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Entrepreneurship, Innovation, and Economic Development: An Overview

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1.1 Purpose of the book

Economic development requires sustainable and shared increases in per capita income accompanied by changes in the structural composition of an economy towards higher value added goods and more efficient production methods. Entrepreneurs can contribute to economic development by facilitating the reallocation of resources from less to more productive uses (Acs and Storey 2004), by performing ‘cost-discovery’, ‘gap-filling’, and ‘input-completing’ functions in the economy (Leibenstein 1968; Hausmann and Rodrik 2003) and by supporting structural change (Lewis 1954; Gries and Naudé 2010). These roles have recently been the subject of a growing literature (see e.g. Minniti and Naudé 2010; Naudé 2010a, 2010b, 2010c).

A neglected function in this literature is the potential role of entrepreneurs as innovators in developing countries. Joseph Schumpeter pointed out a century ago that entrepreneurs are often innovators, bringing new goods and technologies to markets, opening up new markets, processes, and ideas, and commercializing new knowledge. But, it is often mistakenly suggested that innovation by entrepreneurs is less important for growth in low-income developing countries than in more advanced economies.¹

A substantial literature has been devoted to understanding the conditions under which entrepreneurs innovate, and the nature and evolution of national systems of innovation (see e.g. Lundvall 1992; Nelson 1993). By and large, however, this literature has been concerned with the process of innovation and its dynamics in advanced economies. Research at the intersection of the fields of entrepreneurship, innovation, and development is still in its infancy.
In this book we provide perspectives on three broad questions pertaining to innovation and entrepreneurship in developing countries. How does innovation impact on development? How and under what conditions do entrepreneurs in developing countries innovate? And, what can be done to support innovation by entrepreneurs in developing countries? The book is divided into three parts: this introductory part, followed by Part II dealing with the impact and determinants of innovation by entrepreneurs in developing countries, and Part III, focusing on policies and institutions for innovation. But first, we need to define what we mean by entrepreneurship and innovation and provide a brief background on what is known about the impact and determinants of innovation, and the importance of the policy and institutional environment for fostering innovation.

1.2 Concepts and definitions

1.2.1 Entrepreneurship

The discipline of entrepreneurship generally studies the why, when, and how of opportunity creation, recognition, and utilization. Hence, a widely quoted definition of entrepreneurship is that it is about the ‘discovery and exploitation of opportunities’ (Shane and Ventakaraman 2000). Baumol (1990) recognized that not all opportunity exploitation will necessarily be in society’s best interest, and he defined entrepreneurs very broadly as ‘persons who are ingenious and creative in finding ways that add to their own wealth, power, and prestige’ (ibid.: 987). Thus entrepreneurial talent can be allocated in ways that retard economic development. Although we recognize that the ‘reward structure’ of a society can lead to such a destructive allocation of entrepreneurial talent, we will in this book be focusing on productive entrepreneurial activity. This consists of the creation, recognition, and utilization of positive opportunities within existing firms (or through creation of new firms) in such a way that involves ‘innovation’—or the provision of ‘new combinations’.

Before defining what is meant by this ‘innovation’ (see section 1.2.2) we should note that three main conceptual approaches to entrepreneurship can be distinguished in the literature. The first approach focuses on the entrepreneurial function, the second on the performance of enterprises and the third on owner-operated enterprises.

The functional perspective is concerned with the dynamic actors that make key decisions on investment, production, innovation, location, or research and development. This conception of entrepreneurship is broader than that of entrepreneurs who run their own businesses. It also includes managers of multinational firms, state enterprises, or non-profit organizations and a variety of dynamic intrapreneurs within organizations. In this perspective,
entrepreneurship is a psychological trait referring to dynamism, creativity, and originality. As in the early Schumpeterian tradition, the difference between entrepreneurial behaviour and innovation is blurred: entrepreneurial behaviour is innovative behaviour. If one is not innovative, one is not entrepreneurial.

The second strand of research focuses on the firm as the key economic actor. The firms studied include owner-operated firms, incorporated joint stock companies, state-owned firms, joint ventures, and subsidiaries of multinationals. The firms are the units that make the key decisions on investment, on branching into new activities or sectors or relocating to other countries. There is by now a large literature on firm-level behaviour in developing countries, examining firm characteristics, including their economic performance, their innovative performance, their capabilities and their business strategies (e.g. Goedhuys et al. 2008; Goedhuys and Sleuwaegen 2010).

The third research tradition deals with an important sub-set of firms, namely owner-operated enterprises. The entrepreneur is the person who is both owner and actively involved in running his/her own business. Here the focus is often on small and medium-sized enterprises (SMEs) and self-employment, as exemplified by many papers in this collection. Like the second approach, this research tradition tries to distinguish between high potential, innovative firms that survive and grow and stagnant firms that barely survive or exit the market. One sub-category of firms which receives special attention is that of start-ups, especially in the work associated with the Global Entrepreneurship Monitor (GEM), which provides estimates of start-up rates across countries. Though the emphasis of this research tradition is on SMEs, we should not forget that very large companies are sometimes also run by their entrepreneurial owners (see Amsden’s Chapter 3 in this book).

1.2.2 Innovation

Following the Oxford Handbook of Innovation (Fagerberg, Mowery, and Nelson 2005), the concept of innovation refers to the putting into practice of inventions. A narrow strictly technological approach focuses specifically on product and process innovations, or technological innovation, often said to be the result of knowledge-intensive (technological) entrepreneurship. A broader approach refers to innovation as the development of new products, new processes, new sources of supply, but also to the exploitation of new markets and the development of new ways to organize business. One can distinguish between more incremental innovations and more radical innovations. It is important to note that innovation does not only refer to the first
introduction of novelty by a first mover, but also to the spread of the innovation to other actors in the economy.

Versions of these concepts of innovation are used by the authors in this book. For instance Toivanen (Chapter 8) and Mani (Chapter 9) focus on knowledge-intensive entrepreneurship with an emphasis on product and process innovations. Stam and van Stel (Chapter 4), Voeten, de Haan, and de Groot (Chapter 5), Gebreeyesus (Chapter 6), and Bascavusoglu-Moreau (Chapter 7) see innovation more broadly as including the exploitation of new markets, new forms of organization, and new sources of supply. Audretsch and Sanders discuss the impacts of general purpose technologies. Here, clusters of innovations result in the emergence of technologies such as electricity or information and communication technology (ICT) which have a pervasive influence across all sectors of the economy (see also Lipsey, Carlaw, and Bekar 2005).

An important distinction in the innovation literature is between innovations that are new to the world, innovations that are new to the domestic market or innovations that are new to the firm (Fagerberg 2005). Innovations that are new to the world are primarily found in the advanced economies. They are based on research and development at the frontiers of global knowledge. In developing countries far removed from the international technological frontier, innovations will tend to be new to the market or new to the firm. Innovations new to the market in developing countries refer to the international diffusion and absorption of technology. The domestic firm introduces innovations which have already been developed elsewhere, but which are new to the market in their own country. Innovations new to the firm refer to knowledge flows within the domestic economy. The innovation is already present in the market, but is now adopted by a given firm. This last concept of innovation comes closest to the Rogerian concept of innovation (Rogers 2003).

What is new to the firm may not be very innovative in any objective sense. It may be simply introducing a machine for moulding handles of kitchen knives, rather than doing it by hand or introducing a new oven for hardening ceramics (as discussed by Voeten, de Haan, and de Groot). This means that some kinds of innovation that are new to small firms in developing countries may coexist with stagnant economies and increasing technology gaps relative to the international frontier. Our primary interest is in the kinds of innovative behaviour that promote economic dynamism and catch up at country-level.

Like entrepreneurship, innovative performance has been measured in a variety of ways, using patents, trademarks, R&D inputs, and other secondary indicators such as publications or citations. Since the 1980s, increasing use has been made of innovation surveys amongst firms. In innovation surveys, firms are asked whether they have introduced innovations. The main focus in most
innovation surveys is on technological innovations resulting in new products or new production processes. In later generations of the surveys, a separate category of organizational and marketing innovations is distinguished. Starting with the European Community Innovation Surveys innovation surveys have spread to the developing world, in particular to Latin America, but also to Asia and Africa.

In this book, different approaches to measurement are represented. The chapters by Gebreeyesus and Bascavusoglu-Moreau are based on survey data and measure innovation using survey questions about product, process, and marketing innovations at firm-level. The chapter by Voeten, de Haan, and de Groot uses a qualitative case study approach to analyse the introduction of new products, new processes, and the opening of new markets in clusters of small-scale producers in Vietnamese villages. The chapters by Mani and Toivanen use a variety of secondary indicators of innovative performance such as R&D, scientific publications, or patents to measure innovation trends at the macro-level.4

1.2.3 Innovation and entrepreneurship

If one follows the Schumpeterian tradition in describing the search for new combinations as the key characteristic of entrepreneurship, the distinction between entrepreneurship and innovation is hard to make. Is there really any difference between entrepreneurship and innovation? In a book that attempts to link two research traditions on respectively entrepreneurship and innovation, we need to clarify the relationships between these concepts.

In the Schumpeterian tradition, the entrepreneur is the hero of dynamic capitalism. The entrepreneur typically creates new combinations: new products, new markets, new materials, and new forms of organization (Schumpeter 1934). Entrepreneurship and innovation are almost synonymous. However, on the basis of Schumpeter’s later work (Schumpeter 1943), one needs to distinguish between two types of competition, often referred to as Schumpeter Mark I and Schumpeter Mark II. In Mark I, it is the entrepreneurs and the smaller enterprises that are responsible for innovation. In Schumpeterian competition Mark II large oligopolistic firms predominate. Innovation takes place in R&D laboratories and the entrepreneurial function has become routinized in a managerial bureaucracy. Innovation has become divorced from entrepreneurship.

The disadvantage of the identity of entrepreneurship and innovation in Mark I is that it does not allow us to distinguish different types of entrepreneurship: innovative entrepreneurship, non-innovative entrepreneurship, stagnant entrepreneurship, destructive entrepreneurship (Baumol 1990), high-growth entrepreneurship, or survival entrepreneurship (see also Naudé
2010a). Also, it does not recognize that much innovation is generated in firms that are run by managers rather than entrepreneurs. From a developmental perspective, it therefore makes analytic sense to distinguish entrepreneurship and innovation as distinct key forces in development. Some entrepreneurs are much more innovative than others and firms managed and owned by entrepreneurs are not the only sources of innovation.

1.3 Background

As we indicated in section 1.1, the purpose of this book is to provide new perspectives on three questions pertaining to entrepreneurship and innovation in developing countries: How does innovation impact on development? How, and under what conditions, do entrepreneurs in developing countries innovate? And, what can be done to support innovation by entrepreneurs in developing countries? Before we summarize the answers of the various chapters to these questions, we will first provide some background against which to evaluate the contribution of the various chapters that follow.

1.3.1 The impact of innovation on development

Innovation is central to modern theories of growth and development (Verspagen 2005). Along with the traditional factors such as costs, technological product, and process, innovations have become the key to competitiveness and business success. Competition in the global economy has increasingly become knowledge-based. Even in supposedly traditional economic sectors such as textiles, leather, or food processing innovation and technological advance has become the key to growth (c.f. Mytelka 1999). The same holds for service sectors such as distribution and retailing, financial services, and ICT services. Innovation is also intimately tied up with changes in the structure of the economy, technological upgrading in production, and moving to higher value added activities in global value chains.

Technological change is embodied in new generations of machinery and equipment and new generations of better educated workers. There are also disembodied advances in product and process technology, which result from formal and informal investment in R&D, capabilities, and on-the-job learning. Embodied and disembodied technological change raises total factor productivity—which has been found to explain more than half of the variation in economic growth rates between countries (Helpman 2004). But it not only raises the quantity of economic output, but also the quality and nature of what is produced. It results in an ever wider range of new goods and services.
This powerful impact of technological change is aptly described by Lipsey, Carlaw, and Bekar (2005: 5):

People living in the first decade of the twentieth century did not know modern dental and medical equipment, penicillin, bypass operations, safe births, control of genetically transmitted diseases, personal computers, compact discs, television sets, automobiles, opportunities for fast and cheap worldwide travel, affordable universities, central heating, air conditioning... technological change has transformed the quality of our lives.

Both endogenous growth theory and evolutionary growth theory emphasize that the traditional factors of production such as labour or capital are subject to diminishing returns, while investment in knowledge has increasing returns due to positive externalities and knowledge spillovers between economic actors (e.g. Romer 1990). Endogenous growth theory argues that the most advanced economies with their superior systems of innovation profit more from investment in knowledge than less advanced economies. First, R&D efforts and scientific research are still overwhelmingly concentrated in the most advanced economies (Szirmai 2008, 2011). Next, the flow of knowledge and technology from first movers to followers is very rapid, so that innovations quickly diffuse throughout the economy. Endogenous growth theory thus helps us understand the process of divergence in per capita incomes between rich and poor countries in the world economy.

However, innovation and technological advance can also result in accelerated catch-up in developing countries. What endogenous growth theory fails to capture is the fact that in an increasingly unequal world economy, several developing countries have experienced rapid economic catch-up. They were able to absorb and creatively adapt international technological knowledge to achieve accelerated growth. Gerschenkronian and evolutionary growth theories argue that latecomer economies may profit from the advantages of technological backwardness. They can benefit from global diffusion of technology. They can access new technologies without bearing all the costs and risks of investment in new knowledge. Amsden’s chapter (Chapter 3) argues that privately owned domestic firms in East Asia were better at adopting and absorbing technologies from advanced economies than foreign-owned firms. Stam and van Stel (Chapter 4) highlight how the adoption of foreign technology provides entrepreneurs with a potential to create new markets and contribute to structural change and self-discovery.

Whether developing countries are able to profit from the advantages of technological backwardness clearly depends on their social capabilities and absorptive capacities. Hence, importantly for developing countries, innovation does not only refer to the development of new products or processes, but also to the capacity to creatively absorb technology. If the absorptive
capacities of a country are sufficiently developed, very rapid economic growth in a technologically backward country is not a miracle, it is the norm (Szirmai 2005, 2011).

It is here where the entrepreneur makes his or her entrance. Traditional macroeconomic growth theory is a black box which relates inputs and outputs. The study of entrepreneurship opens this black box and allows us to analyse the characteristics and choices of different types of firms and entrepreneurs that are responsible for capital accumulation, hiring of workers, structural change, and the development or adoption of new technologies (for a modelling approach see Gries and Naudé 2010 and Chapter 2 by Audretsch and Sanders). The entrepreneurs are the actors that respond to opportunities, threats, uncertainties, constraints, and incentives emanating from the economic environment in which they operate. This puts entrepreneurship at the heart of economic growth, development, and catch-up.

By innovating and commercializing inventions and by adopting innovations developed by others, developing country entrepreneurs affect the rate of technological change and the structural transformation of the economy. Entrepreneurs, commercializing technology, often through creation or expansion of firms, apply and spread technology in a way which raises total factor productivity. The creativity, capabilities, dynamism, and innovativeness of the entrepreneurs in a country are important aspects of the absorptive capacity, which is such a distinctive characteristic of successful development experiences. How entrepreneurs perform this function will vary across various stages of a country’s development.

It is important to take the context of developing countries into account. In catch-up countries, innovative entrepreneurs initially focus on delivering incremental improvements to existing foreign designs, rather than the risky development of products and technologies that are new to the world (see Athreye’s Chapter 11 in this book, and Hobday and Perini 2009). In later stages of development, they will gradually shift to innovations which are more novel in a global perspective. Thus, the challenges faced by the entrepreneurs will also change in the course of economic development.

1.3.2 Determinants of innovation in developing countries

The chapters in this book clearly illustrate that some entrepreneurs are more innovative than others and entrepreneurs in some countries are more innovative than in other ones. Why is this the case and what are the determinants of innovative performance? Some of the explanations are found in characteristics of the firm or of the entrepreneur such as education and experience of the entrepreneur, firm size and age, or organizational culture. Such explanations are examined in the chapters by Gebreeyesus, Bascavusoglu-Moreau,
and Voeten, de Haan, and de Groot. But we are also interested in the extent to which market conditions, policies, and the institutional environment can promote or hinder innovative behaviour.

The fundamental reason why entrepreneurs innovate has been answered already long before Schumpeter. They are driven by profit motives. Adam Smith’s important insight was to realize that although entrepreneurs act in pursuit of their own profits, they may generate benefits to the broader society in the process. His further insight was that there is a link between the degree to which the entrepreneur will engage in technical innovation, specialization, and the size and functioning of the market. Markets can thus be seen as important drivers of growth and development.

In the poorest developing countries, markets unfortunately fail to fulfil this role. They are hamstrung in various ways, many of them already analysed by Adam Smith in his *Wealth of Nations*. Developing country markets are often small, fragmented, and imperfect due to lack of infrastructure, low per capita incomes, misguided policies, and institutional constraints. The political stability, predictability and transparency, peace and other institutional prerequisites for the functioning of markets are often absent. With fragmented, small and uncertain markets there is insufficient incentive for entrepreneurs to innovate. Where markets are restricted because of barriers to trade (either natural barriers such as lack of infrastructure or man-made barriers), it is difficult for innovations to spread. Throughout the ages international trade has exposed traders and merchants to new ideas and technologies. This is one of the reasons why trade functions as an engine of growth. Where markets are restricted by inappropriate regulations or strangled by predatory governments or monopolies, there is no incentive for entrepreneurs to introduce innovations that are new to the firm. Where inappropriate property rights and weak contract enforcement makes returns to innovative activity risky, there will be little incentive for entrepreneurs to invest in innovations new to the domestic market or new to the world.

1.3.3 Policies and institutions for innovation in developing countries

While the broadening of the market is one of the necessary conditions for innovation as outlined in the previous section, it will not be sufficient. The reason is that innovation is increasingly knowledge- and skill-intensive. Because of the positive externalities inherent in investment in knowledge, technological advance, and human capital, public policy has been increasingly recognized as having an important complementary role to play in fostering entrepreneurial innovation. Innovation requires not only highly knowledgeable, experienced, and skilled entrepreneurs, but also highly skilled labourers. Thus, educational policies and capability building come into the
picture. In the absence of government interventions and policies, the operation of markets results in underinvestment in knowledge and innovation. Nowadays, ‘innovation policy’ and ‘national innovation systems’ have become a standard part of the economic growth discourse in both advanced economies and developing economies (Lundvall 1992; Nelson 1993).

In fact the very concept of ‘innovation policy’ had its origins in the United States, widely seen as one of the most entrepreneurial economies in the world. As Lazonick has pointed out (Lazonick 2008: 2–3):

In all the advanced economies over the past century, first and foremost the United States where the ideology of ‘free market’ entrepreneurship is most virulent, successful entrepreneurship has depended heavily upon government investment in the knowledge base, state sponsored protection of markets and intellectual property rights, as well as state subsidies to support business investment strategies.

In developing countries, the benefits of innovation by entrepreneurs depend on the characteristics of the system of innovation within which they are embedded. The better the system of innovation, the more a developing country will be able to tap into global technology, the more rapidly knowledge will circulate within the domestic economy, and the more rapidly the economy will embark on the process of technological upgrading. The weaker the system of innovation, the less the efforts of individual entrepreneurs will contribute to accelerated economic development and catch-up (Goedhuys and Srholec 2010). Stam and van Stel (Chapter 4) indeed observe a greater contribution of dynamic entrepreneurship to economic growth in more advanced economies than in developing countries, where low levels of human and financial capital, the absence of a sound firm size distribution, and weak institutional frameworks limit the contribution of entrepreneurship to growth. The interplay between market development, systems of innovation and public science, technology, and innovation policies is an important theme of this book—particularly taken up in Part III.

1.4 Contributions of the book

In this section we provide an analytic summary of the contributions in the book focusing on the key questions pertaining to entrepreneurship and innovation in developing countries.

1.4.1 Impacts and determinants of innovation in developing countries

In an increasingly globalized world economy, some developing countries have experienced very rapid economic catch-up. They are able to absorb and
creatively adapt international technological knowledge to achieve accelerated growth. In subsequent stages of development they become innovators in their own right. Their absorptive capacities distinguish these countries from developing countries that are becoming marginalized in the global economy. The absorptive capacities depend among others on the nature of entrepreneurship in these countries. Several of the chapters in Part II of this book analyse the roles and impacts of different types of entrepreneurship in the process of economic development. The different chapters discuss a variety of actors: owner-operators of small and medium-sized firms, larger private enterprises, state-led or state dominated enterprises, or subsidiaries of foreign multinational firms. One of the interesting questions concerns the relative importance of the different kinds of actors as drivers of growth.

In their chapter ‘Technological Innovation, Entrepreneurship, and Development’ (Chapter 2), David Audretsch and Mark Sanders give pride of place to multinational enterprises and the process of off-shoring. They develop a global life cycle model of relocation of production to developing countries. This model is based on the allocation of entrepreneurial talent in the North over three alternatives: product innovation, process innovation, and outsourcing/off-shoring to the South. The system is influenced by three major external shocks: (i) the reduction of risks in international transactions due to the collapse of communism, (ii) the entry of populous developing countries into international trade, and (iii) the introduction of general purpose ICT technologies.

The model distinguishes between three stages in the product life cycle. In the first stage new products are discovered. In the second stage, the products mature and innovation focuses on process innovations which reduce costs. As the production process is standardized and cost considerations come to predominate, developing countries achieve a comparative advantage through low labour costs. In the third stage, entrepreneurial decision-making focuses on outsourcing low-cost production to the developing countries, through FDI. The contribution of the modelling exercise is that it endogenizes the allocation of entrepreneurship between the three alternatives: product innovation, process innovation, and outsourcing.

Globalization and technological innovation drive the structural shift towards what the authors call an entrepreneurial economy in the advanced economies in the North. In the entrepreneurial economy, the entrepreneurs of small and medium-sized firms play a key role in employment creation and innovation. Production focuses on innovative high value added activities. There is relative deindustrialization and a shift in labour demand towards skilled non-production workers and off-shoring by Northern entrepreneurs fuels Southern industrialization, based on low-cost labour.
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In the context of this volume, one comment is in order. Developing countries are modelled as passive recipients of outsourcing and FDI decisions by entrepreneurs in the advanced economies. The model underplays the importance of absorptive capacities and innovative technology adoption in the developing country context. But, the model provides a powerful summary of past trends. Arguing that innovation primarily takes place in the advanced economies, it describes the impact of innovation on developing countries as an outcome of entrepreneurial choices in the advanced countries.

In Chapter 3 ‘Firm Ownership and Entrepreneurship’, Alice Amsden emphasizes the key entrepreneurial role played in catch-up countries by large privately owned domestic enterprises and conglomerates (POEs). She argues that POEs are much more dynamic than foreign-owned enterprises (FOEs) and have a more substantial impact on development than FOEs, which operate more bureaucratically and are less innovative. Her analysis stands in contrast to the model of Audretsch and Sanders which emphasizes the role of FDI in international technology transfer. Amsden makes the case that the more important impacts of innovation in developing countries derive from indigenous, privately owned firms rather than multinational firms. Her chapter also serves as a counterweight for several chapters in this book that focus on the dynamic role of small and medium-sized firms (see for example the chapters by Stam and van Stel (Chapter 4), Gebreeyesus (Chapter 6), Bascavusoglu-Moreau (Chapter 7), and Voeten, de Haan, and de Groot (Chapter 5)).

Amsden places the dynamic role of POEs in the context of the history of decolonization—hence her chapter has an institutional perspective which complements that of the chapters in Part III of the book. She claims that the successful catch-up countries are the ones which not only got rid of their foreign rulers but also of their foreign firms. After the Second World War, many important industries in developing countries were developed by state-owned enterprises, some of which were privatized at some later stage. In Latin America and Asia, state-owned enterprises were instrumental in starting or advancing the petrochemical and steel industries. In the global privatization drive many state-owned enterprises were privatized. Some were sold to foreign-owned enterprises. But some of the best state-owned enterprises became private-owned enterprises, such as Embraer and Sunkyong.

FOEs have been more important in Latin America than in East Asia. Amsden argues that this may well help explain Latin America’s relatively weak performance after the Second World War.

She makes the important point that the manufacturing experience that a dozen developing countries derived from pre-war foreign and national enterprises was the key to post-war economic development. According to Amsden, no developing country entered the orbit of modern world industry after the Second World War, with its own POEs, that did not have pre-war
manufacturing experience (see also Amsden 2001; Szirmai 2011). No developing country cultivated a strong cadre of nationally owned firms from scratch. This observation recalls Arthur Lewis’s early remark that it takes at least 30–40 years to learn to industrialize (Lewis 1978).

The main contrast in the chapter is between foreign subsidiaries of multinational firms and private national companies. Amsden’s characterization of the subsidiaries of multinationals as bureaucratic and inflexible contrasts with recent research emphasizing the increasing autonomy of subsidiaries of global multinationals and the increasing decentralization of knowledge networks (Cantwell 2008). It disregards the present relocation of international R&D facilities to the emerging economies. Also, the recent literature emphasizes that the road taken by Korea and Japan in the past is no longer open to developing countries. Economies which were previously characterized by an excessive reliance on state-owned firms or domestically owned private firms are rapidly opening up to foreign investment and access to global technology seems to be more dependent on FDI than in the past (Lall and Narula 2006). The debate about the merits of different types of entrepreneurship deserves more attention in future research. A tentative conclusion one might derive from this interesting debate is that absorptive capacity and capacity for upgrading depends on some kind of appropriate balance between privately owned and foreign-owned enterprises. Where foreign-owned firms predominate excessively and large privately owned indigenous enterprises and entrepreneurs are weak or absent, the country may be hampered in its technological and economic development.

Chapter 4 by Erik Stam and André van Stel, entitled ‘Types of Entrepreneurship and Economic Growth’, continues with the distinction between advanced and developing countries made by Audretsch and Sanders. This chapter is an empirical exploration of the types of entrepreneurship and its impact on economic growth in developing and transition countries. It relates indicators of entrepreneurship to average rates of economic growth in the period 2002–5. For this the authors utilize a dataset on entrepreneurship in 36 countries from the GEM, collected in 2002. Their chapter can be seen as an extension of an earlier contribution of Wong, Ho, and Autio (2005), who—also using GEM data—established that employment creation in advanced economies is driven by a sub-set of ‘fast-growing’ firms, rather than by start-ups in general.

In their theoretical introduction Stam and van Stel follow Audretsch and Keilbach (2004) in including entrepreneurship as one of the proximate sources of growth in the production function, along with labour, capital, and knowledge/technology. Entrepreneurship is seen as the factor that creates wealth by combining existing production factors in new ways. However,
entrepreneurship will only unlock economic development if a proper institutional setting is in place.

In line with our introductory comments, Stam and van Stel emphasize that the role of entrepreneurs in developing countries differs from that in the advanced economies. Their main role in earlier stages of economic development is to discover whether goods, well established in world markets, can be produced at home at low-cost.

Stam and van Stel hypothesize that small owner-operated firms will be the prime movers in the process of structural change in developing countries and transition economies. Their reasoning is that in many developing countries large firms are underrepresented, while in transition economies large organizations are caught up in a process of restructuring. These interesting hypotheses are not supported by direct empirical evidence, but they are used to structure the subsequent analysis in the chapter. The fact that large firms are underrepresented seems to contradict the remarks made by Amsden about the role of large private-owned companies. But, in part this may well depend on the kind of countries one is examining.

In the econometric analysis, the authors use the following indicators for the existence of dynamic entrepreneurship: the Young Business (YB) index in 2002—this is the percentage of the adult population who is the owner/manager of a business less than 42 months old and expects to employ 20 employees within five years (YB high-growth expectation), respectively six employees within five years (YB medium-growth expectation). The dependent variable is the growth of GDP between 2002 and 2005. The authors take institutional characteristics into account by distinguishing three groups of countries: high-income economies, transition economies, and low-income developing economies.

They find that indicators of YB activity have a significant impact on growth in the high-income countries and the transition countries, but not in developing countries. In transition countries growth-oriented entrepreneurs make an important contribution to economic growth. The authors explain the lack of significant effects in developing countries by pointing to the lack of complementary physical and human capital and the scarcity of larger companies that can act as a training ground for SMEs. Their findings imply that the kind of social capabilities—or absorptive capacities—at national level emphasized by Abramovitz (1989) are lacking in developing countries. Also much entrepreneurship in developing countries is survival entrepreneurship which does not make much contribution to self-discovery and structural change. One could also think of a variety of institutional constraints which neutralize the effects of entrepreneurship. This issue is taken up in the chapters on institutions and policies in Part III of the book.
The chapters in this book raise interesting questions about the roles of different types of firms and associated types of entrepreneurship in developing countries: large private-owned firms, state-owned firms, foreign-owned subsidiaries of multinational companies, small and medium-sized enterprises or microenterprises. Amsden points to the key role of large privately owned-firms and conglomerates in Korea and other East Asian economies. This view also finds some support in the chapters by Mani, Athreye, or Toivanen. In Chapter 9 Mani discusses the emergence of knowledge-intensive entrepreneurship in India, which contributes to the acceleration of growth performance after 1991. Athreye (Chapter 11) analyses the business strategies of the dynamic private firms, which transformed the Indian IT sector and the Indian economy as a whole. In a very different setting, Toivanen (Chapter 8) emphasizes the defining role of very large high-tech companies in an advanced economy like Finland.

Other chapters make a case for the importance of small-scale and medium-sized enterprises in the process of economic development. Besides Stam and van Stel, this includes Voeten, de Haan, and de Groot, Bascavusoglu-Moreau, Gebreeyesus, and Akçomak. This is an important line of inquiry, as small firms predominate in the poorest developing countries and are also increasingly important in the advanced economies.

Audretsch and Sanders document the important role of small firms in the USA and other advanced economies, where their shares in employment range from 30 to 72 per cent (see also Acs and Audretsch 1993). Most new jobs emanate from small firms. Small firms account for a substantial share of value added; though this share is always lower than their share in the labour force, as small firms are less capital-intensive than large ones.

Voeten, de Haan, and de Groot show that alongside the large state-owned enterprises in Vietnam, there is a large and vibrant medium and small-scale sector which also engages in innovation. In Vietnam, small firms account for 99.9 per cent of establishments, 77.3 per cent of employment and approximately 26 per cent of GDP in Vietnam. Similarly, Bascavusoglu-Moreau emphasizes the importance of SMEs in Turkey. Turkish growth in the last decade relied heavily on the SMEs, whose dynamism derives from profitability and flexible labour markets. Small firms contributed 61.1 per cent to total Turkish employment around 2002 and 27.3 per cent to GDP. Gebreeyesus shows that microenterprises are the major source of employment and income for the urban population in Africa. He cites ILO statistics that indicate that microenterprises in the informal sector account for half or more of non-agricultural employment in the developing world and 72 per cent in Sub-Saharan Africa (ILO 2002). The same source suggests that these enterprises account for 41 per cent of non-agricultural GDP in Africa.
If we accept that small-scale enterprises are important in many developing
countries, in particular the poorest ones, the question arises how innovative
small-scale entrepreneurs can be. One should realize that most microenter-
prises are run by survival entrepreneurs, who may not be in the position to be
very innovative or dynamic. Three chapters (Voeten, de Haan, and de Groot,
Bascavusoglu-Moreau, and Gebreeyesus) explicitly zoom in on the question
how innovative small firms are and what determines why some entrepreneurs
are more innovative than others.

In Chapter 5, ‘Can Small Firms Innovate? The Case of Clusters of Small
Producers in Northern Vietnam’, Jaap Voeten, Job de Haan, and Gerard de
Groot present a strong case for the existence and importance of innovation in
small and medium-sized enterprises in Vietnam in the wider context of the
Vietnamese economic reform programme. Their chapter has two aims: meth-
odological and empirical. The methodological part discusses innovation con-
cepts, their relevance to SMEs in developing countries, and the ways in which
they can be operationalized in qualitative research. The authors discuss three
criteria for the identification of innovation: newness, value creation, and
process (which refer to interactions and learning). For each of these criteria,
the authors develop three operationalizations. The criteria for newness are
the occurrence of product and process innovations, observable differences
with past practices introduced by one actor and spreading to others and the
subjective perception that there is a breakthrough. The criteria for value
creation are lower input costs, higher sales volumes, market expansion, and
entry into new markets. The process criteria are somewhat less well-developed
than the others. They include feedback and interactions. One could argue that
interactions in a system of innovation are among the conditions stimulating
innovativeness, rather than being part of its definition.

Empirically the chapter considers handicraft clusters in four Vietnamese
villages, which have introduced innovations that are new to the firm, allowing
the firms to upgrade production and enter export markets. The innovations
were fairly simple ones, such as the introduction of a new gas oven for
ceramics, the introduction of new products like children’s sweets by cassava
producers, the establishment of new retail shops and broader product ranges
in silk weaving and tailoring, and the development of new processed bamboo
products sold directly to IKEA.

The authors apply their criteria for innovation to four rich qualitative case
studies and conclude that real innovation takes place in three of the four cases.
The only case which does not meet the criteria for innovation is that of
the processed bamboo cluster. Here the innovation was introduced from
outside by an NGO and the producers continued to remain dependent on
one single buyer, IKEA. In the other cases, the innovation originated from
within the cluster. There were many interactions with the outside world.
Innovative success was achieved in spite of the lack of systematic support or technology transfer from outside the cluster. The authors conclude that the Vietnamese system of innovation is still rather underdeveloped. It did not provide much support to the entrepreneurs in the cluster.

The chapter provides persuasive evidence for the existence of innovation capacity amongst small-scale artisanal producers in Vietnam. The authors also conclude that their innovation identification tool was effective in discriminating between innovating and non-innovating clusters.

The chapter defines entrepreneurship in a functional manner, but in fact it focuses exclusively on owner-operated small-scale firms. The innovations are simple innovations that are new to the firm, but which do contribute substantially to firm and cluster dynamism. The question does remain whether the success of the doi moi reform process in Vietnam depends on these small enterprises which only account for a quarter of GDP. But it is clear that these small firms are part of the larger process of dynamic transformation of the Vietnamese economy.

The next chapter by Mulu Gebreeyesus, ‘Innovation and Microenterprise Growth in Ethiopia’, focuses on microenterprises in the informal urban sector of Ethiopia. He analyses a dataset of 974 urban enterprises with less than ten persons engaged, collected in six major Ethiopian cities.

His concept of innovation is comparable to that of Voeten, de Haan, and de Groot. Everything that is new to the firm in the given setting is considered an innovation. This can include quality improvements, better design, increased variety of products, but also the installation of additional machinery, improvements of the premises, changes in accounting or marketing methods, or the hiring of skilled workers. Gebreeyesus argues that in the Ethiopian informal sector innovation is incremental rather than radical. It involves the adoption of product technologies, process technologies, or methods that have already been adopted elsewhere. They are new to the firm, but not to the world or the region, not even to the country or the industry (van Dijk and Sandee 2002). In total 333 firms (34 per cent of the sample) reported one of these kinds of innovation.

This chapter raises two main questions: what are the determinants of innovative performance and do innovative firms show more employment growth than non-innovative firms? These questions are tackled in a cross-section regression framework.

With regard to the first question, Gebreeyesus concludes that innovative performance is significantly related to a number of attributes of entrepreneurs and firms. Younger entrepreneurs are more likely to innovate than older ones, male entrepreneurs more than female entrepreneurs. Among the human capital variables only vocational training has a significant and positive effect on innovation. With regard to firm characteristics, larger firms tend to
innovate more than smaller ones. Older enterprises tend to innovate more than younger ones. This last finding somewhat contradicts the result that younger entrepreneurs innovate more. One would expect younger entrepreneurs to be associated with younger firms. However, the relationship between firm age and innovation is curvilinear. Beyond a certain age firms indeed become less innovative.

The most important finding with regard to employment (measured as the cumulative change in employment from 2001–3) is that innovativeness is positively related to growth. Innovative enterprises create significantly more job growth than other enterprises. This positive correlation between innovative performance and growth is observed, controlling for other relevant variables found in the literature, including credit constraints, firm age and size, and entrepreneur characteristics.

This chapter gives us valuable quantitative information and insights about entrepreneurs in the informal sector in an African low-income economy. However, it does not answer the question whether the microenterprises in the informal sector are a potential source of dynamism and growth in the economy at large. In Vietnam, Voeten, de Haan, and de Groot showed that the small-scale sector indeed plays this positive role. But other research on African entrepreneurship (e.g. Rooks, Szirmai, and Sserwanga 2010) indicates that most of the small-scale entrepreneurs are indeed primarily survival entrepreneurs who have little to contribute to the acceleration of growth in the wider economy. This question of the potential contributions of microenterprises to innovation and national dynamics is an important one, which should remain high on the research agenda.

In the last chapter in Part II, Chapter 7, entitled ‘Entrepreneurship and the National System of Innovation: What is Missing in Turkey?’ Elif Bascavusoglu-Moreau focuses on the national system of innovation as an important determinant of innovative performance of small and medium-sized enterprises in Turkey using data from a large-scale survey held amongst 50,000 Turkish SMEs in 2005. She finds very low levels of innovative activities amongst Turkish small firms. In the period 2004–6 only 31.4 per cent of enterprises were active in implementing innovations. The smaller the enterprise, the less innovative it seems to be. Bascavusoglu-Moreau investigates whether this weak innovative performance is due to a lack of entrepreneurial capabilities or due to shortcomings in Turkey’s national system of innovation.

Her analysis shows that Turkish growth rates in the last decade depend heavily on the performance of small firms. These firms can be drivers of growth, even without being very innovative. This implies that their contribution to growth would be even greater if they could become more innovative.

The chapter is based on a regression analysis, estimating a knowledge production function, with dummies for patents, trademarks, and utility
models as dependent variables, and a mix of firm-level and district-level variables as explanatory variables. Firm-level determinants of innovative performance include investment in R&D, use of ICT, export activities, outsourcing, educational level of employees, net current assets, and the firms’ ability to learn, such as certified management systems and/or quality labels.

Bascavusoglu-Moreau argues that the size of the shadow economy in Turkey is one of the obstacles to innovativeness. Though informality provides advantages such as low-cost and flexibility, it limits firms’ access to capital markets and traps potentially innovative entrepreneurs in low-productivity sectors. The choice for operating in the informal sector is encouraged by the heavy tax burdens on small firms.

The Turkish national innovation system proves rather weak at fostering the innovative performance of SMEs. Contrary to expectations, there is no stimulus to innovation coming from being located in industrial estates, nor from the size of these industrial estates. Furthermore, weak innovative performance seems due to financial constraints and a lack of market opportunities and support and incentive systems. One of the most pronounced weaknesses of the Turkish innovation system is the lack of cooperation and linkages between different actors. The elements of the innovation system are in place, but they do not interact sufficiently. The author reflects on policy implications to deal with these systemic weaknesses.

1.4.2 Policies and institutions for innovation in developing countries

In section 1.3.3, we highlighted that the extent of the market and appropriate innovation policies are important for innovation, given that innovation requires scale, specialization, and the exploitation of externalities. The extent of the market and the nature of innovation policies are often the result of the ‘reward structure’, or the institutional framework, found in a particular country. Good policies, and appropriate market incentives require good institutions. What are good policies and institutions for innovation in developing countries?

The question is so central to current debates on development and entrepreneurship, that all of the chapters in this book have some reference to policies and institutions. For instance, Audretsch and Sanders suggest that global developments and the closer integration of North and South through globalization will advance development in the South through technological innovation in the North. Amsden shows that historical legacies and national leadership have lasting impacts on the innovative behaviour of a country’s entrepreneurs. Stam and van Stel explicitly recognize that the quality of entrepreneurship (and its impact) will differ across different levels of institutions (proxied by development outcomes).
While all of the previous chapters have implications for policies and institutions, the chapters in part III of the book explicitly focus on these issues. The chapter by Bascavusoglu-Moreau (Chapter 7) provides a pivotal point in the book. Here, the emphasis starts to shift from the primary analysis of the impacts and determinants of innovation to the question how policies and institutions affect innovation in developing countries. Thus, she concludes from her analysis that the innovative weaknesses of Turkish small firms are more related to shortcomings in regional systems of innovation than a lack of entrepreneurial capabilities at firm-level. In many developing countries and emerging economies, there is an ample supply of entrepreneurship. Inadequate innovation performance therefore primarily reflects a lack of sound policies and appropriate institutions.

In Chapter 8 ‘Innovation Policy, Entrepreneurship, and Development: A Finnish View’, Otto Toivanen scrutinizes one of the most frequently applied instruments of innovation policy, namely R&D subsidies. He does this within a particular institutional setting that is the Finnish innovation support system. Although Finland is an advanced economy, it initially lagged behind the rest of Europe and then managed to converge rapidly. Furthermore, it has done so in particular through high-technology industrialization. As such, its experience is very relevant for emerging economies.

Toivanen argues that there are sound theoretical justifications for governments to provide R&D subsidies. This is due to the positive externalities that result from innovation—these include consumer surpluses and knowledge spillovers—as well as financial market imperfections that constrain innovative entrepreneurs. R&D subsidies address the problem of heterogeneity. In Toivanen’s words ‘firms, R&D projects, and innovations are highly heterogeneous…a policy that is optimal…should vary not only from firm to firm, but from project to project’.

Despite a strong theoretical case, Toivanen is at pains to point out that the complexity of crafting an appropriate R&D policy is significant, particularly given the informational challenges facing governments. Furthermore, while R&D subsidies can be useful to realize externalities and can be tailor-made to fit an entrepreneur’s needs, they also have a number of shortcomings as a tool to promote innovation in small enterprises. First, the application procedures are costly. Next, R&D subsidies are often paid out ex post, which means that they are not ideal for cash strapped firms, which might rather need up-front financing for innovation. In such cases, tax credits might be a viable alternative. Also, the process of tailoring R&D subsidies takes considerable time, during which firms may lose any potential first mover advantage from their innovations.

Toivanen concludes by pointing out that while the Finnish R&D system is well managed, it is still not clear how much this system contributed to the
country’s economic success. This is not to say that the well-run Finnish innovation system did not contribute towards the country’s growth and development—it is a very likely candidate—(see also Autio and Parhankangas 1998; Autio and Yli-Renko 1998). However, its precise contribution needs to be understood within the broader context of Finland’s post-Second World War development strategy, which, in addition to the promotion of innovation, also included heavy government intervention in terms of investment, credit rationing, wage moderation, as well as repeated devaluations. Readers interested in Finland’s post-war catch-up are referred to Jäntti and Vartiainen (2009).

Toivanen warns that it is not clear to what extent the Finnish R&D system can be copied by developing countries. It requires well-developed institutional and administrative capabilities, which are not available in all countries. He stresses that any effective innovation support system will require prior investments in education, labour skills, and human capital. Thus, the Finnish experience will probably be more relevant to emerging economies in Latin America, than developing countries in Sub-Saharan Africa.

The next chapter (Chapter 9) by Sunil Mani is entitled ‘Promoting Knowledge-intensive Entrepreneurship in India’. The chapter starts out by demonstrating how important private technology-based entrepreneurial firms have been for the acceleration of economic growth in India in the second half of the 1990s. Mani takes a clear position in the debate on liberalization in India. He argues that the post-1991 liberalization provided key institutional changes, which created new opportunities for dynamic entrepreneurship, in essence by expanding the market. These changes included the abolition of a variety of regulations governing and limiting entry of new firms and expansion, diversification of industrial activity, and acquisition of technology from abroad. Licensing was discontinued, foreign firms were allowed to enter the economy, acquisition of foreign technology became much easier, and reservations for public sector enterprises were abolished.

Mani documents the growth in entrepreneurship and its increasing knowledge-intensity. After 1992, an average of 34,000 new firms were established each year. Especially since 2003/4 an increasing share of these firms was technology-based, for instance in IT software, biotechnology, aerospace, and telecoms.

The remainder of the chapter outlines the policy and institutional environment that gave rise to the growth in knowledge-intensive entrepreneurship in India. Mani identifies five broad facilitating factors: (i) the liberalization of the economy that created many new market opportunities, (ii) the general increase in financial resources for innovation and entrepreneurship, including in particular venture capital, (iii) a rise in government support programmes and public-private partnerships, (iv) the emergence of private institutions and
initiatives to complement government support programmes for innovation, and (v) the increased availability of skilled labour, essential for high-technology products and services.

Mani stresses four key policy challenges for the government, namely (i) to create the right environment for doing business and starting new enterprises, (ii) to ensure the formation of skills, (iii) to ensure access to risk capital, and (iv) to facilitate networking and organizational learning. By and large, Mani comes to a positive assessment of Indian policy reform. But as the chapter by Athreye also makes clear, major challenges remain.

One novel government-led initiative was the establishment of business incubators. Mani points out that by 2007 there were already 40 incubators in India—a number that is still relatively small compared to other countries, but of sufficient importance for Mani to describe it as ‘an experiment which is worth watching’.

The role of incubators in developing countries comes under detailed scrutiny in Semih Akçomak’s chapter ‘Incubators as Tools for Entrepreneurship Promotion in Developing Countries’. Akçomak starts off by revisiting some of the determinants of innovation discussed in greater detail in Part II of this book. He provides a useful reminder that the predominantly small firms in developing countries face many size-related disadvantages, and that ‘small size is an important constraint for process and product innovations’. In developing countries this constraint is often compounded by poorly functioning formal institutions, a difficult business environment, a lack of support and complementary inputs, including human capital. These constraints to innovation resonate with Mani’s analysis of the ways in which India’s policy and institutional reforms contributed to the increase in process and product innovations since 1991.

Incubators have been used in a growing number of countries over the past two decades as a tool to help alleviate the constraints on innovation mentioned in the previous paragraph. Incubators differ from related policy instruments such as industrial estates, techno parks, and science parks, in terms of higher technology levels and higher degrees of management support. Incubators are increasingly being adopted by developing countries in order to overcome some of the weaknesses in their institutional environment. Akçomak provides an overview of the extant literature on incubators, as well as a novel typology of incubators. Incubators are classified along two dimensions: profit versus not-for-profit and general versus specific. He also describes their evolution over time. The new generations of incubators developed since 2000 are both for profit and highly specific. In contrast, the oldest generations of incubators set up in the 1960s were general and not-for-profit.

The chapter reviews the evidence of the effects of incubators and discusses country case studies for Brazil, China, India, and Turkey. He concludes that
the challenges faced by incubators should not be underestimated. There is no guarantee that an incubator will succeed in fostering innovation and the creation of sustainable new (innovative) firms. To maximize the chances of success he sets out eight dimensions of a good incubator policy. Success factors include (i) clarity of mission and purpose, (ii) clear selection, entry and exit criteria, (iii) managerial capacity and incubator management skills, (iv) regular monitoring and performance evaluation of participating firms, (v) strategic selection of services, minimizing start-up costs, and red tape, (vi) focus on intangible services rather than tangible services such as office space or infrastructure, (vii) promoting networking as a deliberate strategy, and (viii) financial sustainability. Incubators should eventually become financially self-sustaining and less dependent on public funding.

In the final chapter, Chapter 11, ‘Overcoming Adversity in Entrepreneurship-led Growth: Evidence from the Indian Software Sector’, Suma Athreye analyses the interplay of institutions and business strategies. While Mani emphasized the importance of liberalization and institutional reform since 1991, Athreye highlights the role of the adverse environment and the difficult conditions for doing business in the pre-reform period. Athreye tackles the puzzle of how entrepreneurs succeeded in innovating in an often deeply adverse environment, characterized by overregulation, high cost of doing business, weak enforcement of property rights, poor capital markets, and underdeveloped markets. Remarkably, Indian software firms found a way around all these obstacles, by creatively choosing appropriate business models and capitalizing on abundant and cheap high skilled labour. Adversity promoted creativity. Athreye discusses a wide range of business models, but the main model was the outsourcing model, where Indian software firms provided services for international clients and used this process to develop their own capabilities.

Her second finding is that the very success of the software industry was a source of improvement in the institutional environment. In this respect she is interested in the phenomenon of ‘institutional entrepreneurs’. An institutional entrepreneur has been described as ‘an innovative person who starts or expands his business venture and in the process helps destroy the prevailing non-market institutions in order for his business to be successful’ (Li, Feng, and Jiang 2006: 358). Li, Feng, and Jiang describe the case of institutional entrepreneurship in China. The chapter by Athreye provides a useful complement to their work, dealing with India where the initial institutional environment and policy challenges were very different. Indeed for Athreye there is little doubt that, just as institutional and policy improvements stimulated China’s impressive growth, this was also the case in India after 1991. In her words ‘the spectacular growth of industry in the 1990s was also marked by an improvement in the institutional infrastructure surrounding the software
outsourcing industry, which generally served to ease constraints on the industry’s further growth. These included capital and labour market reform, better access to finance, improved IP protection and contract enforcement’. The crux of the chapter is that these changes in the policy and institutional environment for innovation were brought about not by the government taking the lead, but through institutional entrepreneurship. As she puts it, ‘the impetus for institutional reform has not come from the government, international institutions or their advisors, but primarily from the business sector itself’. The sectoral organization NASSCOM acted as an effective lobbyist for institutional reform, which then spread to other sectors of the economy.

This chapter highlights the endogenous nature of institutional change as against the view that one first needs a major overhaul of institutions in order to remove obstacles to growth (c.f. Rodrik 2006). But a key question remains: why did the Indian entrepreneurs overcome institutional constraints, while this did not always happen elsewhere? Athreye seeks part of the answer to this question in the sustained period of buoyant export demand for IT services, which allowed Indian entrepreneurs to circumvent domestic constraints.

1.5 Conclusion

Entrepreneurship can contribute in important ways to economic development. One way it does this is through innovation, which involves the development of new products, new processes, new sources of supply, but also the exploitation of new markets and the development of new ways to organize business. However, not all entrepreneurs innovate. A better understanding of the determinants and impacts of innovation in developing countries and the policies and institutions that support or hinder innovation is the central contribution of the chapters of this book. Without detracting from the wealth of detail contained in the various chapters, we conclude this introduction by spelling out three general lessons.

First, the impact of innovation is important across different countries and institutional contexts. But the nature and role of innovation will differ at different levels of economic development. Entrepreneurs in low-income developing countries provide innovations that are important for firm and country growth, even if they are incremental in nature. Innovation in developing countries involves the process by which firms master and implement the design and production of goods and services that are new to them. Many small improvements in product design and quality, changes in the way production is organized, creativity in marketing and modifications in production processes and techniques reduce costs, increase efficiency and flexibility to
respond to changes in competitive conditions and enhance productivity and employment growth. In emerging economies innovation involves upgrading and shifting to higher levels of technological sophistication. These findings give lie to the belief that innovation matters only for the most advanced economies. Innovation plays an important role in catch-up and growth in a globalized economy. First and foremost this is due to the varied innovations realized by local entrepreneurs in developing countries. But it also depends on the activities of entrepreneurs in advanced economies, where innovations are generated that subsequently spread to developing countries, to be applied in their particular local contexts.

Second, the conditions under which entrepreneurs innovate in developing countries are very diverse. This book deliberately sets out to cover a wide range of countries, utilizing a variety of quantitative and qualitative research methods, and focusing on different types of firms, ranging from SMEs and informal sector firms to large multinationals. Large and small firms can both be innovative, but in very different ways. In this book special emphasis has been given to small and medium-sized enterprises, since these predominate in many developing economies. They contribute to growth, but not optimally since they also face particular constraints to innovation. How entrepreneurs respond to these challenges depends on the characteristics of the entrepreneurs such as education, age, managerial experience, and access to networks.

Third, the policy and institutional environment is an important determinant of entrepreneurs’ innovative behaviour. This explains why entrepreneurs with very similar characteristics and features may differ in their innovative performance. An effective system of innovation and a supportive institutional environment is required to spur innovation. Several of the chapters have pointed to the need for direct and indirect government support for innovation. This can take many forms, including improvements in the environment for doing business, R&D subsidies, provision of risk and venture capital, tapping into the potential of migrant workers and diasporas, expanding technical and managerial education, improving infrastructure, and active public–private partnerships. Sometimes, even an adverse environment can spur innovative behaviour, and entrepreneurs themselves may become the drivers of policy and institutional change, rather than only being determined by their environments.

Entrepreneurs’ innovation will be of increasing importance given the current and future challenges facing global development. These include persistent global inequalities, growing vulnerability of countries to external shocks, including financial crises, natural disasters, and the threats of climate change. To meet these challenges—which are also opportunities—innovative entrepreneurship is indispensable. In the light of these challenges, the very concept of entrepreneurship needs to be broadened. In particular, we envisage growing
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roles for social entrepreneurship, public entrepreneurship, institutional entrepreneurship, and even non-state sovereign entrepreneurship. These topics fall outside the scope of the present book, and constitute an agenda for future research.

Two further areas for future research emerge from this book. First, there is a need to better understand the innovative contributions of different types of firms and different types of entrepreneurship in different country settings. Is innovation driven by dynamic small and medium-sized firms or by large conglomerates? What are the respective contributions of domestic and multinational firms? What role can public enterprises play in innovation? What is the innovative potential of the millions of microenterprises in developing countries? We have learned from the contributions in this book that different types of entrepreneurship predominate in different settings and at different levels of development. But we need to go beyond this, to try to identify patterns which are appropriate for different settings and levels of development.

Second, various authors in this book have pointed to the crucial relationship between institutions and entrepreneurs in the process of innovation. High on the research agenda remains the question why in some cases the institutional environment effectively stifles innovative behaviour, while at other times entrepreneurs can find a way around the obstacles? There may be special windows of opportunity, as in the case of the software sector in India. It would also seem that the overall level of development plays a role here. In emerging economies such as China, India, and Turkey the foundations for the rise of innovative firms have been laid. Firms can develop and prosper in spite of a variety of institutional shortcomings, because there are sufficient business opportunities and incentives. In a low-income setting the institutional constraints may well be overwhelming.

We have learned that entrepreneurs are not only passive victims of obstacles. They can actively shape institutions. How this happens, and how such institutions stimulate further innovation, needs to be further examined. Finally, the appropriate design of institutions, organizations, and policies to promote both entrepreneurship and innovation remains a formidable challenge, complicated not only by the lack of sufficient government capacity and resources in developing countries, but also by a lack of rigorous, evidence-based research. An important task awaits researchers interested in working at the intersection of the fields of entrepreneurship, development economics, and innovation studies. We hope that this book will stimulate further research in these directions.
Notes

1. For instance, Acs and Szerb (2009) and Porter et al. (2004) argue that economic development proceeds through three stages: (i) a factor-driven stage, (ii) an efficiency-driven stage, and (iii) an innovation-driven stage. Hence it is only at advanced levels of development that growth is believed to be ‘innovation-driven’. Acs and Szerb (2009: 351) report estimates in which innovation accounts for ‘only about 5 per cent of economic activity’ in poor countries, compared to 30 per cent in advanced economies.

2. There are many definitions of entrepreneurship, because it is studied from a great variety of disciplinary perspectives. Within economics, however, there is a large degree of concurrence of definitions (Casson 2003). The definition we use here is consistent with most definitions in the fields of economics and management.

3. There is a wide variety of definitions of innovation, which are reflected in the various chapters in this book. The Oxford Handbook of Innovation shies away from a formal definition of innovation, but presents some key characteristics of innovation. Chapter 5 of this book provides a useful overview of the different definitions and concepts.

4. In the development literature on innovation the relevance of traditional secondary indicators is questioned for the poorest developing countries, where firms hardly do any formal R&D nor apply for patents. Instead innovation surveys are increasingly used as a tool for measuring technological and innovation activity in firms. The new-to-the-firm aspect of the innovation concept that is key to the innovation surveys indeed allows studying the distinguishing characteristics and strategies of innovating firms, at any stage of economic development of the country (UNU-INTECH 2005; OECD/EUROSTAT 2005).

5. As documented by Aubert (2004: 6) ‘innovation policy’ originated in the 1964 ‘Charpie Report’ which was submitted to President Johnson.

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Overview


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