.0156**				
		(2.39)				
EG			-0.261***			
			(-5.06)			
RL				-0.180		
				(-0.84)		
PS					0.00448	
					(0.07)	

QR						-0.0534***
						(-4.21)
DF*CC	0.155					
	(0.52)					
DF*VR		-0.376***				
		(-2.64)				
DF*EG			0.835***			
			(3.31)			
DF*RL				0.591		
				(1.21)		
DF*PS					0.110	
					(0.36)	
DF*QR						0.846*
						(1.93)
FD	0.828*	0.689***	0.623	0.825**	0.997***	0.452
	(2.50)	(3.55)	(1.53)	(2.04)	(3.98)	(0.96)
DGPC	0.0172***	0.0196***	0.0162***	0.0188***	0.0203***	0.0126**
	(3.60)	(4.99)	(3.26)	(3.63)	(4.36)	(2.42)
Pop15_64	-0.481	-0.448**	-0.425	-0.674**	-0.489*	-0.273
	(-1.75)	(-2.18)	(-1.48)	(-2.35)	(-1.85)	(-0.90)
Educ-sec	0.397**	0.0801	0.537***	0.583***	0.318**	0.434***
	(2.93)	(0.70)	(4.24)	(4.43)	(2.48)	(3.53)
Educ_ter	0.102	0.0758	0.0608	0.0967	0.118**	0.0163
	(1.73)	(1.51)	(1.02)	(1.52)	(2.03)	(0.25)
FDI	-0.00270*	-0.00194	-0.00351***	-0.00231**	-0.00185**	-0.00458***
	(-2.09)	(-0.90)	(-3.27)	(-2.26)	(-2.01)	(-3.30)
_cons	0.774	0.703*	0.0177	0.0238	0.892*	0.686
	(1.58)	(1.87)	(0.04)	(0.04)	(1.94)	(1.44)
N	1128	1128	1128	1128	1128	1128
Net effect	0.87	0.59	0.84	0.98	0.37	0.96
AR(1)	0.000	0.000	0.000	0.000	0.000	0.000
AR(2)	0.231	0.183	0.217	0.297	0.251	0.200
Hansen OIR test	0.370	0.322	0.473	0.287	0.234	0.480
N_g	94	94	94	94	94	94
Fisher	1081.08***	3502.24***	734.28***	864.38***	1102.03***	641.74***

Source: Authors
t statistics in parentheses, * p <0.1, ** p < 0.05, *** p < 0.01
Nb: numbers (1) to (6) are estimated models with different institutional indicators

To validate each result, we use four types of criteria. Firstly, we use the no autocorrelation test (AR(2)) and the first-order autocorrelation test. Secondly, we take into account the non-correlation of the instruments with the error terms. Sagan and Hansen's OIR test must be insignificant for all models. We then use the Fisher test to test the overall validity of the model. Finally, we use the DHT to confirm the OIR test.

In line with the above, the table above presents the results of six (6) models corresponding to the institutional indicators. The numbering defined for this purpose is such that model (1) tests the control of corruption, model (2) tests voice and responsibility (VR), model three (3) tests government effectiveness (EG), model four (4) tests the rule of law (RL), model five (5) tests political stability (PS) and model six (6) the quality of regulation (QR).

This gives us four main results for the set of estimates. Firstly, of the six institutional indicators used, the unconditional effects show that four indicators (CC, VR, EG and PS) have a significant effect on formal entrepreneurship in developing countries. Indeed, the level of corruption control has a positive (0.0237) and significant (at 1 percent) effect on formal entrepreneurship in developing countries. This result indicates that a 1 per cent increase in corruption control or a 1 per cent decrease in the level of corruption leads, all other things

being equal, to a 2.4 per cent increase in formal entrepreneurship. We can also observe that voice and responsibility (model 2) has a positive (0.0156) and significant (at 5 percent) effect on formal entrepreneurship. This reflects the fact that the more freedom of expression and action citizens enjoy, the more likely they are to set up businesses in the formal sector. In fact, a 1 percent increase in the voice and freedom index encourages around two percent of citizens to set up a business in the formal sector.

This result is supported by Kaufmann et al (2006), who show that a reduction in corruption leads to the development of entrepreneurship. This result is also in line with that obtained by Omri (2020), for whom the reduction of corruption directly and indirectly encourages formal entrepreneurship. Indeed, when the regime in place is maintained, stable and there are no civil wars or protests, this demonstrates the government's credibility in the eyes of its citizens, inspiring them with confidence that will lead them to formalize their businesses, since the environment offers economic opportunities. It also enables the government to pursue and achieve its economic policy objectives. Furthermore, when a government consistently achieves its objectives, it encourages individuals to develop formal entrepreneurship, which evolves in line with the administration's aspirations.

On the other hand, government efficiency (GE) and regulatory quality (RQ) show a negative and significant association of (-0.261) and (-0.0534) at 1 percent respectively towards formal entrepreneurship in DCs. Indeed, this result implies that for a government inefficiency of 1 percent, 26.1 percent of entrepreneurs are discouraged from setting up their businesses in the FS in developing countries; i.e., when government members practice rent-seeking, embezzle public funds or fail to respect their commitments, this has a negative impact on entrepreneurs in the formal sector. Similarly, for every 1 percent of bad regulation, 5.34 percent of entrepreneurs fail to enter the FS. In fact, red tape, lengthy registration procedures, high start-up costs and a large number of procedures are barriers that discourage the expansion of formal entrepreneurship in developing countries. This result is in line with that of Williams and Martinez-Perez (2017), for whom poor-quality institutions constitute a blockade to entrepreneurship. We can therefore note that of the six institutional indicators used, two (models 1 and 2) are positively associated, two (models 3 and 6) are negatively associated and the other two have no effect.

Secondly, the unconditional effects show that financial development has a positive (all models) and significant (except models 3 and 6) effect on formal entrepreneurship. This result implies that improving the quality of the financial system leads, other things being equal, to an increase in formal entrepreneurship in developing countries. This result is in line with that of Wujung and Fonchamnyo (2016), who found a positive effect of financial development on entrepreneurship in Cameroon. Models 3 and 6 show that government management and current regulations in developing countries are the two institutional values that limit the effect of financial development on formal entrepreneurship. In other words, when government efficiency and regulatory quality are applied, financial development no longer has any influence on formal entrepreneurship in developing countries.

Thirdly, this study looks at the conditional effects between financial development and each of the institutional indicators. Here, to find out whether institutions actually influence the effect of financial development on formal entrepreneurship, our interaction coefficients are analyzed as marginal effects. In fact, we calculated net effects to assess the specific impact of each interaction variable. For each estimated model, a positive net effect means that the hypothesis tested is valid, and a negative net effect means that the hypothesis tested is rejected. The results show that the net effects on formal entrepreneurship are all positive. This result implies

that improving the quality of institutions leads, all other things being equal, to an improvement in the financial system and consequently to an increase in the size of the formal sector in developing countries. This result is in line with those of Baltagi et al. (2009), Khan et al. (2019) and Omri (2020), who found that good institutions are necessary to accelerate financial development, which in turn encourages entry into the formal sector. Facilitating loans for entrepreneurs as well as improving financial infrastructure are necessary to foster formal entrepreneurship (Thai and Turkina, 2014; Wujung and Fonchamnyo, 2016; Omri, 2020) in DCs.

Fourthly, all other control variables, such as GDP per capita (GDPH), secondary education (Educ_sec) and tertiary education (Educ_ter) have positive and significant effects on formal entrepreneurship in DCs. This implies that an increase in each of these variables leads to the development of formal entrepreneurship in developing countries. On the other hand, foreign direct investment (FDI) and working-age population have negative effects on formal entrepreneurship in developing countries. The latter result implies that as the population increases, unemployment rises and the size of the informal sector increases, leading to a reduction in formal entrepreneurship. The FDI result implies that an increase in the flow of foreign investment is a brake on formal entrepreneurship because these flows are accompanied by an increase in the consumption of foreign products, resulting in a rise in imports that limit local entrepreneurial initiative (Acs and Virgill, 2010).

V. Conclusion

The objective of this paper was to assess the effects of financial system and institutional development on formal entrepreneurship in 94 developing countries between 2006 and 2018. Four main results are obtained using the GMM method in a two-stage system: institutions have a mixed direct effect on formal entrepreneurship; financial development has a positive effect on formal entrepreneurship; institutions improve financial development, which in turn encourages formal entrepreneurship in some respects; and other macroeconomic magnitudes have mixed effects. In view of these results, we recommend that the leaders of developing countries improve the quality of institutions, in order to improve the quality of the financial system and expand the size of formal entrepreneurship. The fight against corruption, the reduction of regulatory obstacles and the achievement of economic policy objectives are necessary to ensure the effectiveness of governments. After all, improving these institutions alone will lead to economic growth, through the development of the financial system and the promotion of formal entrepreneurship. We also recommend promoting education (secondary and tertiary) to expand the formal sector. Given the cultural and institutional divergences between countries, this work will be even more interesting if it focuses on each continent and each country for greater precision. It will also be important for future studies to focus on each dimension of financial development, to find out which is more favorable.

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Appendix

Table A 1:Variable definition and source

Variables	Acronyms	Definitions	Authors and sources
Formalentrepreneurship	Form_entre	Number of newly registered businesses as a percentage of the working-age population.	Autio and Fu (2015); Ben Youssef et al. (2018) WDI
Controlling corruption	CC	Captures perceptions of the extent to which public power is exercised for private gain, including small and large forms of corruption, as well as the capture of the state by elites and private interests.	Kaufmann et al. (2010) ; Omri (2020) WGI
Voice and responsibility	VR	Captures the extent to which a country's citizens participate in choosing their government and enjoy freedom of expression, freedom of association and freedom of the media.	Kaufmann et al. (2010) ; Omri (2020) WGI
Effective governance	EG	Measures the quality of public services, the quality and degree of independence of the civil service from political pressures, the quality of policy formulation and implementation, and the credibility of government commitments to these policies.	Kaufmann et al. (2010) ; Omri (2020) WGI
Rule of law	RL	Rule of law: captures perceptions of the extent to which agents trust and abide by the rules of society, and in particular the quality of contract enforcement, property rights, police, courts, and the likelihood of crime and violence.	Kaufmann et al. (2010) ; Omri (2020) WGI
Control quality	QR	Measured as the government's ability to formulate and implement sound policies and regulations that enable and promote private sector development.	Kaufmann et al (2010) ; Omri (2020) WGI
Politicalstability	PS	Political stability / no violence: measured as the perceived likelihood that the government will be destabilized or overthrown by unconstitutional and violent means, including domestic violence and terrorism.	Kaufmann et al (2010) ; Omri (2020) WGI
FinancialDevelopment	FD	This is a relative ranking of countries according to the depth, access and efficiency of their financial institutions and financial markets. It is an aggregate of the Financial Institutions Index and the Financial Markets Index.	Wujungand Fonchamnyo(2016). Omri (2020) WDI
GDPH (growth)	DGPC	Growth in GDP per capita (annual percentage), which measures the level of economic development	Stoica et al. (2020) Levine and Rubin-Stein (2017) WDI
Population of workingage	Pop15_64	Population aged 15 to 64 in (in millions)	Autio and Fu (2015) WDI
Secondary education	Educ-sec	Secondaryschoolenrolment rate	Thai and Turkina (2014) WDI
Tertiaryeducation	Educ-ter	Tertiaryeducationenrolment rate	Barro and Lee (2013) Thai and Turkina (2014) WDI
Foreign direct investment	FDI	Foreign direct investment flows (as a percentage of GDP)	Verheul et al. (2002) WDI

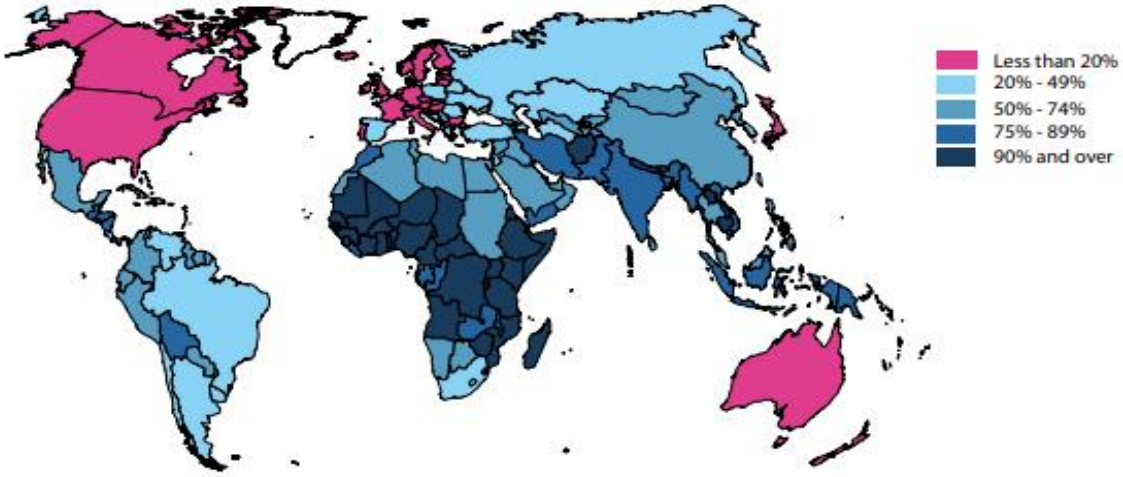
Source :Authors

Table A 2: List of countries

Albania, Algeria, Argentina, Armenia, Azerbaijan, Bahrain, Bangladesh, Belarus, Belize, Benin, Bhutan, Botswana, Brazil, Brunei Darussalam, Bulgaria, Cabo Verde, Cambodia, Central African Republic, Chad, Chile, Colombia, Costa Rica, Cote d'Ivoire, Cyprus, Dominican Republic, El Salvador, Estonia, Ethiopia, Finland, Gabon, Georgia, Guatemala, Guinea, India, Indonesia, Jamaica, Jordan, Kazakhstan, Kenya, Kuwait, Kyrgyz Republic, Lao PDR, Lesotho, Liberia, Madagascar, Malaysia, Mali, Mauritania, Mauritius, Mexico, Moldova, Mongolia, Morocco, Myanmar, Namibia, Nepal, Niger, Nigeria, North Macedonia, Oman, Pakistan, Panama, Peru, Philippines, Poland, Romania, Russian Federation, Rwanda, Samoa, Sao Tome and Principe, Senegal, Serbia, Sierra Leone, Singapore, South Africa, South Sudan, Sri Lanka, St. Lucia, St. Vincent and the Grenadines. Lucia, St. Vincent and the Grenadines, Suriname, Tajikistan, Tanzania, Thailand, Timor-Leste, Togo, Tonga, Tunisia, Turkey, Uganda, Ukraine, Uruguay, Uzbekistan, Vanuatu, Zambia.

Source: author

Figure 1: Share of informal employment in total employment, including agriculture (percentages, 2016)



Source: ILO, 2018. Women and men in the informal economy: A statistical picture. Third edition. Figure 5.