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Entrepreneurship, developing countries, and development economics: new approaches and insights

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Abstract This paper provides an introduction to this special issue of *Small Business Economics* dealing with the (long-postponed) integration of entrepreneurship into the discipline of development economics and casting a formal light on the role of entrepreneurship in developing countries. The paper departs from the premise that with more than a billion people living in absolute poverty, it is of great practical importance to understand if and when entrepreneurship is a binding constraint on economic development and catching up in developing countries. This in turn requires at least a deeper theoretical modeling of the entrepreneur in development economics. This special edition contains a number of contributions emanating from the UNU-WIDER project on *Promoting Entrepreneurial Capacity*, which integrates the disciplines of entrepreneurship and development economics. These contributions model and explore the role of the entrepreneur in key areas of concern for development economics, such as structural change and economic growth, income and wealth inequalities, welfare, poverty traps, and market failures. This introduction discusses and contextualizes these various contributions and their implications for further theoretical and empirical work.

Keywords Development economics · Entrepreneurship · Poverty · Structural change

JEL Classifications L26 · M13 · O1 · O2

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1 Introduction

The fields of development economics and entrepreneurship both developed very rapidly over the past 50 years as sub-disciplines within the respected fields of economics and management, but they did so in relative isolation, with the entrepreneurship field being more concerned with the process of entrepreneurship and the development economics field being more concerned with the global and country-level determinants of economic performance.

In recent years, both of these fields have converged on the realization that the institutional framework in a country or region, where institutions are broadly understood as the 'rules of the game', are important for understanding the outcomes observed in each field. Thus, development economists now routinely advocate the building and strengthening of appropriate institutions for development, such as the rule of law, property rights, contract enforcement, and

accountability and good governance, to name but a few (Chang 2007), and entrepreneurship scholars now accept that the allocation of entrepreneurship towards particular activities, be it productive or unproductive or even destructive (e.g., Baumol 1990), are the outcomes of institutions (Henrekson 2007; Acs et al. 2008).

At the same time as these two fields were converging on the importance of institutions, entrepreneurship scholars have increasingly been arguing that entrepreneurship is important for economic development.

However, two important gaps remain, which may constrain our understanding of the role of entrepreneurship in developing countries. The first is that the role and function of entrepreneurship is still relatively underappreciated in the field of development economics. In the section that follows I discuss two reasons for this, one is a 'scholarly disconnection', which entails that the requirements of theoretical formalization in development economics has meant that the entrepreneurship and management literatures have had only a limited influence, and two that development economists have tended not to consider entrepreneurship a binding constraint on development.

A second gap is that although both fields recognize institutions, the 'institutional' explanations for outcomes are often still treated as a 'black box'. As Chang (2007, p. 3) discusses, there are in particular two aspects to the 'black-box' nature of institutions. One is that institutions may be context-specific and we may not know how to configure 'theoretical' institutions with context-specific circumstances and obstacles, and two is that 'we do not know how we can build such an institution' (*ibid*., p. 3) once we have identified the need.

This special issue of *Small Business Economics* is devoted to promoting the integration of entrepreneurship and development economics in order to better understand entrepreneurship in developing countries. As is argued in this introduction and illustrated by the papers in this issue, conditional on defining one's notion of entrepreneurship, it can be formally and consistently incorporated within the existing tools and models of development economics.

Moreover, the contribution of this special issue is to highlight that a better understanding of the role of the entrepreneur in economic development is one important way towards unpacking the 'black box' of institutional explanations in development and entrepreneurship. Hopefully by unpacking this 'black box', progress can be made in understanding how best to support entrepreneurship in developing countries.

The remainder of this introduction will proceed as follows. In Sect. 2, the case for being concerned about entrepreneurship, developing countries, and development economics is concisely put forward. In section three, an overview of the six papers contained here is given and their contributions towards the overall aim of this special volume discussed. Section 4 concludes.

2 Entrepreneurship, developing countries, and development economics

It is nowadays taken for granted that entrepreneurship is indispensable for economic development. At least this is so in the disciplines of entrepreneurship and business management, where claims for the importance of entrepreneurship in the economic development process abound.

Thus it has been claimed that *entrepreneurship is the main vehicle of economic development* (Anokhin et al. 2008, p. 117), *…the more entrepreneurs there are in an economy, the faster it will grow* (Dejardin 2000, p. 2), and that *the engine of economic growth is the entrepreneur* (Holcombe 1998, p. 60). These are just a few examples.

A recent special edition of Small Business Economics was introduced with the statement that *Entrepreneurship is considered to be an important mechanism for economic development through employment, innovation and welfare effects* (Acs et al. 2008, p. 219).

Although the authors provided a number of references to substantiate this claim, from Acs and Audretsch through Baumol to Schumpeter and Thurik, all notable contributors to the discipline of entrepreneurship, they do not include a single reference from the development economics literature. Given that development economics is *par excellence* the sub-discipline in economics that deals with the growth and structural change of economies, this omission may be surprising.

This omission may also be a cause for concern as it may suggest an important blind spot in the entrepreneurship and business management literature. Shane

(1997, p. 86), reviewing 472 entrepreneurship papers published in 19 different international journals, found that amongst the 13 most frequently published authors, all resided in advanced economies, and their work dealt with advanced economies. Thus whereas there may be a genuine appreciation of the role of entrepreneurship in the economic development process in this literature, the attention has been largely confined to advanced economies. As such, this literature is incomplete, and still falls short of an adequate understanding of entrepreneurship in the development process. More than a billion people—described as the 'bottom billion' by Collier (2007)—still live in extreme poverty. How does entrepreneurship matter to the bottom billion and what does this imply for our understanding of the developmental role of the entrepreneur?

To answer this question we first have to ask why the development economics literature seems to have failed to have significantly influenced the fields of entrepreneurship and management, and vice versa.

Part of the answer is the 'scholarly disconnection' between different scientific disciplines as noted by Audretsch et al. (2007). Thus, although both development economics and entrepreneurship developed very rapidly over the past 50 years or so as subdisciplines within the respected fields of economics and management, they did so in relative isolation.

Management and entrepreneurship, despite the initial flurry of activity following Schumpeter's contributions, was largely concerned over this period not with understanding the economic performance of countries, but with understanding the process of entrepreneurship. Today, the bulk of the entrepreneurship literature is concerned with the individual choice to become an entrepreneur, the determinants hereof and personal characteristics, and the growth, success, failure, and exit of entrepreneurs from the market. As stated by Audretsch et al. (2007, pp. 1–2), this literature *has typically not considered the implications for the broader economic context*, and as admitted by Autio (2008, p. 2), *we actually know very little about whether and how entrepreneurship either contributes or does not contribute to economic growth in developing countries*.

Development economics on the other hand was attempting from within the neoclassical tradition in economics to formalize and test theories to explain the differential economic performance of countries. In this process, entrepreneurship has been neglected,[1] consistent with the tradition of the early classical economists who (with the exception of Cantillon) ignored the entrepreneur.[2] Adam Smith, a founding figure in modern economics, reportedly *detested businessmen* (Lewis 1988, p. 35). This is not to say that the mainstream development economics literature has nothing to say or imply for the role of an entrepreneur; indeed considerations of entrepreneurship in one way or another has always simmered below the surface of formal development economics. Overall, however, development economists have shied away from formally modeling the entrepreneur.

This may be due to more than just a 'scholarly disconnection'. Two further reasons for the neglect of formal modeling of entrepreneurship in development economics may be due to the perception that entrepreneurship is too vague a concept to model formally in theories of development, and the belief that entrepreneurship may not be a binding constraint on development.

Much has been written about the concept of entrepreneurship in recent times, and much progress has been made in clarifying the concept and advancing the measurement of entrepreneurship.[3] It is now possible, as growing literature in the entrepreneurship and management fields illustrates, (just consider the work published in *Small Business Economics*, for example) to formulate and test hypotheses involving the entrepreneur. Part of the purpose of this present special edition is to break down the perception that entrepreneurship is too vague a concept to model formally. Indeed, the papers in this special edition illustrate that entrepreneurship can be formally and

[1] Although a case can also be made that entrepreneurship has been relatively neglected in the mainstream (in particular neoclassical) economic literature, there has over the past two to three decades been important advances in economics in formalizing entrepreneurship—such as the occupational choice model—on which the contributions in this special edition will strongly draw.

[2] Widely read development economics textbooks such as the four-volume 'Handbook of Development Economics' and the 'Leading Issues in Development Economics' does not contain a single chapter or any substantial section on entrepreneurship.

[3] Elsewhere I discuss occupational, behavioral, and outcomes-based definitions of entrepreneurship and the difference between entrepreneurship (as process), the entrepreneur (the agent) and the difference between the entrepreneur and the manager of a firm (See Naudé 2008, 2009).

consistently incorporated within the existing tools and models of development economics.

As for the belief that entrepreneurship may not be a binding constraint on economic development, it may have been that development economists have been correct—and that entrepreneurship and management scholars should be careful consider their views in this matter.

Consider for instance that all measures of entrepreneurship, whether in the form of self-employment measures from the International Labour Organization (ILO) or measures of opportunity entrepreneurship from the Global Entrepreneurship Monitor (GEM), indicate consistently that entrepreneurship is already high in developing countries. Start-up rates, self-employment, and opportunity entrepreneurship are all much higher in India, for example, than in the Netherlands or Finland. Although many—especially in the management literature—ascribe this to the low opportunity cost of entrepreneurship in developing countries, it is however also consistent with the notion that 'the demand for entrepreneurship in economic development would be particularly high' (Leff 1979, p. 49).

Thus given that the demand for entrepreneurship would be higher in developing countries, we should expect, unless entrepreneurship is a binding constraint, to see much more entrepreneurial activity—as we rightly do. In the recent words of Ho and Wong (2007, p. 198), 'there are *more* entrepreneurial opportunities in developing countries', and Naudé (2009) finds empirical evidence that the higher number of entrepreneurial opportunities and demand for entrepreneurship in developing countries is indeed matched by the higher rates of opportunity-motivated entrepreneurs entering the market.

Arguments that the supply of entrepreneurship may be lacking in developing countries may therefore be exaggerated.

Indeed, within the development economics literature this may have been realized early on, and may explain why entrepreneurship was neglected in development economics texts from the 1980s and 1990s onwards. One particularly noteworthy view was that of Leff (1979, p. 51), who had already three decades previously remarked with reference to the challenges facing the developing countries that *entrepreneurship is no longer a problem* or a *relevant constraint on the pace of development*.

Leff (1979) qualified this opinion by pointing out that if indeed entrepreneurship had ever been lacking in developing countries in the past, it had during the intervening years been so successful that this very success had created problems that are now constraining development. Among the problems that Leff (1979) noted were the rise of 'oligopoly capitalism' and growing inequalities in incomes and wealth. Thus successful entrepreneurship in developing countries 'has led to serious economic distortions… [developing countries] have taken factor-market imperfections and transmuted them into product market imperfections' (*ibid*., p. 55).

The implication from Leff's (1979) argument is that whereas the supply of entrepreneurship is not a binding constraint on development, the way in which entrepreneurship is allocated may constrain development. This is indeed the argument that was later put forward by Baumol (1990), and which in various ways has been formalized more recently by Acemoglu (1995) and Mehlum et al. (2003), among others. Read more carefully, the 'perverse' allocation of entrepreneurship does not mean that entrepreneurship is in itself the constraint on development, but that some features of the incentive structure in an economy are placing constraints that impact *through* the activities of entrepreneurs. Stiglitz (2006, p. 7) for instance has described these incentive structures to result either in a 'rent economy' or a 'productive economy', to explain the relative economic performance of developing countries. In contrast to a 'productive' economy, a rent economy is characterized by the distribution of resources in a manner that results in a zero-sum game—and this most often results in conflict. Take the case of Sub-Saharan Africa (SSA) as an example. It is both the least developed region as well as the region mired in the most number of violent conflicts over the past half a century. There is now substantial agreement that an important cause for lagged development and conflict in SSA is due to institutional failures, which in a region with natural resource abundance, has resulted in the emergence of 'rent' economies (Stiglitz 2006; see also Naudé 2004).

Rent economies fail to grow and develop: they fail to allow entrepreneurs to play a role in the structural transformation of the country from being rural and resource-based towards urban and manufacturing-based, they fail to distribute incomes and resources and concentrate wealth and power in the hands of a

few elites, and they perpetuate product-market imperfections, in particular the development of a vibrant financial sector.

All of these failures, and the role of entrepreneurship therein, are examined in the six papers that make up this special issue.

Understanding better the role of entrepreneurship as a conduit through which binding institutional constraints are transmitted to economic outcomes may therefore assist in the design of context-specific institutions. It may also assist in understanding how institutional change and institutional design can come about, because entrepreneurs are not passive actors under externally imposed institutional frameworks, but work actively to change these institutional frameworks. It is clear therefore that the time has come for a closer integration of entrepreneurship and development economics.

3 New approaches and insights: an overview of the papers in the special edition

The papers in this special edition have been selected from the UNU-WIDER project on 'Promoting Entrepreneurial Capacity' (see http://www.wider.unu.edu/research/projects-by-theme/development-and-finance/en_GB/entrepreneurship-and-development/). These papers share a number of broad commonalities.

First, they address issues at the heart of development economics and the failure of rent economies as was discussed in the previous section: growth, structural change, welfare, poverty, inequality, informality, and market imperfections.

Second, they all advance the formal conceptualization and modeling of the phenomenon of entrepreneurship with the process of economic development.

Third, these papers showcase the promising future of cross-disciplinary academic fertilization between the two disciplines of entrepreneurship and development economics. For example, theoretical 'workhorses' in both disciplines, such as the Lewis (1954) model of structural change in development economics, and the occupational choice model in the economics of entrepreneurship are extended and applied in novel contexts in these papers.

Fourth, all the papers in this special edition come to a fundamentally optimistic conclusion concerning entrepreneurship as a driver for development in the poorest countries. This is not to ignore the possible dangers in the 'perverse' allocation of entrepreneurial talent as mentioned above—indeed, a number of papers in the present collection contain important pointers to the type of incentives appropriate for the allocation of entrepreneurial talent, but the message of the papers here is that offering people in developing countries the choice of entrepreneurship through self-employment will be welfare-enhancing.

How will this come about? The channels (or themes) formally modeled here suggest that entrepreneurship (i) drives structural change and economic growth, thereby opening up further opportunities for more productive wage employment, specialization, and labor mobility; and (ii) allows people to escape from both absolute and relative poverty and informality.

The remainder of this introduction will briefly clarify these by discussing the contributions of the individual papers around these themes of structural change and growth, and escaping from poverty, and market failures.

3.1 Structural change and growth

The first two papers, by Thomas Gries and Wim Naudé and Micheline Goedhuys and Leo Sleuwaegen, respectively, deal with structural change and economic growth. The gist of these papers is that entrepreneurs can play a significant initializing and driving role in structural transformation of an economy from being predominantly rural and agricultural based to being urban and manufacturing and service-sector based, and that high-growth entrepreneurship is indeed pervasive in developing countries, even in some of the least-developed countries of Sub-Saharan Africa.

Thomas Gries and Wim Naudé's paper is entitled *Entrepreneurship and Structural Economic Transformation*. Their objective is to provide a theoretical endogenous growth model based on micro-economic optimization, which will clarify the role of entrepreneurship in structural economic transformation as studied in development economics. One of the seminal events in the establishment of development economics as a discipline has been W. Arthur Lewis' model of structural change. Lewis observed that a stylized fact of economic development is the structural transformation of societies from being traditional (rural and

agricultural based) towards being urban and modern (based on manufacturing and services). He modeled the mechanism for this process as being driven by the transfer of surplus labor in rural areas (where their marginal product is zero) to urban areas and manufacturing where their marginal labor is positive. The latter is the case due to savings and investment by a 'capitalist', which augments labor inputs in production.

Gries and Naudé follow the Lewis-model distinction between a traditional and modern sector, but supplies this with micro-foundations. They make a distinction between mature and start-up entrepreneurs and between survivalist self-employment activities in the traditional (informal) sector, and opportunity-driven entrepreneurship in the modern. They therefore define entrepreneurs as the starters of new businesses through which they make productive contributions to the economy. In their model they show how these entrepreneurs innovate (as in Schumpeter 1961), spot profitable opportunities (as in Kirzner 1973), and re-allocate resources (as in Schultz 1975).

A novel aspect of their model in this regard is that they use modeling tools from labor economics (specifically labor-matching models) to match entrepreneurial opportunities in the modern sector with entrepreneurial abilities. Herein, as will later also be seen in the paper of Bianchi, the idea that markets play an important role in facilitating the appropriate matching (application) of entrepreneurial ability, is important.

Moreover, in emphasizing entrepreneurial ability, a component of human capital, Gries and Naudé place their model in the category of endogenous growth models. At roughly the same time that the Lewis-model and extensions were put forward to explain structural economic change in developing countries, neoclassical growth theory expanded following the contribution of Solow (1956) and others. In these models, where the emphasis was on the dynamics of steady-state growth and on convergence in per capita incomes between countries, there was no concern, nor any possibility in the steady-state framework, to focus on issues of structural change, despite the growing recognition that structure and growth are interdependent. In more recent times, the empirical inability of the Solow model to explain patterns of productivity, capital accumulation, and growth lead to endogenous growth theories, wherein human capital and technological changes, which augment human capital, play an important role in growth dynamics. This opened an important but relatively unexplored link between structural change and growth because the extent to which economic sectors differ in their human capital and technological requirements, and are differently affected by new technologies, will affect growth. It also allows Gries and Naudé to model the link between entrepreneurship and structural transformation, with 'entrepreneurial ability' as a particularly vital form of human capital.

The resulting model shows how opportunity-driven entrepreneurship can drive structural transformation through innovation, provision of intermediate inputs and services (which permits greater specialization in manufacturing) and by increasing employment and productivity in both the modern and traditional sectors. The model is consistent with the stylized facts of labor migration from the traditional to the modern sector, and a rise in the share of services in output and employment over time. The authors discuss how the model can be used for analyzing policies for stimulating structural change through for instance financial development, promoting entrepreneurial ability, and rural development measures.

Whereas the Gries and Naudé paper recognized the survivalist self-employment activities in the traditional (informal) sector, and opportunity-driven entrepreneurship in the modern sector, their focus was largely on the latter. The next paper in the special edition, by Micheline Goedhuys and Leo Sleuwaegen, continues this focus. Their paper, entitled '*High-growth Entrepreneurial Firms in Africa: A Quantile Regression Approach*, argues that high-growth firms (defined as firms that achieve average employment growth in excess of 10% per year) are particularly important in the least developed countries for catching up and 'the creation of technological capabilities and physical and human capital formation'.

In linking 'high-growth' entrepreneurs with a country's economic performance, their paper follows a small number of empirical papers in entrepreneurship that show that the type of entrepreneurship matters for economic growth/economic performance. For instance, Wong et al. (2005), using the Global Entrepreneurship Monitor's (GEM) measurement of 'high-potential entrepreneurship' (HEA) for spanning 37 countries for 2002 found that only HEA is positively associated with economic growth. In a

more recent study, Autio (2008) used country-level panel data from the GEM spanning the period 2000 to 2007 to regress GDP growth on various measures of entrepreneurship, including HEA, and found that 'HEA exhibits a positive and statistically significant association with GDP growth with a 1-year time lag' (*Ibid*., p. 14).

Despite these studies, however, it remains a shortcoming that relatively little is known about the relationship between entrepreneurship and economic growth in developing countries, and the determinants of high-impact or high-growth entrepreneurship. Nyström (2008) for instance lists 38 studies conducted between 1996 and 2006 that study the relationship between entrepreneurship and economic performance. With the exception of three studies, the studies cited by Nyström (2008) are exclusively focusing on advanced economies. This state of affairs has led Autio (2008, p. 2) to remark that 'we actually know very little about whether and how entrepreneurship either contributes or does not contribute to economic growth in developing countries'.

It is filling the gap that Goedhuys and Sleuwaegen's paper contributes to, but they also contribute to the literature in that they focus on high-growth firms and not average firms. As they point out, previous analyzes have typically been concerned not with the determinants of the performance of high-growth firms, but with that of the average firm. Consequently, policy advice on support firm growth is more often than not based on supporting the average firm—which may not be optimal for promoting growth and development. A third contribution of their paper is towards providing a better understanding of entrepreneurial growth dynamics in Sub-Saharan Africa, the region with the highest proportion of least-developed countries, and a region relatively neglected in entrepreneurship studies, largely due to the lack of comparable cross-country data. Moreover, whereas many existing studies of entrepreneurship in Africa are concerned with constraints on entrepreneurship, or on pathologies, their paper is refreshingly focused on high-growth, successful, and prospering entrepreneurs in Africa. Thus, using consistent and comparable data on 954 firms across 11 Sub-Saharan African (SSA) countries drawn from the World Bank's Investment Climate Survey of 2006 they find that about 6% of the firms in the SSA sample are high-growth firms, which they report as a higher proportion than that from EU countries such as Germany and the Netherlands, and comparable to the UK, US, and Japan.

Based on a survey of the literature on the determinants of firm growth, Goedhuys and Sleuwaegen estimate an empirical model wherein firm growth is a function of initial employment, firm age, entrepreneurial characteristics, technology, institutional resources, and country and industry effects. In addition to using standard OLS, they innovate by using quantile regression (QR), which is relevant for exploring the determinants of firms with growth rates in the upper quantiles of the distribution.

Their results both confirm the existing results in the literature and contribute novel insights. Thus they find a number of factors responsible for firm growth in SSA that are similar to that found in other contexts, such as firm size (as in most of the literature, they establish a negative relationship between firm size and growth), minority entrepreneurs (networks), education level, and product and process innovation. More novel, they find that in SSA, the availability of transport and transport infrastructure is significant in shifting the growth distribution to the right. This finding is consistent with the argument in Naudé (2007) that firms in Africa suffer from a proximity gap and that the provision of infrastructure such as transport facilities (but also ICT), which improves the proximity of firms to suppliers and customers and should increase firm productivity and growth. High fuel prices and reductions in the available credit for infrastructure projects, as has been experienced globally in recent times, may therefore be particularly harmful for high-growth entrepreneurs in Africa.

3.2 Escaping from absolute and relative poverty

Three papers show how the option of entrepreneurship can allow individuals and households to escape from both absolute and relative poverty (inequality). These papers are by John Bennett, Jagannadha Pawan Tamvada, and Ayal Kimhi.

Being a mechanism that allows individuals or households to escape from poverty is of course good for a country's aggregate development outcome. The first two papers in this special edition reviewed in Sect. 3.1 were essentially concerned with the aggregate development outcomes of structural change and

growth. By focusing on entrepreneurship as the mechanism for individual welfare enhancement, the level of analysis now shifts to the micro level, and asks what are the individual benefits of entrepreneurship? That is, what are the advantages in a developing country for the person who made the occupational choice of becoming an entrepreneur?

A growing body of literature has been concerned with understanding and measuring the returns of entrepreneurship. Largely, this literature has been confined to developed country settings. With developing countries, the choice of entrepreneurship and the returns on entrepreneurship have quite often been seen as dismal, with entrepreneurship (or self-employment) considered as being driven by necessity (for survival) and offering meager returns. In this view, the often large informal sectors in developing countries are seen as symptomatic of this no-choice entrepreneurship, and are seen as undesirable. Some even see the informal sector as a drag on economic development, lowering overall productivity, and competing with the formal sector. The three papers mentioned here go in some way towards shattering this view, clearly showing it to be too simple. The informal sector can be good for entrepreneurial development; moreover self-employment may raise welfare and may offer opportunities for social mobility.

John Bennett's paper *Informal Firms in Developing Countries: Entrepreneurial Stepping Stone or Consolation Prize?*, commences from the recognition that the so-called informal sector is significant in most developing countries, noting that it may contribute up to 40% of a poor country's GDP. The author discusses some of the current main views towards the informal sector mentioned above, and offers a different viewpoint. In his motivation, he points out that most of the existing analyses of the informal sector in development economics ignore the fact that entrepreneurship is characterized by uncertainty. Thus, when contemplating whether to become an entrepreneur and start up a new firm, the latent entrepreneur faces great uncertainty as to the profitability of his or her venture. Given this uncertainty, Bennett derives a theoretical model that shows that under such uncertainty, the informal sector may fulfill a useful function for entrepreneurs, namely as a 'stepping stone'. Entrepreneurs may therefore first enter the informal sector so as to 'test the water' before deciding on whether or not to enter the formal sector.

However, the informal sector may not just be a 'stepping stone' for potentially later successful entrepreneurs, it may also be a 'consolation prize' for entrepreneurs unsuccessful in the formal sector. Thus, if they find their ventures to be unprofitable in the formal sector, they may settle for a venture in the less costly informal sector.

The Bennett model is a two-period model wherein at the beginning of the first period, an entrepreneur chooses whether to start up a firm in either the formal or informal sector, or to stay out of the market altogether. Given that a sector or entry is chosen, the entrepreneur then learns about the firms' profitability. Based on this information, the entrepreneur then decides, in the second period, whether to maintain the status quo or whether to change sectors. Bennett performs various sensitivity analysis with his model using a range of parameter values. He concludes that 'the stepping stone argument obtains for a wide range of parameter values that appear realistic…the consolation prize argument only applies for a range of parameter values that is so narrow that it appears of little practical significance'.

In Bennett's paper, the informal sector has a clear value to the entrepreneur, and offers a mechanism to escape poverty as a 'stepping stone'. Jagannadha Pawan Tamvada's paper, entitled *Entrepreneurship and Welfare*, continues in this vein, but ask more directly: does entrepreneurship (self-employment) raise individuals' welfare? And what does the empirical evidence from developing countries suggest?

As in the development economics literature, he measures welfare by per-capita consumption expenditure. He proceeds by providing a brief discussion of the occupation choice literature on which his empirical estimation is based. For the latter he uses a large sample of 26,485 households from India's 60th National Sample Survey Organization. Using quantile regressions (as in the case of Goedhuys and Sleuwaegen) he finds strong empirical evidence that entrepreneurs who employ others (thus especially the entrepreneurs in high-growth firms as in Goedhuys and Sleuwaegen) have the highest welfare in terms of consumption, while self-employed individuals who work only for themselves (own-account workers) have slightly lower returns than salaried employees. While this shows that the importance of creating decent salaried work in developing countries is a major thrust of any poverty-reduction strategy,

Tamvada also importantly establishes that self-employed individuals have a higher welfare than casual laborers, which implies that even in the form of limited self-employment, entrepreneurship may improve welfare and contribute to less poverty.

His analysis does not consider the non-pecuniary gains to being self-employed (see e.g., Blanchflower and Oswald 1998; Hamilton 2000) nor the information externalities (as in Bennett's paper). Many have argued that these benefits are often substantial in developing countries. If these benefits are added to the above findings, it is clear that entrepreneurship can indeed be an important welfare-enhancing and poverty-escaping occupational choice in developing countries.

Tamvada does not discuss this, however, but his results are suggestive of an unequal distribution of incomes (and perhaps wealth), where the highest returns accrue to entrepreneurs in high-growth firms (employing others), then to salaried workers, then to own-account workers, and finally to casual laborers. This is indeed in line with results, mostly from developed country settings, which find that greater rates of entrepreneurial activity may be associated with greater income and wealth inequalities. Two reasons for this possible association are that (1) entrepreneurs take more risk and that therefore receive on average higher returns than salaried workers, and (2) that entrepreneurs have higher savings rates. Inequalities persist because of various entry barriers such as access to credit (see also the paper in this edition by Milo Bianchi), which makes it difficult for many individuals to become entrepreneurs. In the latter regard, it has been suggested that inequalities in wealth may encourage entrepreneurship, particularly where minimum capital (or wealth) is required in starting up a new firm (Naudé 2008). This would also lead to an observed association between income and wealth inequality and entrepreneurship.

Despite the fact that income and wealth inequalities have been (as was discussed for instance in Sect. 2) from the start a central area of concern in development economics, there has been little formal investigation of the relationship between entrepreneurship and inequality in developing countries. How much of the observed income inequality is due to entrepreneurship? And does greater entrepreneurial activity and opportunities always lead to greater inequality? When will entrepreneurship be consistent with a reduction in inequalities? These questions are explored by Ayal Kimhi in his paper entitled, *Entrepreneurship and Income Inequality in Southern Ethiopia*.

As the author's title indicates, his focus is on a rural area of Sub-Saharan Africa about which very little is known about how farmers (mostly subsistence farmers) engage in entrepreneurial activity, and what impact this has had on their lives. Using data from a survey of 583 households in the Ejana- Wolene district, 240 km south of the capital of Addis Ababa, he calculates the contribution of entrepreneurship to household income inequality using the by-now-standard method for decomposing income inequality proposed by Shorrocks (1982). He finds that in his sample, agricultural income comprises 51% of per-capita income, and entrepreneurial income about 17% (the remainder consists mainly of remittances). The former is however responsible for 58% of income inequality (using the Gini coefficient) while entrepreneurial income is only responsible for about 10% of inequality.

In his sample, average incomes of entrepreneurs and non-entrepreneurs are not statistically different. Therefore he finds that in that area, a uniform increase in entrepreneurial income will reduce household income inequality and increase average household income. But what if increases in household income are not uniform? Differentiating by income quintiles, Kimhi finds that increasing the income from entrepreneurship of the bottom 80% of households will reduce income inequality. Increasing the income from entrepreneurship from the top 20% of households will however increase inequality. His conclusion is that 'entrepreneurship-supporting policies could be particularly successful in reducing inequality if directed at the low-income, low-wealth, and relatively uneducated segments of society'.

3.3 Market failures: the case for financial development

The first five papers of this special edition detail the ways in which entrepreneurship can contribute to development in developing countries. By using the theoretical and empirical tools from both development economics and the economic of entrepreneurship, they have contributed towards elaborating and formalizing the (positive) role of entrepreneurship in

development economics. They have showed how entrepreneurship can benefit economic development through structural change, economic growth, and by offering a means of escape from absolute and relative poverty.

In practice, however, it is clear that many countries and many individuals fail to adequately reap the benefits of entrepreneurship as described here. Entrepreneurship may fail to be a mechanism for economic development. It is also necessary to understand why this may be the case. Although the first five papers did not deal directly as such with this question, most of them did stress important features of their models or empirical findings which point to some answers.

The key failures are both governmental (and governance) and market failures. With regard to governmental failures, Gries and Naudé's model illustrated the importance of entrepreneurial ability, which is a function of both culture and education in a particular country, as well as of rural development policies of government. Goedhuys and Sleuwaegen emphasized the importance of infrastructure investment in a least developed country setting, and suggested (as does Kimhi) the need for differentiated policies for entrepreneurship, while Bennett emphasized informational shortcomings and uncertainty. Much has been written in recent years on the institutional prerequisites of entrepreneurship and how poor governance can skew the incentives facing entrepreneurs, so that those with high entrepreneurial ability do not necessarily end up as high-impact, productive entrepreneurs (see for instance the special edition of *SBE* devoted to entrepreneurship, economic development, and institutions, volume 31 (3) of October 2008).

Market failures also conspire to prevent a matching of high-ability individuals with entrepreneurial opportunities. Here, market failures in labor and financial markets are particularly relevant. Whereas Gries and Naudé's model made reference to labor market frictions, and also used the idea to match entrepreneurial ability with entrepreneurial opportunities, the paper by Milo Bianchi deals in greater detail with the consequences of inadequate financial markets and inequalities in wealth for the allocation of entrepreneurial ability. His paper, entitled *Credit Constraints, Entrepreneurial Talent, and Economic Development*, is concerned with the impact of finance and wealth inequalities on entrepreneurship, and the consequent implications for economic development.

Bianchi's model, like that of Gries and Naudé and Tamvada, takes as departure the occupational choice framework. This is a useful framework in the present case since it allows the author to focus on what is perhaps the most important link between entrepreneurship and economic development across the papers in this special edition, namely the fact that economic development will be most strongly promoted if the most talented individuals allocate their abilities towards the most productive methods. The development challenge is therefore, as in Gries and Naudé, a challenge of matching entrepreneurial talent.

Bianchi mentions a number of potential obstacles in matching entrepreneurial talent to appropriate opportunities, such as corruption, lack of information, distorted incentives, and also failure in financial markets. After setting out this role of entrepreneurship in the development process, the remainder of his paper is devoted to formalizing credit constraints as a limiting factor in the matching of entrepreneurial talent. This is an appropriate and valuable contribution given the ubiquity of credit constraints as obstacles in the entrepreneurship literature, the general challenges of financial development in developing countries, the growing literature on the role of finance and credit in development economics, and, last but not least, the huge concern about the impact of the financial sector on the real economy in the wake of the 2007–2008 subprime mortgage-inspired financial crisis in the USA.

His theoretical model formalizes the relationship between financial development, wealth inequalities, entrepreneurial talent, and development. Without adequate financial development, talented individuals may not be able to become entrepreneurs, leaving entrepreneurship for the untalented wealthy. As such, in the absence of financial development, wealth inequalities could prevent a proper matching between entrepreneurial talent and productive technologies, which could undermine economic development.

Financial development increases intermediation and allows poorer but talented individuals to start up new firms. He further shows that this leads to increased competition, and an increased demand for labor. In turn, this decreases the incentives for less-talented individuals to want to become entrepreneurs. Therefore, financial development 'induces higher job creation, higher productivity, and social mobility'.

The final question that the paper by Bianchi addresses is how financial development should be promoted with the view of improving entrepreneurial matching. He shows that successful financial development may depend on initial wealth distribution, and may therefore require a 'big push', rather than gradual reform in order to be successful. These initial and threshold effects on the subsequent performance of the economic system stresses the importance of initial conditions, institutions and country-specific factors determinants of the differential impact of entrepreneurship on economic development across countries and periods.

4 Concluding remarks

The papers in this special edition illustrate that it is possible to successfully integrate entrepreneurship and development economics. Until now, the entrepreneur has been largely omitted from much of the mainstream development economics modeling. As I had pointed out in Sect. 2, this was likely due to the view that entrepreneurship is not a binding constraint on development, or due to the perception that entrepreneurship is too vague a concept to model formally in theories of development. In any case, the dominant approach after the Second World War was one of state-directed development, wherein large state-owned enterprises (SOEs) and multinational enterprises (MNEs) were seen as the vehicles of development.

Much has changed in recent years, which now requires the entrepreneur to be taken up formally in the development economics canon. Given the rise of the 'entrepreneurial economy', as documented and argued in Audretsch and Thurik (2001, 2004) and the realization that state dominance may come at a cost of corruption, rent-seeking, state capture, and repression of private initiative, the pendulum has now swung to the point where there is, as was mentioned at the start of this paper, considerable enthusiasm for entrepreneurship in developing countries (and of course elsewhere).

The papers in this special edition show that not only can the entrepreneur be formally modelled to address issues of concern to development economics, such as structural change and growth, inequality and poverty, and market failures, but that such modeling importantly extends not only to our understanding of the development process but also of the accurate role of the entrepreneur in that process. The papers here show specifically that entrepreneurship does make a fundamental contribution to development by fostering structural change and growth and acting as a vehicle for people to escape from poverty and inequality.

However, the contributions here are also sobering when seen against the great expectations with which entrepreneurship is often imbued. The early development economists were likely correct in that the lack of entrepreneurship or entrepreneurial talent may indeed not be the binding constraint on development. Rather, it may be that entrepreneurship is important for economic development because many of the most binding constraints are channeled through entrepreneurship. If the matching of entrepreneurial talent with productive technologies and opportunities for growth is the essence of what drives economic development, as was central to the papers here, then indeed understanding and modeling entrepreneurship becomes important so as to understand how binding constraints actually work. If the most pressing binding constraints are, according to current thinking in development economics located in the institutional and policy environment of a particular country, then better understanding the role of the entrepreneur in economic development will amount to unpacking the 'black box' of institutional explanations.

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