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DISCUSSION PAPER SERIES

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ABSTRACT

The Intersection of the Fields of Entrepreneurship and Development Economics: A Review towards a New View

Policy makers find it difficult to promote economic development through entrepreneurship and SMEs. In this paper we argue that this is because the positive impact of entrepreneurship is overestimated and its negative impact underestimated. It is moreover also because there is no unified scientific approach towards the role of entrepreneurship in economic development. The scholarly fields that have been interested in this, entrepreneurship economics and development economics, have been elaborated in isolation and only recently started to intersect. This growing intersection is however fragmented, ad hoc, not based on a unifying theoretical approach and suffering from lack of proper measurement. Better policy making will hence benefit from the extension and deepening of the intersection of these fields. We contribute in this regard by providing a conceptual basis for the eventual elaboration of such a unified theoretical approach. We do so by providing an up-to-date review of the intersection of the two scholarly fields, by noting the progress and gaps, by delineating the externalities associated with entrepreneurship in development, and by proposing a new synthesis definition of entrepreneurship.

JEL Classification: F23, L26, L25, O38, O57

Keywords: entrepreneurship, development, growth, occupational choice

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1 Introduction

It is widely believed that entrepreneurship is needed for economic development and that SMEs are vehicles for such entrepreneurship. Scholars and policy makers often refer to the job intensity of SMEs as evidence of their potentially significant impact on poverty alleviation (Rijkers et al., 2008). All that is needed is, in the words of Isenberg (2010) 'an Entrepreneurial Revolution'[1] which in turn requires an appropriate 'Entrepreneurial Ecosystem' (Isenberg, 2010) or 'National System of Entrepreneurship' (Acs et al., 2014). It is not the first time that the words 'entrepreneur' and 'revolution' have been used in one sentence: in its 25 December 1976 edition *The Economist* magazine published an article entitled 'The Coming Entrepreneurial Revolution: a Survey' and in its 12th March 2009 edition, in the midst of the global financial crisis, heralded entrepreneurs as 'Global Heroes'.

The problem is that there never are any 'revolutions' that follow and neither are the vast majority of entrepreneurs by any stretch of the imagination 'global' in their heroics[2]. In fact, as more and more scholars are grudgingly acknowledging, policy makers find it difficult to promote economic development through entrepreneurship and SMEs. Schramm (2004) (p.105) argued that promotion of SMEs 'add little to the economy in terms of productivity or growth'. Naudé (2011) suggested that lack of entrepreneurship is not a 'binding constraint' on development, and more recently Acs et al. (2016) (p.37) concluded that entrepreneurship policies 'waste taxpayers money, encourage those already intent on becoming entrepreneurs, and mostly generate one-employee businesses with low-growth intentions'.

What is the reason for this state of affairs? In part it is because the positive impact of entrepreneurs are overestimated and their negative impact underestimated (Naudé, 2017). For instance, as Shane (2009) (p.141) reminds us, the 'typical start-up is not innovative, creates few jobs, and generate little wealth'. van Praag and Versloot (2007) conclude that entrepreneurs do not spend more on innovation, they actually create lower quality and less secure jobs, and that 'the relative contribution of entrepreneurs to the value of productivity levels is low' (p.377). Sautet (2013) notes an apparent 'puzzle' in the fact that very often 'entrepreneurship is socially productive, but does not generate a level of wealth that would eliminate mass poverty'. Moreover, as Baumol (1990) has underscored, entrepreneurs can and do engage in un-productive and destructive activities. Not precisely the stuff of global heroes.

But this is not the only reason promoting economic development through entrepreneurship and SMEs is such an elusive goal. The fact is that a unified scientific approach towards the role that entrepreneurship plays in economic development is lacking.

[1] Isenberg (2010) (re) introduced the concept of entrepreneurial ecosystems in a 2010 article in *Harvard Business Review* citing Rwanda's development experience under its president Paul Kagame, as 'exemplary'. Human rights watchdogs disagree.

[2] The Economist's 'Coming Entrepreneurial Revolution' did not materialise, at least not in the West, where the decades after the 1970s saw GDP and productivity growth in continuous decline. Decker et al. (2014) furthermore document that the share of US employment from new enterprises declined by 30 percent over the past 30 years and the start-up rates have declined across all sectors in the US: hardly an entrepreneurial revolution.

The two main scholarly fields that have been interested in the topic, entrepreneurship economics and development economics, have been elaborated in isolation and have only recently started to intersect (Naudé, 2014). Despite slow progress, the intersection between these fields is fragmented, *ad hoc*, lacks a unifying theoretical approach (Naudé, 2008, 2011) and as a result suffers from measurement problems and a lack of data (Acs et al., 2008; Nagler and Naudé, 2017).

The lack of a proper theoretical understanding at the intersection of entrepreneurship economics and development economics, and consequent measurement weaknesses has lead, not surprisingly, to empirical studies failing to find a statistically significant and unambiguous relationship between measures of entrepreneurship and measures of economic development (Naudé, 2011). For example Wong et al. (2005) find that entrepreneurship does not matter for GDP growth and Parker (2006) reports that there is no unambiguous empirical relationship between key measures of entrepreneurship and macro-economic outcomes. Others find that the impact of entrepreneurship on economic growth is positive only in high income countries (Carree and Thurik, 2008; Minniti and Lévesque, 2010; Valliere and Peterson, 2009).

Goedhuys and Sleuwaegen (2010) using firm-level data covering eleven Sub-Saharan African countries found that there are proportionately more high-growth firms [3] (HGFs) in Sub-Saharan Africa than in many more richer regions, including Europe. Specifically, Goedhuys and Sleuwaegen (2010, pp.38-39) found that 'On average, 5.9 percent of the firms can therefore be considered to be HGFs, a figure that compares favourably to Germany, Austria, Italy, the Netherlands, Norway and Poland, each with less than 2 percent, and is equivalent to Japan, Switzerland, UK and USA, where HGFs represent 56 percent of firms'. Despite this apparent entrepreneurial exhuberance, Sub-Saharan Africa continues to lag the rest of the world in terms of GDP per capita growth and poverty rates.

Better policy making for economic development will benefit from further scholarly work that extends and deepens the intersection of the fields of entrepreneurship and development economics. While we do not attempt to provide in this paper a unified theoretical approach, we try to provide a conceptual basis for the eventual elaboration of such a theoretical approach. We do so by providing an up-to-date review of the intersection of the two scholarly fields, by delineating the externalities associated with entrepreneurship in development, and by proposing a new synthesis definition of entrepreneurship.

We argue that understanding the nature of externalities associated with entrepreneurship is useful to explain the apparent micro-macro-paradox found in empirical studies, which is to say that when one considers the impact of entrepreneurship on economic growth and development, many firm-level studies confirm that individual entrepreneurs create jobs, invest, bring new goods to market and take risk; macro-level studies however tend to reject the notion that if more individuals choose entrepreneurship and deliver the jobs and investment just mentioned, that the better developed a country will be, or the faster it will grow in terms of productivity and incomes. We cannot resolve these

[3] A high-growth firm is defined as a firm that grew by 60 percent over three years in terms of employment or turnover.

micro-macro paradoxes without considering externalities (or spillovers) inherent in the activities of entrepreneurs. Together, the delineation of entrepreneurial externalities and our synthesis definition provides a *new view* of entrepreneurship at the intersection of development economics and entrepreneurship studies.

The remainder of the paper is structured as follows. In section 2 we review the development economics literature as far as it deals with entrepreneurship. In section 3 we review the entrepreneurship literature as far as it deals with economic development. In each of these review sections (sections 2 and 3) we emphasise entrepreneurship as a catalyst of externalities and identify progress and gaps. In section 4 we outline a synthesis view, including a new definition of entrepreneurship, with the aim of contributing to a more unified theoretical approach to entrepreneurship and economic development. Section 5 concludes.

2 A Review of Theories of Development, with a Nod to Entrepreneurship

2.1 The Centrality of Externalities

Theories of development [4] tend to be of a macro-level and comparative nature (e.g. to describe why some countries are more developed than others, and why some tend to catch-up and others not) usually taking a medium or long-term perspective; or they tend to be micro-focused, asking why a specific individual or household has fallen into poverty (or not) or may be at risk from doing so; or why some individuals are subjectively 'happy' and others not. It is of course not so clear-cut in reality, as the macro-environment tends to constrain or facilitate individual-level choices, including the outcomes of randomized impact assessments. There is however, many instances of micro-macro paradoxes in development economics, such as the paradox that individual aid projects[5] often seem to be successful on the project level, with desired outcomes, but that aid is not unambiguously effective on the macro-level (Mosley, 1986).

There may be similar micro-macro-paradoxes when one considers the impact of entrepreneurship on economic growth and development: firm-level studies detail the role of individual entrepreneurs in creating jobs, investing, bringing new goods to market and taking risk: but macro-level studies tend to reject the notion if more individuals choose entrepreneurship as an occupation, the better developed a country will be, or the faster it will grow (Gollin, 2008; Sautet, 2013). We cannot resolve these micro-macro paradoxes without considering externalities (or spillovers) inherent in the activities of entrepreneurs as economic agents.

Externalities can be defined as unintended consequences or actions that are not captured

[4] This section draws on Naudé (2008).

[5] Development aid has externalities which confound merely adding up the good impacts of individual projects, for instance if aid crowds out private investment.

in the market price of the product or service provided. While entrepreneurs and businesses can usually appropriate specific technological knowledge when developing innovations, for example by means of patents, general technological knowledge which is developed as a by-product of the innovation process cannot be appropriated and may spill-over across economic actors. Externalities explain why markets can fail: their existence provides a theoretical argument for government intervention in the economy. Governments, for example, support clustering by entrepreneurs to enable knowledge spill-overs that would otherwise not occur, or not as extensively when entrepreneurs lack close proximity and connectivity to other economic actors, and lack density of goods and labor markets. Governments also regulate entrepreneurial entry in order to protect consumers from unscrupulous behavior and regulate incumbent entrepreneurs actions to prevent them from 'capturing' political decision-makers.

Even without government subsidization, the positive externalities associated with entrepreneurial venturing has been recognized and modeled as contributing to development and/or keeping an economy stuck in an underdevelopment trap. For example Ciccone and Matsuyama (1996) provided a model that shows that if an economy produces a limited range of intermediate goods, production in final (consumer) goods sector will be limited to use 'primitive' production methods with little demand for sophisticated, new inputs. This will lead to lower incentives for potential entrepreneurs to start-up new firms. The authors also point out that there might in such an 'underdevelopment trap' be a case for assistance to new start-ups since these can provide both pecuniary and technological externalities if they start producing new intermediate goods; which will induce final good producers to demand more of these (in turn improving the incentives for other entrepreneurs to start-up firms due to greater demand and the example provided in the application new technology).

That fact that entrepreneurs can create positive externalities by bringing new goods to the market, including illustrating how new technology can be applied, has been extended by Hausmann and Rodrik (2003) who point out that entrepreneurs provide not only these technological externalities in bringing new goods to market, but also provide further pecuniary externalities by generating information on the profitability of new activities (i.e. providing a signaling function). In this sense entrepreneurs fulfill a 'cost-discovery' function in making sunk costs in a new activity which *ex ante* may or may not be profitable, but which will provide information *ex post* on such profitability to other entrepreneurs. In so doing, entrepreneurs provide information on what an economy can be good at producing, which in the context of developing countries is information that may be lacking and thus subject to uncertainty (Hausmann and Rodrik, 2003).

Approaching entrepreneurship as an activity that generates externalities helps to make the link between entrepreneurship and development. In what follows we will provide examples, with reference to major theories in development economics, where externalities play an important role, and where we can trace these to the (often non-formalized) role of entrepreneurs.

2.2 The Long-Run and the Advent of Entrepreneurship

High economic growth and relative steep rises in per capita income are recent phenomena. It is not only that there has been a take-off in development in terms of material wealth to an unprecedented degree since around the 17th century, but also that this take-off is exceptional in human evolutionary history (Maddison, 1982; Landes, 1999). Human society has on the whole, existed in a traditional, subsistence state. Hansen and Prescott (2002) distinguish between the pre-industrial era (termed 'Malthusian') (preceding the 19th century) and the post-industrial era (called the 'Solow', or 'era of modern growth'). They argue that the transition from the Malthusian (subsistence) era to the Solow era is characterized by a change in technology based on land to a technology based on physical and human capital accumulation.

The initial adoption of new technology required specialization, which in turn required a sufficiently large market (Goodfriend and McDermott, 1995). Once population growth and urbanization [6] crossed a threshold, people started investing in the quality of their offspring rather than the quantity (Galor and Moav, 2001). With many people doing so at the same time, more positive externalities were created that encouraged further investment in human capital, given that an individual's productivity is increased if he or she is together with other high-productivity individuals (Kremer, 1993). This subsequently facilitated the combination and reorganization of existing knowledge and competences in new ways fostering innovation, wherein entrepreneurs played a role. This eventually accumulated to such an extent that rapid and sustained economic growth took off.

This process of economic take-off has been formalized in 'unified growth models that are consistent with an epoch of Malthusian stagnation and the transition from Malthusian stagnation to sustained growth' (Galor and Moav, 2001) (p. 720). Once this take-off started, economic development entailed a transformation from the traditional sector, to the modern sector, as was formalized first in dual economy models by Lewis (1954) and Ranis and Fei (1961) and later extended to incorporate the entrepreneur explicitly by Gries and Naudé (2010).

What role did the entrepreneur play in the Malthusian era to facilitate the transition from Malthusian stagnation to growth? According to Murphy et al. (2006) it was the '*advent of entrepreneurship*' that allowed per capita income to grow almost exponentially in the West from the 1700s (p.12). How did the entrepreneurial advent arise? And how does it relate to the fundamental change in societies technology based on land, to a technology based on physical and human capital accumulation? Again, the externalities inherent in entrepreneurship provide clues.

During the Malthusian era the problem may have been one of low levels of *entrepreneurial ability* and fewer opportunities whose exploitation would have resulted in economic

[6] Even today it remains the case that the externalities of high-productivity locations (e.g. cities, or rich countries) or firms are such that this would drive divergence in development outcomes between countries and also within countries, where we find for instance much greater dispersal of productivity between firms in developing countries than in advanced economies offered larger markets, see also Owoo and Naudé (2017).

growth. Over time however, growing population density, as a result of growing urbanization and basic technological progress in agriculture and transport, created large enough agglomerations where urbanization and localization externalities allowed opportunities for specialization. Specialization in turn facilitated learning and innovation, and made the adoption and the spread of new technology much faster (Goodfriend and McDermott, 1995). It also provided incentives for investment in human capital, which facilitated the switch in a parental (household) strategy of quality rather than quantity of offspring as described in Galor and Moav (2002). This switch made possible an increase in entrepreneurial ability in two ways (Cagetti and de Nardi, 2005). First, parents transfer human capital, in particular tacit knowledge, to their children. For entrepreneurship this may be an important source of entrepreneurial ability, as it is often found that children of entrepreneurs are more likely to become entrepreneurs themselves (Davidsson and Honig, 2003). Second, parents transfer financial capital to their children (e.g. through inheritance) which provide them with the financial capital to support entrepreneurial ventures.

Once these conditions for a take-off had been established, it becomes useful to try and understand how over the more recent past entrepreneurs had made of the opportunities the conditions created, to drive what has become known as 'modern economic growth'.

2.3 Modern Economic Growth

Modern economic growth, roughly speaking the period from the 'take-off' of the West after the Middle Ages have been explained and analyzed by numerous scholars and remains a topic that fascinates. For instance, classic texts dealing with this include Adam Smiths 'The Wealth of Nations' (1776) and Joseph Schumpeter's 'The Theory of Economic Development' (1911). Other noteworthy contributions include Landes (1999), Diamond (1997), Maddison (1982), Morris (2010), Acemoglu and Robinson (2013) and recently Piketty (2013).

The upshot of the conditions described in the previous section was to generate massive externalities inherent in agglomeration and knowledge accumulation and transfer. What was added during the era of modern economic growth was the rise of institutions, broadly defined as the 'rules of the game', that encouraged and rewarded innovation and risk-taking by entrepreneurs, at first in Western Europe and later in the western 'offshoots' such as the USA, Canada and Australia.

Knowledge creation and dissemination underpinned modern economic growth from the beginning. For instance it is no coincidence that modern economic growth has its foundation at the time when both the first European universities were founded in 12th century Italy and when a legal and administrative 'revolution' was initiated by Pope Gregory VII that 'allowed the novelty-seeking and risk-taking capitalists to pursue their enterprise over a larger space' (Lal, 2006) (p. 5). In the words of Lal (2008) (p.xii)

'It was due to the eleventh-century papal legal and administrative revolution of Pope Gregory VII that Western Europe alone ...broke from these dysfunctional material beliefs.

The legal papal revolution created a church-state that protected property rights...This led to the Great Divergence, with the slow rise of the West from the twelfth century onward until it overtook the other hitherto richer Eurasian civilizations by the eighteenth century.'

These legal and administrative reforms provided stronger protection for property rights and adherence to the rule of law, laying the ground eventually for the idea of intellectual property rights (IPRs), and the patenting of new ideas and of trademarks. Historians and others have documented a burst of innovations in Europe following these reforms. It is worthwhile to quote from Maddison (2001) (p.51) who described some of the subsequent technological innovations that followed in medieval Europe and which eventually contributed to Europes industrial and military leadership:

'Increased use of water and watermills augmented power available for industrial processes, particularly in new industries such as sugar production and paper making. There was international specialization in the woollen industry...the silk industry was introduced in the twelfth century and had grown impressively in Southern Europe by 1500...There where improvements in mining and metallurgy which helped transform and expand European weapons production'.

Since the European take-off and the Industrial Revolutions that transformed first Europe and then North America during the 18th and 19th centuries, other regions of the world have also started to experience modern economic growth. The rate of catch-up has perhaps been most pronounced in the case of Asia since the 1970s. While neoclassical growth models assumed that convergence between countries would occur automatically, there was little evidence of this in practice. The case of Asia showed that catch up requires a lot of effort and capability building on the part of lagging countries (Fagerberg et al., 2007). The successful exploitation of technology then depends on the ability of countries to generate the necessary capabilities such as in terms of skills (e.g. general education) and national technological effort (e.g. research and development, patents, technical personnel) as well as on the technological capability of its entrepreneurs and firms. Many have argued following Gerschenkon that poorer countries may profit from the 'advantages of technological backwardness'. Through a process of licensing, copying, reverse engineering and stealing, they can access new technologies without bearing all the costs and risks of investment in new knowledge. Indeed, European countries during the Middle Ages benefited much from the externalities of entrepreneurship in the Middle and Far East by copying and reverse engineering their technological innovations. As Szirmai (2015) noted,

'In the fourteenth century, China was the most advanced society in the world in terms of technology. China knew firearms, blast furnaces, gunpowder, hydraulic clocks, magnetic compasses, advanced seagoing ships with moveable sails, navigation techniques, the arts of printing and paper-making. And each of the different Industrial Revolutions in the West has been driven by adoption copying - of foreign technologies'.

The benefits of copying technology in countries at earlier stages of development is that their entrepreneurs can focus on delivering incremental improvements to foreign designs, rather than the risky development of products and technologies that are new to the world. This is a process of innovation that is new to the local market or the domestic firm but not to the world. Once rapid growth is underway, there is a gradual shift - in the most

successful countries - to innovation at the frontiers of knowledge. This is largely the story (and present challenge) of technological innovation and development in China in the modern era (Fu et al., 2010).

In modern economic growth the role and relationship of entrepreneurship and innovation is therefore different depending on the stage of development that a country finds itself in. In the case of poorer countries that are essentially trying to 'catch-up', sufficient absorptive capabilities may be essential. Absorptive capability is 'the ability of an organization to identify, assimilate, and exploit knowledge from its surrounding environment'(Fu et al., 2010), (p. 1210). It reflects 'trust and social capital, sound governmental and non-governmental institutions, human capital development, and managerial and technical competence' (Kemeny, 2010) (p.1545). In such an environment, entrepreneurs are a part of the 'absorptive capability' in a country, as they play crucial roles in technology transfer and absorption (Audretsch et al., 2006).

At higher levels of development, the generation of new technologies, as opposed to the absorption and implementation of existing technologies may become more important for modern economic growth (Thurik, 2011; Acs and Naudé, 2013). As 'the latecomer approaches the technological frontier, its strategies have to shift from imitation to innovation' (Tang and Hussler, 2011) (p.25). Hence, in earlier stages of development, growth may be factor and resource driven. Labour and other resources are of course not unlimited and as the stock of capital increases as a result of investment by entrepreneurs, its marginal product could start to decline. Thus, other sources of productivity growth are required to sustain and accelerate economic growth in the modern sector once the structural transformation has crossed a particular threshold.

Peretto (1999) provides a endogenous growth model that illusrates how long-run structural transformation depends on the degree to which an economy can make a transition from a growth path driven by capital accumulation, to a growth path driven by knowledge accumulation (the endogenous growth or 'innovation-driven' economy). Three interrelated sources of productivity growth that determines how an economy makes this transition are (i) the allocation of talent (Murphy et al., 1991), the (ii) accumulation of human capital (Peretto, 1999), and (iii) technological progress (Ciccone and Matsuyama, 1996). These sources of growth have lead to the appreciation in development economics of the entrepreneur as the economic agent that introduces novelty, through innovation, into the economy. It has also lead to the appreciation that not all entrepreneurs or firms are innovative. Innovative entrepreneurship is sometimes also seen as synonymous with high-growth entrepreneurship (HGE) (Lerner, 2009). High growth entrepreneurs very often tend, at least in advanced economies, to be financed disproportionately by venture capital or 'angel' investors. Shane (2009) finds that for the USA angel or venture capital supported created around 10 per cent of all jobs in the private sector in 2003.

Finally, an important section of the development economics literature has been concerned with the relationship between structural economic transformation and growth. A stylized fact of modern growth is that is has been associated broadly with a structural transformation in economies from low-productive, agricultural and rural based economies with high population growth, to economies characterized by high-productive, manufacturing and serviced based urban economies, with low birth and death rates.

In the foregoing paragraphs we described the role of the entrepreneur as innovator driving the re-allocation of resources from un-productive uses to more productive uses. In many of the development economics models of structural transformation, such as the Lewis model (Lewis, 1954) or the Kuznets hypothesis, the entrepreneur was however never explicitly modeled. To make the role of entrepreneur more explicit, Gries and Naudé (2010) formalized the role of the entrepreneur in driving structural change across the stages of development using an endogenous growth model with micro-economic foundations. In their model, entrepreneurs provide five essential roles in structural transformation: five roles that we will later show to require modelling entrepreneurial externalities going beyond the 'knowledge-filter' model of entrepreneurial externalities that are dominant in entrepreneurship economics.

Entrepreneurs in the Gries and Naudé (2010) model are the agents who (i) create new firms outside of the household, (ii) absorb surplus labour from the traditional sector, (iii) provide innovative intermediate inputs to final-goods producing firms, (iv) permit greater specialization in manufacturing, and who ultimately (v) raise productivity and employment in both the modern and traditional sectors. In each of these, the institutional setting may create binding constraints. In particular markets may fail to match entrepreneurial talent with opportunities, which will have knock-on effects for all of the externalities that entrepreneurship provides for structural transformation. Thus, failure in an economy to match entrepreneurial talent with opportunities will mean that efforts to increase the supply of entrepreneurship will have little impact on development.

2.4 The Long-Run, Again

In the previous sections we made a simplistic distinction between long-run development before the take-off in Western Europe just after the Middle Ages, terming this the 'Malthusian' age as per capita incomes remained fairly constant for millennia. We also discussed the age of modern economic growth, depicted by rapid economic growth since the Middle Ages, first in Europe and its offshoots, and then more recently in Asia. We focused in particular on the role of the entrepreneur in these development accounts. In the description of modern economic growth we laid much emphasis on the entrepreneur as agent of 'creative destruction', referring to influential strands of the literature that has argued that such innovation becomes more important as the economy moves from being resource-intensive to knowledge-intensive.

More recently, a debate in economics has been concerned whether rising levels of unemployment, wage and wealth inequality and exclusion is the result of too little or too less innovation (Naudé et al., 2015). One the one hand, some see the lack of job opportunities, particularly for low-skilled workers, as due to inadequate demand, and call on entrepreneurs to be more innovative, and utilize opportunities to gainfully employ these potential labour inputs. One the other hand, there has been an extended literature on the potential of entrepreneurial innovation to lead to skill-biased technological change (SBTC) (Acemoglu, 2002; Acemoglu and Robinson, 2011).

In theories of SBTC, the rise of ICT in particular raised the premium on high-skilled labor

and labor that can fulfill cognitive demanding tasks. The increase in the level of education in most countries made innovations that rely on skilled labor more profitable, hence endogenously fuelling innovative entrepreneurship (Brynjolfsson and McAfee, 2012).

While the SBTC theories have gained much empirical support, and Frey et al. (2016) have estimated that 47 per cent of current employment in the United States is likely to be replaced by computers over the next twenty years, SBTC theories have failed to explain the particular rise in incomes at the top 0.1 percent of the income distribution (Mishel, 2011). In this regard various more recent explanations have posited the role of innovation in the financial sector and the allocation of entrepreneurial ability into the financial sector, where lack of regulation lead to super-profits through speculative bubbles, instead of profits through productive activities (Lazonick et al., 2014).

More recent explanations also includes that of Piketty (2013) who proposes that the long-run may be asserting itself again, and that the period of fast growth in the 19th and 20th centuries were abnormal in that economic growth was faster that the rate of return on capital (Naudé et al., 2015). In terms of Piketty's analysis, the end of entrepreneurially driven growth in the West may be coming to an end, because it is easier for the wealthy to live of their capital, rather than invest and risk it in productive ventures.

What is clear from these recent explanations is that entrepreneurship, even if productive, can lead to job losses and inequality, but that this need not be the case; that corrective support policies can make a difference (e.g. wealth and inheritance taxes and social protection). The role of the government, good governance and institutional framework for an entrepreneurial society remains valid if entrepreneurship is to be a contributor and driver of economic development over both short and long run.

3 A Review of Theories of Entrepreneurship Economics, with a Nod to Development

3.1 The Centrality of Entrepreneurial Ability

Since the contribution of Kirzner (1973) entrepreneurship has been closely linked to opportunity recognition. A business is created after an opportunity development process has been successful. Some individuals are better in recognizing and exploiting opportunities than others. In this respect several models emphasize the importance of entrepreneurs *ability, knowledge or talent*. In the model of Jovanovic (1982) for example, firm entry and exit result from a selection process among new firms facing costs of production that are random and that differ across potential firms. These costs are unknown prior to entry, and the firm learns about these costs through its performance post-entry (i.e. through an externality of the market-entry action). Decisions e.g. to enter or exit are taken based on expected profit maximization. While efficient firms survive and grow, inefficient firms will decline and fail. The differences in production costs can be interpreted as reflecting differences in **entrepreneurial ability**. Another example can

be found in Lucas (1978) who expressly postulates a distribution of managerial 'talent' in the population, which leads to an occupational decision between employment and entrepreneurial engagement.

These models emphasize the importance of learning through (prior) entrepreneurial experiences. Landier (2005) links entrepreneurial ability to re-entry after exit. In his model with assymetric information entrepreneurs choose whether to continue or abandon a project and raise funds for undertaking a new project. The choice to continue or exit a project is based on the quality of the project and his/her ability, the capital costs for a new project, as well as the costs (including stigma) of failure. In this model the cost of capital to failed entrepreneurs is endogeneous. One of the equilibrium outcomes of this model is a dynamic one with high entry and high exit rates in which there is a large degree of 'serial-entrepreneurialism'. This dynamic equilibrium becomes more likely as entrepreneurial ability in the population increases.

3.2 Entrepreneurial Ability and Externalities

Entrepreneurial ability is decisive for whether and how entrepreneurship generates externalities. Holcombe (1998) eloquently pointed out that entrepreneurship generates externalities through knowledge and *vice versa*. Specifically, talented entrepreneurs will bring an innovation to the market which will create knowledge that can underpin further innovations, e.g. the introduction of the iPad created externalities in terms of opportunities for the development of Apps. More generally, the 'knowledge spillover theory of entrepreneurship' (Acs et al., 2009; Braunerhjelm et al., 2010) describes entrepreneurs as thriving on the ideas (knowledge) developed by universities and private firms by commercializing it, and incentivizing it at the same time. Entrepreneurship is thus not only the generator of but also the outcome of a 'knowledge-spillover'. In the 'knowledge-spillover theory' entrepreneurial *ability* is central, which resonantes with the emphasis on human capital or ability in development economics. This has influenced more recent contributions in entrepreneurial economics, such as by Ehrlich et al. (2017) who models investments in R&D and firm-level training as investments in 'firm-specific entrepreneurial human capital (EHC)' in order to connect the 'market for ideas (basic science) and the market for goods' (p.34).

Whether entrepreneurs with ability will have the incentive to commercialize ideas as described in the 'knowledge-spillover theory' may depend on the way in which entrepreneurial ability is allocated (Baumol, 1990). Institutions are considered to play a central role for the allocation of entrepreneurship. Boettke and Coyne (2003) argue that protection of property rights and rule of law are key institutions in this regard. According to Leeson and Boettke (2009) the protection of property rights can incentivize entrepreneurial investment, and stimulate the development of financial and credit markets, which are vital for entrepreneurial development.

Bianchi (2010) provides a model wherein financial development, underpinned by property rights, changes the structure of production as more individuals become entrepreneurs and it results in a more efficient allocation of entrepreneurial talent to production

technologies. The model shows that by relaxing credit constraints, financial development promotes higher production, job creation and social mobility. Countries with very similar conditions may however experience very different levels of development depending on their institutions and resulting wealth distribution. In countries with similar low levels of financial development but slightly different wealth distributions, for example, there are a few wealthy individuals who can set up a firm without asking for a loan in the richest country. When financial development improves this latter country will end up in equilibrium with high financial development, many opportunity-driven entrepreneurs and high growth, while the country in which no one is wealthy enough to set up a firm will get stuck in low financial development, fewer entrepreneurs to commercialize knowledge spill-overs, and stagnant growth. Thus small differences in initial property rights and wealth distribution may lead one country to take off and the other to stagnate.

Finally, in entrepreneurship economics research there is a convergence with development economics thinking in terms of the recognition not only of the importance of institutions but also in terms of the differences in the roles and impacts of entrepreneurs across various stages of development. For instance Pahn et al. (2008) argue that it is important for the government to address market failures that inhibit entrepreneurship, and that these failures are more serious at lower levels of economic development. As mentioned by Naudé (2011) the recognition by entrepreneurship scholars such as Pahn et al. (2008) of the importance of government in generating positive externalities through addressing market failures, kick-starting growth, and laying the institutional foundations or prerequisites for growth, is entirely consistent with both the early development economics literature, for instance Hirschman (1958) on linkages, Rosenstein-Rodan (1943) on the need for a 'big push', and also consistent with the development economics literature on the need for good institutions, e.g. (Rodrik, 2000).

4 Towards a Synthesis

We started this paper stating that policy makers find it difficult to promote economic development through entrepreneurship and SMEs. We argued that this is partly the result of an inadequate understanding of the entrepreneur (as catalyst of externalities) at the intersection of these fields, which have evolved independently and with different traditions and focus areas. To promote the further elaboration of the intersection of these two scholarly fields, we provided a detailed review of the two fields wherein we emphasized the common underlying and rising appreciation of the entrepreneur (and more precisely '*entrepreneurial ability*') as a catalyst of externalities. These externalities, in the context of the notion of 'institutions', another shared concept, can result in both positive and negative impacts on development.

But externalities from entrepreneurs can also affect the measurement and valuation of entrepreneurship, which may lead to an under-or-over-appreciation of the entrepreneur. To deal with the measurement and valuation of entrepreneurship, progress in the intersection of these two fields necessitates a common definition and a shared recognition of the non-monetary value of entrepreneurship. In this section, we deal with these

two aspects as the final part of our proposed contribution towards a New View of Entrepreneurship. To set this up, we first provide a summary of our case so far.

4.1 Conclusions and Discussion

From our survey in the previous section we can make the following conclusions. First, development economics has place for the entrepreneur, and particularly as an economic agent that, depending on the incentives provided by the institutional context, can promote or hinder development, or merely passively follow development. Second, entrepreneurial economics has located the developmental role of the entrepreneur as the innovator and 'knowledge filter', whereby the entrepreneur introduces novelty into the economic system. In both of these fields to date, and despite some exceptions, the development concept has mostly been that of per capita GDP or productivity growth. In both there has been recognition of the importance of institutions for the outcomes of entrepeneurial activities, and that not all entrepreneurship is equally beneficial for development. The definition of Baumol (1990, p.897) of entrepreneurs as persons who are 'ingenious in promoting their own wealth or status' has been directly and indirectly influential in shaping this view of the outcome of entrepreneurship as institution-contingent.

From our survey we can appreciate this state of affairs at the intersection of the two scholarly fields. We wish to outline how this intersection can further be extended and improved. The current intersection still faces a number of weakness which will affect the work of both entrepreneurship and development economics scholars. For one, empirical work often still finds an apparent micro-macro paradox, in that while micro-evidence indicates successful business firms, macro- evidence still very often does not find a relarionship between entrepreneurship indicators and indicators of economic and productivity growth. Two, the relationship between institutions and entrepreneurs are most often still too one-sided with entrepreneurship depicted as dependent on the institutional rules of the game without appreciating also the impact of entrepreneurial activities in determining institutions. In this respect it is worth recalling the emphasis of Leibenstein (1968) on the entrepreneur as an agent that overcomes obstacles. Third, in both entrepreneurship economics and development economics there is, as far as the entrepreneur is concerned, still too much focus on restricted definitions of development like growth and GDP. There is a need to move beyond monetary indicators. Related to this is the usefulness, from a broader development perspective, of seeing entrepreneurship as only one choice, or phase, in a continuum of occupations that an individual can assume during his or her lifetime.

In order to progress in addressing these three weaknesses we propose that a stronger recognition be given to the externalities associated with entrepreneurship. These external impacts go beyond the 'knowledge filter' effects that have become standard. It also goes further than the development economics literature has modelled.

We also propose to extend the scope of development outcomes to include multi-dimensional and subjective welfare, as one important but relatively neglected external effect of entrepreneurship, as occupational choice, is on subjective and non-monetary

welfare. This means that the value of entrepeneurship is not adequately appreciated or measured. To the extent that monetary outcomes depend on non-monetary aspects this may partly explain (in addition to measurement issues) the micro-macro paradox.

Our two proposals above may require one to adopt a new definition of entrepreneurship. While Baumol's definition has been useful to emphasise the role of incentives (reward structure of society) it has also lead in our view to a much too broad view of entrepreneurship, loosening it from business ownership. We think Baumols insight is useful and relevant for all persons' occupational choice, not just entrepeneurship. His is an overarching definition. To further the theoretical intersection of development economics and entrepreneurial economics we therefore propose a new synthesis definition, modifying a a definition proposed in 2011 by Gries and Naudé (2010) in a special issue of *Journal of Public Economics* edited by Thomas Piketty on the Capability Approach to development. In the next sub-section we put forth this definition and indicate how it can lead further scientific work.

4.2 A Synthesis Definition

Putting forth a synthesis definition that more explicitly incorporates the developmental impact of entrepreneurship, we modifiy the definition of Gries and Naudé (2010) (p.271) to describe entrepreneurship as

'the resource, process and state of being through which individuals with ability and agency utilize positive opportunities in the market for generating individual and/or social value'.

The emphasis of entrepreneurship as 'resource', and linked with individuals with 'ability' is based on the fact that a large part of the literature is indeed concerned with entrepreneurial 'capital' and 'entrepreneurial ability' as a production factor in economic growth and development (Lucas, 1978; Evans and Jovanovic, 1989; Murphy et al., 1991; Banerjee and Newman, 1993; Fonseca et al., 2007; Audretsch and Thurik, 2004).

But entrepreneurship is not only a resource: it is also a process. More specifically as a process it is about the discovery and exploitation of opportunities (Shane and Venkataraman, 2000). These generate individual value, but can also as we discussed, generate value for society more broadly. Often this will not be captured in measures of development, leading to either to a micro-macro paradox or ineffectiveness of policy measures to promote entrepreneurship.

Gries and Naudé (2010) propose that only the utilization of positive opportunities (reflecting *intention*) be considered as valid for defining entrepreneurship. We support this as this adds a normative view to our synthesis definition of entrepreneurship. This may be contentious, as it rules out destructive and criminal opportunities as 'entrepreneurial'. We believe however that this is valuable because Baumol (1990)'s definition of entrepreneurship which describe entrepreneurs as any individual that strive to optimse his or her wealth or status, is too broad, and moreover introduces a rather one-sided dependence of the allocation of talent on institutions (the 'reward

structure of society') whereas one of the externalities associated with entrepreneurshipis their role in shaping and molding institutions as 'institutional entrepreneurs'. This is also a point made in the 1990s by management scholars such as Moran and Ghoshal (1999) and economists such as Nelson (1994). An 'institutional entrepreneur' is an entrepreneur 'who starts or expand his business venture and in the process helps destroy the prevailing nonmarket institutions in order for his business to be successful' (Li et al., 2006) (p.358). Institutional entrepreneurs may be especially important in the context of underdeveloped countries, strengthening social norms and customs, private courts and laws, and reputation. Such entrepreneurs may generate massive positive externalities in terms of a generally better business environment. Indeed, we may argue that the notion of 'institutional' entrepreneurship is a special case of entrepreneurial externalities that changes laws, customs, notions within which all businesses have to operate.

In our synthesis definition entrepreneurship is also a *state of being* which implies that entrepreneurship can be intrinsically valued and does not have to be instrumental (Naudé et al., 2014; Naudé, 2010). This brings entrepreneurship closer to development economics given that development economics have moved beyond a narrow concern with only monetary measures of economic performance to measures of broader human wellbeing, security and capabilities. Development economists have proposed supporting indices and measures. Examples include the (1990) Human Development Index (HDI), the Millennium Development Goals (2000), the Sustainable Development Goals (2015) and even a Multidimensional Poverty Index (MPI) (Alkire and Santos, 2010).

If being an entrepreneur is valued for its own sake, for instance through the independence it affords an individual, then it is restrictive to define entrepreneurship as only those individuals who are innovative or who introduces novelty into society. Basically, restricting the definition of entrepreneurship to only those who do something innovative or novel, may recognize the externalities of entrepreneurship, but misses completely the 'internalities', which is its contribution to subjective well-being. As Gries and Naudé (2010) argue these 'internalities' are more likely if individuals have the 'agency' to choose to be entrepreneurial or not. Individuals can through entrepreneurship also introduce novelty into their own lives, however they want to experience or define this novelty. Efforts to determine a 'optimal' level of entrepreneurship, such as Prieger et al. (2016) will thus be biased if this is omitted.

Finally, we have not explicitly defined entrepreneurship to be associated with new business creation or ownership as in Gries and Naudé (2010). Rather, as resource and process and state of being, entrepreneurship may be associated or consistent with variety of occupations. Occupational choice of being self-employed, or owning a business can thus be consistent with entrepreneurship, but there may also be other occupational choices where entrepreneurship, as generator of externalities, will be prevalent, for instance in corporations (e.g. 'corporate entrepreneurship', 'intrapreneurship') and in social, non-profit contexts (e.g. 'public entrepreneurship', 'social entrepreneurship'). Our identification of entrepreneurship also as a 'process' therefore resonate with approaches in the management literature to link entrepreneurship and development, such as for example the concept of community-based enterprises of Peredo and Chrisman (2006) which are 'the result of a process in which the community acts entrepreneurially to create and operate a new enterprise'. All of the aforementioned concepts have been of growing

interest in entrepreneurial economics and also in management studies, and await broader recognition and incorporation by development economics.

5 Summary and Concluding Remarks

It is widely believed that entrepreneurship is needed for economic development and that SMEs are vehicles for such entrepreneurship. However, as more and more scholars grudgingly acknowledge, policy makers find it difficult to promote economic development through entrepreneurship and SMEs. Why is this the case?

It is in part because the positive impact of entrepreneurs is overestimated and their negative impact underestimated. But this is not the only reason promoting economic development through entrepreneurship and SMEs are such an elusive goal. There is no unified scientific approach towards the role that entrepreneurship plays in economic development. The two main scholarly fields that have been interested in the topic, entrepreneurship economics and development economics, have been elaborated in isolation and only recently started to intersect. This intersection is, despite very useful contributions, still largely fragmented, *ad hoc* and not based on a unifying theoretical approach and (as a result) suffering from lack of proper measurement and data. The lack of a proper theoretical understanding at the intersection of entrepreneurship economics and development economics, and consequent measurement weaknesses has been a reason why empirical studies fail to find a statistically significant and unambiguous relationship between measures of entrepreneurship and measures of economic development.

Better policy making for economic development will benefit from further scholarly work to extend and deepen the intersection of the fields of entrepreneurship and development economics. While we did not attempt to provide in this paper the required unified theoretical approach that is ultimately required for this, we provided a conceptual basis for the eventual elaboration of such a theoretical approach. We did so by providing an up-to-date review of the intersection of the two scholarly fields, to identify progress and gaps, by delineating the externalities associated with entrepreneurship in development, and by proposing a new synthesis definition of entrepreneurship.

In our synthesis definition entrepreneurship is the resource, process and state of being through which individuals with ability and agency utilize positive opportunities in the market for generating individual and/or social value. This definition suggests that we cannot escape from a normative definition of entrepreneurship, at least as far as the *intention* of the economic agent undertaking it is concerned. The alternative is a Baumolian definition wherein there is a rather one-sided dependence of the allocation of talent on institutions (the 'reward structure of society') whereas one of the externalities associated with entrepreneurs is their role in shaping and molding institutions as 'institutional entrepreneurs'. The definition also suggests that as a process, and state of being, there are externalities and 'internalities' (subjective well-being effects) that characterises entrepreneurship in development, and that ability and agency stands central in this.

We have argued that understanding the nature of externalities associated with entrepreneurship is useful to understand the apparent micro-macro-paradox found in empirical studies. One cannot resolve these micro-macro paradoxes without considering externalities (or spillovers) inherent in the activities of entrepreneurs as economic agents. In this regard we noted that progress has been made in both entrepreneurship economics and development economics in starting to understand these externalities, particularly from the point of view of the institutional aspects. This bodes well for future progress in terms of elaboration of a unified theoretical approach.

Perhaps the largest gap that our review found is that there is still comparatively little scholarly work directly on the role of entrepreneurship as it relates to human capabilities and subjective well-being (happiness / life satisfaction) and poverty reduction. While work satisfaction is an important determinant of life satisfaction, results for work satisfaction cannot be directly translated to life satisfaction as entrepreneurship may also come at the expense of other domains of life such as in terms of spending time on leisure and with ones family which may reduce life satisfaction (Coad and Binder, 2014). Entrepreneurs often seem to struggle to find a good work-life balance which is also important to consider when studying entrepreneurs in a developing country context and which may even result in negative welfare implications, and policy implications which may seem counter-intuitive at first sight, such as that social security measures and wage employment creation may in fact be good policies to support entrepreneurship. The entrepreneur'ss satisfaction and health levels may also have implications for their employees and subsequently affect returns at the firm and macro-level. When entrepreneurs are vital, creative and passionate about what they do, this is likely to positively impact and motivate the employees that work for them (Rietveld et al., 2015; Hessels et al., 2017).

Last, but not least, and related to the non-monetary value (and externalities) of entrepreneurship, 'sustainability' has become an important concept in both scholarly fields here under discussion in recent years. Sustainability here refers to both environmental sustainability (sustainability that 'meets the needs of present generations without compromising the needs of future generations' as defined by the Brundtland Commission) and social sustainability (or income and wealth equality).

There is however only a small and scattered entrepreneurship economics literature dealing with the role of entrepreneurship and sustainability. These include for example Dean and McMullen (2007) on environmentally sustainable entrepreneurship or Hall et al. (2010) and Kimhi (2010) on socially sustainable development and entrepreneurship. In the development economics litarature there is perhaps even less work, especially on the relationship between entrepreneurship and inequality. More research is thus clearly needed to close this gap. The contribution of Thomas Piketty, highlighting the role of rates of return on wealth vis-a-vis economic growth in explaining patterns of income inequality, suggests that the role of entrepreneurship in driving inequalities is a worthy topic for further investigation.

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