The Role of Entrepreneurship in Transforming the Nigerian Economy

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1. Introduction

Nigeria, the most populous country in Africa, is naturally endowed with millions and millions of acres of arable land, 38.5 billion barrels of stated oil reserves, vast gas reserves, a variety of unexploited minerals, and a wealth of human capital by virtue of its estimated population of 150 million. It is the world’s eighth largest exporter of oil, and Africa’s second largest economy, after South Africa. Nigeria accounts for 15 per cent of Africa’s population, contributes 11 per cent of Africa’s total output and 16 per cent of its foreign reserves while it accounts for half of the population and more than two-thirds of the output of the West Africa sub-region. It has been at the forefront of the resolution of many political challenges in Africa. Over the last decade, Nigeria has implemented far reaching economic reforms aimed at improving macroeconomic management, liberalizing markets and trade, and the business environment. The recent developments on the Niger Delta agenda is a sign of the commitment and determination of the government to address its seven-point reform agenda which covers critical reform priorities, notably, essential infrastructure, Niger Delta regional development, food security, land tenure reforms and home ownership, national security and wealth creation. In recognition of this progress, the United Nations Development Program (UNDP) indicated that recent improvements in development policy and performance mean that the country now benefits from a positive medium-term economic outlook.¹

¹ UNDP, Nigeria - UNDAF II 2009-2012.
However Nigeria, still falls far short of the economic and social progress required to impact the well being of the average Nigerian given that over half of Nigeria's population live on less than one dollar a day. Nigeria is also one of the top three countries in the world that have the largest population of poor people. In addition, Nigeria remains off track on achieving the Millennium Development Goals

**Figure 1**

<table>
<thead>
<tr>
<th>Country</th>
<th>Ranking</th>
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<tbody>
<tr>
<td>Norway</td>
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<td>Australia</td>
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<td>Afghanistan</td>
<td>181</td>
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<tr>
<td>Niger</td>
<td>182</td>
</tr>
</tbody>
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Source UNDP Human Development Index Report 2009
(MDGs), including the goal of halving the number of people who live in extreme poverty The economic reforms have not been sufficient to reverse years of economic decline, deteriorating capacity, weakened institutions and inadequate infrastructure investment while the recent dramatic stock market decline and banking crisis, and the global economic crisis have accentuated the situation.

The enormity of the challenge is corroborated by Nigeria’s low score on the Human Development Index (HDI), an index that measures the average achievement of a country in terms of the welfare and quality of life of its people. As shown in Figure 1, Nigeria ranks behind numerous countries with similar sized economies and with a rank similar to smaller economies like Liberia and Malawi. At 10 percent of live births, Nigeria’s infant mortality rate is one of the highest in Africa and is worse than those of Ghana, Burkina Faso, and Benin respectively at 6, 8, and 9 percent. In 2010, it is estimated that 25 million children will be born in Nigeria, and about 5 million children will die before they reach the age of five, representing about 10 percent of global childhood deaths. Very few Nigerians have access to essential drugs and there are 3 physicians per 10,000 people, while skilled professionals assist only one third of deliveries. Immunization coverage fell from around 30 percent in the early 1990s to 13 percent in 2003. Access to safe drinking water in 2006 was limited to about 47 percent of the population (30 percent for the rural and 65 percent for the urban population). Estimates suggest that some 35,000 children under five die each year due to lack of safe water and sanitation. Debilitating non-fatal cases of diarrhea are estimated at around 21 million per year.

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5 Ibid.
The education enrolment rates are low. In 2002, enrolment figures stood at 24.6 million for primary and 6.3 million for secondary education.\textsuperscript{6} The quality of schooling is adversely affected by large class sizes, limited pupil-teacher contact, lack of teaching materials and equipment, and widespread lack of qualified teachers (23 percent of teachers do not have Teachers Grade 2 Certificate). The state of tertiary education poses an even greater challenge. Of those students who do complete secondary education, only 15 percent are admitted into tertiary education, with total enrolment at only 948,000. Tertiary education suffers from poor funding, enrolment expansion beyond the capacity of facilities, and low educational quality.

Poor access to infrastructure also affects a large percentage of the population. Only about one in every three households in rural areas has electricity and even when it is available, the supply of electricity is often unreliable. Forty per cent of electricity is generated privately and at a cost that is three times higher than electricity supplied from the grid\textsuperscript{7}. Fostering the private sector and entrepreneurship depends on a supportive business environment, yet Nigeria’s business climate lags behind many countries in comparable positions.

\textsuperscript{6} UNESCO UIS Data  
\textsuperscript{7} Ramachandran et al, Africa’s Private Sector, 2008
The Doing Business Index ranked Nigeria an aggregate 125 out of the 183 economies assessed. Nigeria’s rank for each of the ten sub-indices is as follows: Ease of Doing Business 125, Starting a Business 108, Dealing with Construction Permits 162, Employing Workers 37, Registering Property 178, Getting Credit 87, Protecting Investors 57, Paying Taxes 132, Trading Across Borders 146, Enforcing Contracts 94 and Closing a Business 94. In comparing the countries listed in Figure 2 that have relatively good Doing Business scores, they all had very good scores with respect to the ease of getting credit.

The United States, on the other hand ranks third in the world in the overall ease of doing business according to the International Finance

<table>
<thead>
<tr>
<th></th>
<th>Nigeria</th>
<th>South Africa</th>
<th>Malaysia</th>
<th>Kenya</th>
<th>Brazil</th>
<th>Israel</th>
<th>Latvia</th>
<th>Singapore</th>
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<td>34</td>
<td>23</td>
<td>95</td>
<td>129</td>
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<td>27</td>
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<td>Starting a Business</td>
<td>108</td>
<td>67</td>
<td>88</td>
<td>124</td>
<td>126</td>
<td>34</td>
<td>51</td>
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<tr>
<td>Employing workers</td>
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<td>102</td>
<td>61</td>
<td>78</td>
<td>138</td>
<td>90</td>
<td>128</td>
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<tr>
<td>Registering property</td>
<td>178</td>
<td>90</td>
<td>86</td>
<td>125</td>
<td>120</td>
<td>147</td>
<td>58</td>
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<tr>
<td>Getting credit</td>
<td>87</td>
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<td>4</td>
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<tr>
<td>Protecting investors</td>
<td>57</td>
<td>10</td>
<td>4</td>
<td>93</td>
<td>73</td>
<td>5</td>
<td>57</td>
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<tr>
<td>Enforcing contracts</td>
<td>94</td>
<td>85</td>
<td>59</td>
<td>126</td>
<td>100</td>
<td>99</td>
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<tr>
<td>Closing a business</td>
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<td>79</td>
<td>131</td>
<td>41</td>
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</table>

Sources: World Bank/IFC Doing Business Rankings 2009

Figure 2
Doing Business Rankings – the importance of credit

Corporation (IFC) Doing Business Index, because the regulatory and legal environment in the United States including policies related to technology transfer, patent protection and contract enforcement are widely acknowledged to be the most supportive for fostering
entrepreneurs. Similarly, the other countries that are ranked highly have generally implemented wide ranging reforms, including macro-stabilization programs, price liberalization, privatization, and reducing trade barriers. They recognize that a growing economy thrives on a vibrant private sector in which firms are making investments, creating jobs and improving productivity is a crucial ingredient. They have used the policy environment to garner the entrepreneurial abilities of their population. While Nigeria has made progress in implementing reforms, more needs to be done as Figure 3 shows that almost half of survey respondents to the 2007 Africa Competitiveness Report ranked access to finance, inadequate infrastructure and corruption as their top three impediments to doing business in Nigeria.

Figure: 3
Similarly, in a 2008 report commissioned by the World Bank to assess the challenges confronting businesses in Nigeria a wide array of issues were identified as constraints to doing business. These include poor electricity supply, inadequate access to finance, poor transportation,

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**Figure 4**

**Corruption Perception Index**

<table>
<thead>
<tr>
<th>Country</th>
<th>Ranking</th>
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<tbody>
<tr>
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<td>Denmark</td>
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<tr>
<td>Somalia</td>
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</tbody>
</table>

Source: Transparency International Corruption Index Report, 2009

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8 See [http://www.doingbusiness.org/exploreeconomies/?economyid=143](http://www.doingbusiness.org/exploreeconomies/?economyid=143).
unfriendly tax regime, poor access to land, high cost of finance, crime rate, corruption, political environment, customs and trade regulations, inadequately trained workforce and labor regulations. The report identified three issues as being the most critical impediment to doing business, power, transportation, and access to finance. In the 2009 Corruption Perception Index published by Transparency International, a global anti-corruption watchdog, Nigeria scored 130 out of the 180 countries surveyed, dropping nine places compared to one year ago. Nigeria also ranked 10th out of the 16 West African countries, 27th out of the 47 nations surveyed in sub-Saharan Africa, and 33rd out of the 53 countries in Africa. Botswana emerged first in both sub-Saharan Africa and the continent as a whole with a global ranking of 37 and a score of 5.6, while Cape Verde was ranked the best perceived corruption-free nation in West Africa with a score of 5.1 and a global ranking of 46. Ghana came second in the region, with a score of 3.9, a global ranking of 69th, and 7th for sub-Saharan African and Africa as a whole.

Corruption in politics; the law enforcement system, including both the police and the judicial system; taxes; and procurement specifically affects entrepreneurs. Corruption in these areas creates supply and demand distortions, favoring those entrepreneurs who have connections in the public administration, and creates disincentives to invest in human capital. The effect of corruption on entrepreneurship is even more insidious as corruption that develops to circumvent regulation and the high transaction costs that inevitably accompany it serve as taxes on entrepreneurs and SMEs, and disproportionately impact them more than larger firms.

Oil still accounts for 95% of exports and 81% of government revenues, making Nigeria, the economy with the most highly concentrated export structure in the world, based on the United Nations Commission on Trade and Development (UNCTAD) 2008 data. It also exposes Nigeria to incredible fiscal challenges as exemplified by the recent decline of oil prices from a peak of USD 147 per barrel to a low of USD 40 per barrel. This is despite the government’s laudable efforts to
diversify the economy, as since 2001, the non-oil economy has accelerated by more than 8 per cent, with increased agricultural production playing a key role.

In separate reports, the National Institute for Social Research (NISER) and the World Bank revealed that over 55 per cent\(^9\) of Nigerians of working age are unemployed, representing one in five adults. The World Bank report also indicated that only one in every ten graduates get a job while a recent report by the National Directorate of Employment (NDE) indicated that over 200,000 Nigerian graduates who completed the National Youth Service Corps (NYSC) in the last five years, remained unemployed.

Given the challenges that bedevil Nigeria, this paper advocates for the inclusion of entrepreneurship at the forefront of its economic development agenda. Entrepreneurship as a cornerstone of development strategies for emerging economies has garnered support among a broad spectrum of scholars, policymakers and governments. Many emerging economies as diverse as El Salvador, Israel, Latvia, Uganda, Vietnam, are making significant strides in realizing their entrepreneurship potential in addition to more well known examples such as China and India. **Following this introduction on Nigeria's economic development challenge, the paper reviews entrepreneurship as a concept, outlining the relationship with innovation and social entrepreneurship. It also presents a holistic framework for assessing entrepreneurship and economic development covering the individual, firm and macro levels, and outlines the roles of stakeholders at each level, in fostering entrepreneurship. It concludes by calling on all stakeholders to play their part in leveraging entrepreneurship to unleash the wealth of human capital that Nigeria is endowed with so that more people can participate in the transformation of Nigeria.**

\(^9\) Financial Standard June 2009
2. Entrepreneurship

The concept of entrepreneurship is nebulous and many academic disciplines have contributed their perspectives on the concept of entrepreneurship, including psychology (Shaver & Scott, 1991), sociology (Thorton, 1999), economics (Schumpeter, 1934 and 1949) and management (Stevenson, 1985). An economist views entrepreneurship in the context of the combination of resources, labor, materials, and other assets such that their value is greater together than individually. From a management perspective, entrepreneurship would entail the introduction of a change, an innovation, or a new order. To a psychologist, an entrepreneur would be analyzed as a person typically driven by the need to obtain or attain a specific goal, to experiment, to accomplish, or perhaps to escape the authority of others. There is very little consensus on the definition of the term entrepreneur both within and across disciplines, most definitions nonetheless highlight qualities

"Fortes fortuna adivat"
Fortuna, the Goddess of luck is more likely to help those who take risks, take action and develop their skills proactively
Latin Proverb

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such as competitiveness, creativity, and the ability to grow a business.\textsuperscript{11} Early this century, the concept of innovation was added to the definition of entrepreneurship. Innovation could be process innovation, market innovation, product innovation, factor innovation, and even organizational innovation. Both innovators and entrepreneurs can be engines of growth in a society. They invest in risky ventures, they bring new products to the market, and they adopt new production processes or improve existing processes. Later definitions described entrepreneurship as involving the creation of new enterprises with the entrepreneur as the founder.

\textsuperscript{11} Wennekers S, Thurik L (1999) Linking Entrepreneurship and Economic Growth. Small Business Economics 13 27-55 reviewed the literature and provided more than thirteen different definitions.
Student Entrepreneurs

Google
The quintessential account of innovators turned entrepreneurs are Larry Page and Sergey Brin of who founded Google while they were students at Stanford University. Brin is the son of Russian immigrants of modest means. They are both still students on the doctoral program at Stanford from which they are on sabbatical. The company was incorporated as Google Inc. on 4 September 1998 at a friend's garage in California with start-up capital of approximately $1.1 million. IN a very short time, the Google search engine attracted a loyal following among a growing number of Internet users, who liked its simple design and useful results. As of March 31, 2009, the company has 19,786 full-time employees with assets totaling over $31 billion.

Facebook
Similarly, Mark Zuckerberg with the help of Andrew McCollum both Computer Science students of Harvard University, created Facebook. The success of the project on their University campus made them enlist the support of their roommates to spread the system, first to other US Ivy League universities. Facebook has now become a worldwide social networking site and youth movement. In 2007, a 1.6 per cent stake of Facebook was sold to Microsoft for USD 240 million, thus valuing the venture at over

A possibly worthwhile framework for analyzing the relationship
between entrepreneurship and innovation is that the outer framework characterizing entrepreneurship embraces an incremental innovation process which culminates in an entrepreneurial event that results in a new commercial discovery or the exploitation of an existing commercial application. The Austrian economist Josef Schumpeter described the entrepreneur as a change agent and a central element in economic development.

**Entrepreneurship – An open ended concept**

Skype and Apple's iTunes, two examples of innovations that have fundamentally impacted society, also illustrate that entrepreneurship is an open ended concept. Skype (Janus Friis) took the well developed platform of voice-over-IP and integrated it into a portfolio of services based around the concept of 'free' calls over the internet. By providing free high quality global telephony for users subsidized by connection fees to traditional fixed and mobile phones, Skype has clearly taken the lead with many of the world's traditional telecommunication companies now playing catch. In 2005, eBay acquired Skype for USD 2.6 billion. Similarly, Apple's iTunes (Steve Jobs) exploited the unique connection of dedicated supply of software to a range of hardware to create a virtuous self-supporting community that is both driving growth in uptake and simultaneously redefining how the music industry functions. None of these two organizations are using a specific new technology, or fundamentally changing the consumer experience with respect to communicating on the phone or listening to music. Instead, they are using the design of their business model and the associated redistribution of margins and costs to offer customers services at costs that are far less than the existing music and telecommunications industries can provide. It is therefore unimportant whether the entrepreneur is the person who provokes change or merely adjusts to it. Entrepreneurship is largely an open-ended process that creates opportunities through an ambition to grow, change or transform.
Social Entrepreneurs

Equally important, particularly in the context of Nigeria is the emergence in the literature of the concept of social entrepreneurship. Some have defined social entrepreneurship as applying commercial practices to social problems and social entrepreneurs as entrepreneurs that use business skills and knowledge to create enterprises that accomplish social purposes, in addition to being commercially viable. \(^\text{12}\) Others define the concept as a mechanism for fostering innovation within the context of the myriad of social problems that we face and focus more attention on the innovative arrangements that resolve social problems, rather than economic viability. \(^\text{13}\) A third definition sees social entrepreneurship as a vehicle for engendering social transformation beyond the solution of the social problems as initially conceived. With this definition, small changes in the short term reverberate through existing systems to catalyze large changes in the longer term. \(^\text{14}\)

"Transformative forces - people with new ideas to address major problems, who are relentless in the pursuit of their visions, people who simply will not take ‘no’ for an answer, who will not give up until they have spread their ideas as far as they possibly can". 

David Bornstein

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Comments and suggestions contributed from the Social Entrepreneurship Funders Working Group.

The Green Belt Movement (GBM)

Wangari Maathai, the 2004 Nobel Peace Laureate and the National Council of Women in Kenya established the GBM in 1977. The Movement organized small groups of poor community members in both rural and urban settings to grow, plant, and care for trees in “greenbelts” on public and private land. The Movement has organized more than 6,000 groups in poor villages and urban areas throughout Kenya and has planted over 30 million trees. Over the last 10 years, GBM has adopted a “conscientization” approach to mobilize community consciousness for self-determination, equity, improved livelihoods, and environmental conservation. It has helped hundreds of grassroots leaders to advocate for social, economic, and political justice.

GBM facilitated the planting of 30 million trees in Kenya and successfully mobilized 50,000 Kenyan households to care for the environment and improve their own welfare.

Internationally, GBM has an ambition to plant 1 billion trees and now facilitates a Pan-African Network to assist “green conscious” and social justice groups in other African countries in developing similar approaches to community mobilization.
Social entrepreneurship melds significant components of the three approaches outlined above. It mixes the passion of laudable social goals with the rigor of business discipline, innovation, and determination commonly associated with, for instance, the high-tech pioneers of Silicon Valley. Social entrepreneurship represents the practice of responding to market failures with transformative, financially sustainable innovations aimed at solving social problems. It has emerged and developed at the nexus of the public, private, and nonprofit sectors often times borrowing solutions to complex problems from the different sectors. While the concept is not a new phenomenon, what accounts for its current saliency in the social, economic, and political landscape is the ability to meld the qualities of innovation, risk-taking, and large-scale transformation. For social entrepreneurs, the social mission is explicit and central. This obviously affects how social entrepreneurs perceive and assess opportunities. From the perspective of finding solutions to the development challenge in Nigeria, social entrepreneurs serve as catalysts for social transformation. More specifically, these social entrepreneurs foster innovative solutions to the myriad of immediate social problems that we face in our society. This sort of social entrepreneurialism can mobilize the ideas, capacities, resources, and social arrangements required for long-term, sustainable, social transformation. In this context, the role of each individual in our society is key. Unlike traditional business entrepreneurs, social entrepreneurs have a “social mission” and primarily seek to generate “social value” rather than profits. They are individuals who have the potential to transform people”s lives, with innovative solutions to society”s most pressing social problems. Social entrepreneurs act as the change agents for society, seize opportunities others miss in order to improve systems, invent and disseminate new approaches and advance sustainable solutions that create social value. They are ambitious and persistent, tackling major social issues and offering new ideas for wide scale change.
Alternative Health Care – The Aravind Model

The social problem was the sheer size of people affected by blindness in India and the challenges associated with providing health care to them. The Government alone could not cater for all the eye care needs of the country. Realizing this predicament, Dr. Venkataswamy established an alternate health care model that would supplement the efforts of the Government and also be self-supporting.

Aravind has grown from an obscure clinic in southern India to the largest eye care facility in the world. The Aravind Eye Care System is the largest and most productive eye care facility in the world, every year dealing with an astonishing 2.4 million outpatients and conducting eye surgery on more than 285,000 people at its five hospitals in southern India. Despite the fact that two-thirds of the patients are treated for free, the hospital still manages to make a profit which it reinvests in expanding the Aravind eye care system.

Its model is so effective that it has been copied by around 250 eye care hospitals across the globe. The innovation was to take philanthropic idealism and turn it into a self-sustaining business by following some of the concepts and principles that underpin the leading fast food chains like McDonald’s, serving up eye care on the using the same principles as the most successful chains.

The entrepreneurial landscape (both the social and business) contains a diverse group of enterprises that cut across the small self-employed craftsman to the innovative, high-tech oriented growth companies, with the ardent social entrepreneur in between. These entrepreneurs
vary vastly even if they share some similar objectives. For the self-employed worker the main expectation and objective may be to employ him or herself and enjoy a decent level of income and standard of living. Conversely, the main objective of an innovative company is, or should be, value creation, rather than growth. This value creation is achieved by combining skillful resources and building a successful management team to launch competitive innovation in a growing market. Regardless of the vehicle for entrepreneurial growth selected by the entrepreneur, the basic individual process and temperament are likely to be the same. The entrepreneur is probably obsessively driven to succeed, a good listener, team builder, player or follower, attentive to the market, aware of her/his surroundings, focused on long-term goals but continually adapting to changing environments; and always looking for new opportunities to grow and innovate. These attributes are key to success in whatever you do, and indeed to significantly impacting society.

3. **Entrepreneurship and Economic Development**

For many developing countries, entrepreneurship has been a powerful engine of economic growth and wealth creation, and is crucial for improving the quality, number and variety of employment opportunities for the poor. It has several multiplier effects on the economy, spurs innovation, and fosters investment in people, which is a better source of competitive advantage than other natural resources, which can be depleted. Entrepreneurs create new enterprises, new commercial activities, and new economic sectors. They generate jobs for others; they produce goods and services for society; they introduce new technologies and improve or lower cost outputs; and they earn
foreign exchange through export expansion or the substitution of imports.

The Global Entrepreneurship Monitor, a research program aimed at assessing the national level of entrepreneurial activity in selected countries, conducted an entrepreneurship and economic growth study on 48 countries in 2008.\textsuperscript{15} According to the study, the economic growth of a country is directly correlated to its level of entrepreneurial activity. In particular, there is a high correlation between economic growth and entrepreneurial activity in industrialized countries. For instance, the American economy is well known for its flexibility, adaptability, and grasping of opportunity partly because of a prevalence of entrepreneurial culture in the United States. According to the report, Countries that are able to replenish the stock of businesses and jobs and have the capacity to accommodate volatility and turbulence in the entrepreneurial sector are best placed to compete effectively. Entrepreneurs therefore play a key role in addressing poverty through their contributions to economic advancement and social empowerment.

The relationship between policy and entrepreneurial activity varies across countries. Dutz, Ordover, and Willig (2000) explore the relationships between entrepreneurship and economic development in low-income countries. In this context, they suggest that two policies are critical for promoting growth. First, to arrest the

\begin{quote}
If you look at any economic miracle, any economic advance that's taking place in the world today, and put aside a few cases where oil or other resources created that one opportunity, with that one exception, it's all driven on the investment in human resources.

\textit{Bill Gates}
\end{quote}
diversion of entrepreneurial talent toward nonproductive activities, an increased emphasis on preserving rewards from productive innovation is needed through the protection of commercial freedom, property rights, and enforceable contracts. Second, given that essential local inputs are vulnerable to monopolization, fostering opportunities for grassroots entrepreneurship is paramount through an active supply-side competition policy emphasizing access to essential business services and other required local inputs.

The degree of development also has important implications for the growth strategy adopted. Studies suggest that the path to growth might vary between mature and emerging countries. In mature industrial economies, growth is driven by the process of technological advancements and knowledge accumulation brought about by R&D efforts of firms. In emerging economies, growth is driven by the accumulation of human and physical capital and increasing specialization.

**Framework for Analyzing Entrepreneurship and Economic Development**

There is a paucity of frameworks for assessing the interaction between entrepreneurship and economic development. One plausible explanation that has been advanced for this paucity in the literature relates to the fact that until recently, macroeconomics, the field of economics most concerned with economic growth and employment has largely not considered the role that entrepreneurship plays in generating economic growth and employment. At the same time, management – the academic discipline most squarely focused on entrepreneurship – has typically not considered implications for the broader economic context, and certainly not the link between that most micro of business phenomena – an individual starting a new business – and the most macro, the performance of an economy. This seeming

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analytical disconnection ensured that policy makers did not have at their disposal, the entire array of policy instruments that could be marshaled towards using entrepreneurship to deliver economic prosperity and security.\(^\text{17}\)

In their study on linking entrepreneurship and economic growth, Wennekers and Thurik developed a very useful model for viewing entrepreneurship.\(^\text{18}\) In this model, the determinants of entrepreneurship can be examined from three distinctive levels of analysis— the individual, the firm and macro levels of entrepreneurship. The objects of the study tied to the three levels of analysis are the individual entrepreneur, small and large businesses and the national economy, respectively. Studies on entrepreneurship at the individual level focus on the decision-making processes of individuals and their motives for becoming self-employed. A typical line of inquiry could analyze the decisions of individuals to become either wage-earners or self-employed or focus primarily on personal factors, such as


psychological traits, formal education and other skills, financial assets, family background and previous work experience that may influence or affect entrepreneurs. An analysis of entrepreneurship at the firm level would focus on market-specific determinants of entrepreneurship, such as profit opportunities and opportunities for entry and exit. The macro perspective focuses on a range of environmental factors, such as technological, economic and cultural variables as well as government regulation.

Figure 5

<table>
<thead>
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<td>Wealth/Self realization</td>
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<tr>
<td>Firm</td>
<td>Business culture</td>
<td>Start ups</td>
<td>Firm Performance</td>
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<tr>
<td>Macro</td>
<td>Governance</td>
<td>Competition/Ease of doing business</td>
<td>Economic Growth</td>
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</table>

Source: Carree and Thurik (2002)
The assessment also covers the inter-relationship between the three levels - the individual level, the firm level and the macro level. The origin of entrepreneurial activity is always by necessity the individual. Entrepreneurship is induced by an individual's attitudes or motives, skills and psychological endowments. The second level, the firm level, exists because the individual entrepreneur is impacted by the context and environment within which they operate. Entrepreneurial motives and actions are also influenced by cultural and institutional factors, the business environment, and macroeconomic conditions. In this context, while entrepreneurship originates at the individual level, realization is achieved at the firm level. The corporations are vehicles for transforming personal entrepreneurial qualities and ambitions into actions. At the third level, the macro level, which represents the forum in which industries and national economies operate, the sum of entrepreneurial activities constitutes a mosaic of competing experiments, new ideas and initiatives. This competition leads to variety and change in the market, including a selection of the most viable firms, their imitation and a displacement of obsolete firms.19 Fostering entrepreneurship would therefore require a review of the role of the individual, the firm, the government as well as other critical stakeholders such as institutions of higher education.

4. Fostering Entrepreneurship

The Role of the Individual

Much has been written about the particular qualities and characteristic of the entrepreneur. In his seminal work on the character of the entrepreneur, McClelland identified the need for achievement - or N-achievement - as the most distinguishable quality of entrepreneurs.\(^\text{20}\) Complementing the suggestions that external factors - favorable opportunities for trade, unusual natural resources, or conquests that have opened up new markets or produced internal political stability - play a critical role in entrepreneurship, the focus on the individual posits that internal factors - the human values and motives that lead man to exploit opportunities, to take advantage of favorable trade conditions - shape the nature of entrepreneurship. Having suggested that internal factors play a role in shaping the entrepreneur, my focus is really on the conditions that will ensure that entrepreneurs can be productive and most relevant to growth.

The basis for this focus is that in any society, some individuals will naturally become entrepreneurs, no matter what, while others in that same society will never become entrepreneurs, no matter the support they receive or the circumstance. In between these two extremes, lie large numbers of individuals whose capacity to become entrepreneurs will depend on the circumstances they are faced with. In other words,

\[^{20}\text{McClelland (1971) The Achievement Motive in Economic Growth,}\]
outside of the natural groupings of individuals into entrepreneurs and non-entrepreneurs, the society will still have a large population of individuals who, under the right circumstances, will become entrepreneurs. The crucial element in building a nation of entrepreneurs is therefore to identify those circumstances that are conducive to turning a majority of those in this variable group into productive entrepreneurs. For example, a well developed legal property system could foster entrepreneurship as Hernando de Soto, (2000), in his study of emerging economies across Asia, Africa, the Middle East, and Latin America, demonstrated that untitled assets that could not be used as capital was a primary barrier to the kind of entrepreneurship that leads to capital accumulation and national economic prosperity. He demonstrated that emerging economies already have a strong saving culture and already have the assets needed to launch them into prosperity. With a legal property system, the variable group of potential productive entrepreneurs could cooperate imaginatively in creating new uses for the assets they already have. To unleash the innovative potential in people and assets that they already possess, Hernando de Soto recommends the implementation of measures that will ensure that the legal framework provides the infrastructure to ensure the fluid transmission of marketable titles.\(^{21}\) This is equally an indication that in many instances, the removal of barriers in the system often does more to foster entrepreneurship than the creation of incentives.

Richard Scase (2000) distinction between the entrepreneurs and the sole-proprietors is particularly apt for the situation in Nigeria. He notes that the main difference between these two categories is the contrasting psychologies of the founder-owners, their attitudes towards trading, and their orientation to capital accumulation. The entrepreneur is committed to wealth creation, capital accumulation and to business growth and is willing to forgo direct consumption in order to expand the scale of her/his entrepreneurial activities. The proprietor on the other hand, is more likely to consume and utilize economic surpluses in order to maintain a certain standard of living or lifestyle rather than reinvest available funds into the business.

**Costa Rica Earth University**

In 1948, Costa Rica abolished its army and deployed the savings to health and higher education. The focus on health and education has realized results. One particular result is the Costa Rica Earth University that pioneered an educational model that fosters entrepreneurship, encouraging young people to become employers rather than employees.

The University, with 400 students from 20 Latin American, African, and Asian countries, has developed a novel curriculum based on experiential learning. In the first year, the students focus on doing practical work related to crop and animal production. In the subsequent years, the students are required to create and run their own micro-enterprises using a $3000 loan from the university. The students undertake project design, feasibility assessments, and market study and business management. There are incentives for the students as the student retains two thirds of the earnings
A second noteworthy pattern relates to the difference between opportunities for entrepreneurs in mature and those in emerging economies. In a mature economy, the multiple channels of opportunity permit the individual to pursue a portfolio approach that manages the multiple levels of business and market risks. The underlying structure of emerging economies drives the set of circumstances that their entrepreneurs face. The absence of stability in their environment means that while their mature economy counterparts operate on the fringes of the economy, emerging economy entrepreneurs operate at the core of the economy and are in fact central to its development. A consequence of being mainstream is that although competitive threats from new upstarts are minimized, the risks posed by the uncertain economic, political and regulatory climate mean that these entrepreneurs have to hedge their risks by spreading their entrepreneurial capacity across several business lines. The emerging economy entrepreneur operates a portfolio diversification strategy to spread the risk associated with operating in an uncertain economic and political climate. The emerging economy entrepreneur spreads her/his resources across several separate but related businesses in order to mitigate systemic risk. Furthermore, lacking diverse funding sources, the entrepreneur may use internally generated cash flow from one business to fund other businesses in an approach very similar to the Keiretsu system in Japan or Chaebols in Korea. Successful emerging economy entrepreneurs often leverage the domain experience, information flow, and cash flow generated from one business to vertically integrate and move into other upstream businesses.
Unleashing African Entrepreneurship
A key recommendation of the Africa Commission

The Africa Commission was launched in 2008 to help address the significant challenges and the new opportunities facing the African continent.

The Commission addressed ways to create employment for young people through private sector-led growth and improved competitiveness of African economies. Special emphasis was given to create decent jobs, foster entrepreneurship, and provide greater opportunities for young African women and men through education, skills development and access to finance. Drawing on existing analyses and best practices, the Commission’s aim was to make specific policy recommendations and devise concrete initiatives.

The report of the Commission published in May 2009 identified five key areas of main concern and intervention for growth, employment and competitiveness:

1. Benchmarking African Competitiveness
2. Access to investment finance and capacity development for SME’s
3. Unleashing African Entrepreneurship
4. Access to Sustainable Energy
5. Promoting Post-Primary Education and Research

In the context of entrepreneurship, the report highlights Africa’s existing and new entrepreneurs as a largely unrealized potential to lead economic growth. Existing entrepreneurs are often successful in spite of the myriad constraints they confront, such as non-transparent and ineffective regulatory frameworks, lack of business skills and training, access to finance, and even negative stereotypes which still persist in large parts of Africa.

The Africa Commission originated an initiative focusing on business development services, mentoring, training and access to finance. The initiative will

- 550,000 in-school youth will receive entrepreneurship education
- 80,000 out-of-school youth will get entrepreneurship training and support
- 40,000 new jobs will have been created and
- 20,000 new businesses will have started
The Role of Firms

This section will only focus on small and medium enterprises (SMEs) even though entrepreneurial activity occurs in both small and large businesses. This is because, in emerging economies, more than 90% of all firms outside the agricultural sector are small and micro enterprises, generating a significant portion of GDP. For example, in Morocco, 93% of industrial firms are SMEs and account for 38% of production, 33% of investment, 30% of exports and 46% of employment. In Bangladesh, enterprises of less than 100 employees account for 99% of firms and 58% of employment. Similarly, in Ecuador, 99% of all private companies have less than 50 employees and account for 55% of employment. Not all these SMEs and micro enterprises are in the formal sector; some occupy the unofficial labor market, which varies in size from an estimated 4%-6% in developed countries to over 50% in developing nations. Recently, in recognition of the important role that small businesses play in economic development, the Wall Street firm, Goldman Sachs set up a $500 million program to help small businesses. The program will provide capital to small businesses in underserved areas and education aid to small business owners.

Notwithstanding the critical role of the small business, many emerging economies including Nigeria still do not have in place a legal and regulatory framework that supports the growth of the SME sector. According to a United Nations Economic Commission for Africa (UN ECA) study, in Uganda, an extensive number of outdated and cumbersome laws and regulations have increased the transaction costs of SMEs, thereby hampering their economic performance and growth. In Ethiopia, the complexity of the customs system and the many forms and declarations required has had a negative impact on the

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general business climate, diverting the efforts of entrepreneurs from more productive tasks. Evidence shows that customs duties and tariffs discriminate against local producers. This substantially increases the production cost of companies that require highly taxed imported inputs, therefore limiting their competitiveness. Nigeria has taken steps to address some of the challenges faced by SMEs as the UN ECA study notes that the Nigerian government has formulated special policy measures and programs to encourage the development of SMEs including the enactment of favorable laws and regulations on contracts, leasing, and corporate tax, as well as fiscal and export incentives for SMEs.

One of the main barriers to the development of small enterprises and consequently entrepreneurship in Nigeria relates to access to finance. Some of the more common challenges for the small business include over-dependence on overdrafts rather than fixed-term loans, the inability to obtain loans at reasonable interest rates, over reliance on debt over equity, and difficulties in obtaining equity. These challenges relate to small enterprises even in mature economies. In the context of emerging economies the problems are more significant. Despite the fact that access to financial services, and indeed overall financial development, is crucial to economic growth and poverty reduction, in Sub-Saharan Africa, only 1 in 5 households have access to financial services. In 2007, over 70 percent of Kenyan households did not have bank accounts or relied on informal sources of finance. The situation in Nigeria is even worse as "Doing Business" ranks Kenya ahead of Nigeria on access to credit. Contrast this with the situation in the United States, whose entrepreneurship edge has been directly linked to the nation's risk capital infrastructure. American innovators have access to more money and more potential investors than innovators anywhere else in the world. The U.S. venture capital industry is, by far, the largest in the world. The United States has over 1,800 venture capital and private equity partnerships that manage over $650 billion in funds. The United States is also well ahead in funding offered by angel investors, high net worth individuals that typically invest in start-up companies in
their initial stages of growth. They represent a particularly important funding source because angels are more likely to invest in the risky stages of company development than are venture capital funds. In 2005, angel capitalists invested approximately $23 billion in the United States, slightly more than venture capitalists. Each year, only about 1,000 out of 600,000-800,000 start-up businesses use formal venture capital (usually for investments in excess of $1 million). The vast majority of start-up firms rely on informal investors who invest $1,000 to $50,000. In addition, in areas with lots of successful entrepreneurs, “angel” investors are increasingly investing $50,000 to $1,000,000 in new ventures.24

SMEs in Nigeria, like in many other sub-Saharan African countries have little access to finance, which hampers their emergence and eventual growth. The financial system in most of Africa is underdeveloped however and so provides few financial instruments. Capital markets are in their infancy, shareholding is rare and no long-term financing is available for SMEs. While non-bank financial intermediaries, such as micro credit institutions, could play a greater role in lending money to the smaller SMEs, they do not have the resources to monitor their customers when they expand. Their main sources of capital are their retained earnings and informal savings and loan associations (tontines), which are unpredictable, not very secure and have little scope for risk sharing because of their regional or sectoral focus.

Access to formal finance is poor. In most instances, small business in Africa can rarely meet the conditions set by financial institutions, who consider lending to SMEs risky because of inadequate guarantees and insufficient information about their creditworthiness. The perceived risk associated with dealing with clients that have little financial history, along with the relatively high costs associated with SME finance, over-

regulation of the industry and interest rate ceilings imposed on financial institutions by government detract from the attractiveness of servicing the small sector.

On the international front, there are many initiatives that are being promoted by the donor community and international financial institutions. Notable among them is the USD 500 million African Guarantee Facility launched by the Africa Commission in conjunction with the African Development Bank in May 2009. The facility will provide guarantees and capacity building support for financial institutions and SMEs. The USD 500 million which will be leveraged three times and will provide risk sharing coverage of 50 per cent, is expected to mobilize USD 3 billion of loans and USD 20 billion of SME investments, representing 1.5 per cent of Africa's GDP. The Nigerian government has also supported a number of programs including the National Economic Reconstruction Fund (NERFUND) established in 1989. It is an apex credit delivery system to channel credit to SMEs through selected participation banks. For its operations, NERFUND obtained equity capital and soft naira loans from the Federal Government and foreign lines of credit from the African Development Bank. The second program, the Small Medium Enterprise Equity Investment (SMEEIS), was established in 2001 and requires all banks in the country to put aside 10 percent of their profit before tax, into a fund for equity investment in SMEs. By 2007, the fund had accumulated over N40 billion, although only 40 percent of these funds have been used, and for only 200 projects across the country.

The Small and Medium Scale Development Enterprises Agency (SMEDAN) has also been playing a vital role in fostering the growth of SMEs in Nigeria. In 2003, the Federal Government set up SMEDAN to promote the development of the micro, small and medium enterprise sector of the Nigeria Economy. The objective of SMEDAN is to establish a structured and efficient micro, small and medium enterprises sector that will enhance sustainable economic development
of Nigeria. Since its establishment, SMEDAN has established Business Development Centers and provided advisory services on access to trade finance. SMEDAN has organized seminars, workshops at both local and international levels and encouraged the formation, registration and co-operation of micro, small and medium business associations.

Given that these efforts are yet to unleash the potential that Nigeria has to leverage SMEs, the proposals outlined below can complement ongoing initiatives

**Narrow the information asymmetry between SMEs and financial institutions:** Access to up to date and reliable information is a key precursor to lending. Developing the information disclosure regime by adopting clear and simple accounting standards and establishing credit bureaus would go a long way to encouraging lending to SMEs.

**Fostering the development of innovative instruments and risk sharing arrangements:** Some African countries are already experimenting with innovative financial instrument. For instance, warehouse-receipt financing is helping to guarantees loans with agricultural stocks in South Africa, Kenya and Zambia. Other financial instruments, such as leasing can reduce risk effectively for credit institutions. In addition to innovative financing mechanisms, innovative measures can also be put in place to share risk. Credit associations that reduce risk by sharing it are more common. They help financial institutions choose to whom to lend, by guaranteeing the technical viability of projects, and sometimes providing guarantees.

**Encourage big firms to support small enterprises:** Since large firms generally have greater access to finance, they can be encouraged to assist smaller enterprises, particularly their suppliers, access finance. They can also provide other factors of production or guarantee loans made by financial institutions to the SMEs they work with, given that they already have an established relationship with these firms. The large firms can also assist SMEs to obtain export credits, similar to the
experience of Zambia’s agro-food industry and in other countries that have developed such arrangements to address concerns.

**Foster the formation of SME networks:** Nigerian SMEs can learn from the experience of Asian SMEs who have formed clusters that enable member firms to seek finance together, provide collective guarantees, or even set up their own financial body. The relationships formed often make it easier for these networked firms to get loans and lower rates of interest. Working together also means firms can get supplier credit and can borrow from each other. Trade associations such as the African Venture Capital Association can play a crucial role in fostering the development of SME networks in Nigeria.

**Strengthening financial institutions support for SMEs:** In Nigeria, like in many other African countries, there is a chasm between the role of micro credit institutions and that of larger financial institutions. This is the space where SMEs operate and referred to in the Africa Commission’s Report as “the missing middle” and as shown in Figure 6. In addition to strengthening financial institutions, a viable strategy would also be to expand the scope of micro credit institutions to offer services to small businesses. Many of these institutions have limited funding and since they often rely on deposits that are short term in nature, there are asset and liability matching constraints for them to convert their deposits into longer term loans. There are nonetheless institutions that are seeking to fill the “missing middle”. Novobanco, a micro credit institution in Angola is a good example as it has expanded the scope of its activities to include providing loans free of bank charges, for a minimum deposit. In addition, it accepts informal guarantees (property or a guarantor) and leverages the long term relationships developed by its loan officers to support small businesses originated by its customers. Other strategies that have been pursued to fill the financing gap include the example in Kenya where the government has supported the growth of smaller commercial banks and in Ghana where the government has supported the growth of rural banks. In many countries, commercial banks are beginning to set up their micro-credit services to cater for this segment.

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Tapping into Remittances: Financial institutions need not be the only source of funding for SMEs. Most countries, Nigeria particularly, have a veritable wealth of citizens in the Diaspora. According to a recent World Bank Migration and Development report, Nigeria has the sixth highest level of remittances with a global inflow of $10bn (4.7 per cent of GDP), the top three being India ($52bn), China ($49bn) and Mexico ($25bn). The remittances can be harnessed to support the development of financing for SMEs. Such remittances also come with knowledge, business idea and strategies and should be proactively nurtured.
The Role of Government
In the complex economic environment in which most individuals operate, not only is the role of government in entrepreneurship self evident, but there is considerable room for governments to facilitate entrepreneurship in a non-interventionist way. A smooth-running market economy is the best way to encourage entrepreneurship, rather than direct support. For instance, the role of government can be to provide business-friendly infrastructure by providing a framework of enforceable competition law that discourage monopolies and unfair competition as well as by intellectual property rights that protect a firm’s valuable, but often intangible, knowledge assets.

Many governments view the entrepreneur as the solution to weak economic performance and job creation. What remains a challenge though is a better understanding of the factors that determine entrepreneurship and the environment that motivates and supports the growth of entrepreneurs. Knowledge of the primary catalyst for entrepreneurship is essential for understanding the microeconomic foundations that will lead to growth in emerging economies.

Aggregate level evidence shows that the key drivers of long-term growth in emerging economies are investment and productivity improvements. This has in turn fueled interest in both developed and developing countries on how government policies and other national business environment factors could be marshaled to influence the rates and types of entrepreneurship. In emerging economies, the private sector is pivotal to economic growth serving as the principal source of investment with individual savings substantially outstripping foreign investment in relation to capital availability. While the relationship between individual savings and growth can be difficult to disentangle, there is nonetheless sufficient evidence to outline the powerful role that the access to capital plays in driving productivity.

A useful way of analyzing the role of government in entrepreneurship is to view government as the arbiter of background rules. This
conception of government expands the scope of the concept of entrepreneurship and the role of the individual to emphasize the important role played by institutions (both formal and informal institutions) for providing the incentives for entrepreneurial activity. In the view of the classic scholar on entrepreneurship, while the total supply of entrepreneurs is relatively constant across societies, the productive contribution of entrepreneurial activity varies because of its allocations between desirable activities, such as innovation, and unproductive activities, such as rent seeking or organized crime. Thus, by setting in place the appropriate institutions, government policy can influence the allocation of entrepreneurship more effectively than it can influence its supply. In this formulation, entrepreneurship is characteristic of human actions and there would always be entrepreneurs in every society. The institutional environment determines the formal and informal rules of the game, places constraints on human action, and, possibly, reduces uncertainty. Institutions and the policies that shape them are crucial in determining the behavior of entrepreneurs. What determines whether that particular society uses the abilities of its entrepreneurs to transform itself depends on the quality of the institutions that dictate the rules of the game. Ultimately, the rules and their administration dictate the effect of entrepreneurship on the economy.

A good case in point is the Tunisian textile industry. The sector is comprised of 2,000 firms, which employ 50 per cent of the active population in manufacturing, and provide over 50 per cent of export revenues. In order to prepare the industry for increased competition following the WTO agreement, the Tunisian government adopted several measures to support SMEs. They included substantial tax and financial advantages such as payment by the government of the employers contribution to social security. Formal administrative

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procedures were centralized in a one-stop shop at the Agency for the Promotion of Industry to reduce transaction costs. All administrative steps are now carried out in less than 48 hours. The favorable legal, financial and administrative system has not only benefited Tunisian SMEs, but also contributed to attracting foreign investors.\textsuperscript{26}

The policy environment that inures in the country and the capacity of the policy instruments, through their incentive schemes, to channel entrepreneurial efforts toward productive or unproductive activities is crucial. It is in this context that the role of the government and its policy instruments to shape the institutional structures for entrepreneurial action take on a heightened significance.

Policies to promote technology in Israel

Government support for entrepreneurship in Israel’s technology sector dates back to a 1968 recommendation to establish an office to subsidize commercial Research and Development (R&D) projects undertaken by private firms. Support was confined until then to National R&D Labs, and to academic R&D, in addition to the weighty resources that were devoted to defense-related R&D and to agricultural research.

In addition to financial support, the government also fostered a conducive policy environment by implementing legislation to foster entrepreneurship. In 1985, a law to encourage R&D was passed and the legislation defined the parameters of government policy towards industrial R&D ever since. The stated goals of the legislation were to develop science-based, export-oriented industries, which would promote employment and improve the balance of payments.

Alongside the legislative framework, the government put in place appropriate financial incentives, including giving, firms of all sizes, matching funds for the development of innovative, export-targeted products. These funding initiatives were buttressed with additional programs that included (i) “Magnet”, a program to encourage pre-competitive generic research conducted by consortia; (ii) a program of technological incubators; (iii) various programs involving bilateral and multilateral international R&D collaboration.

The technology sector in Israel has been hailed as an economic success story, both by local and by international standards. Israel is often described as one of the most innovative economies in the world and as one of the few “Silicon Valley” type technology centers in the world. All this is attributable to pro-entrepreneurial government policies. Between 1969 and 1987 industrial R&D expenditures grew at 14% per year, and technology exports grew from a mere USD 422 million in 1969 (in 1987 dollars), to USD 3,316 million in 1987.
Beyond the crucial relationship between government policy and entrepreneurship, identifying what policy instruments are beneficial in fostering entrepreneurship in a particular country is a significant challenge. A broad generalization is that government policies need to be tailored to the specific institutional context of not only each country, but also each region within the country. For instance, the policy instruments that would be deployed to support the emergence of entrepreneurship in the rural areas will differ from those used to support the development of technology firms in an urban area. More importantly, these policy instruments will need to take account of different resource constraints and availability, the nature of existing networks and market capabilities. Notwithstanding the need for tailored solutions, the tendency is for policy makers to rely on a handful of policy tools.

Recognizing the need for flexibility in the development and deployment of policy instruments, rather than offer a set of policy prescriptions, a set of principles to guide the development of policies that encourage entrepreneurialism are presented below.

1. **Create an enabling environment for innovation and entrepreneurship.** The very nature of innovation means that entrepreneurs will either take advantage of existing gaps or forge into new territories. Either way, creating an enabling environment that lowers the barriers to market entry will certainly spur entrepreneurship. To achieve this objective, entrepreneurship should be integrated into the country's economic development efforts by:

   - Making entrepreneurship part of the explicit mission of the country's economic development efforts;
   - Creating support mechanisms for entrepreneurs through the establishment of economic development programs that target entrepreneurs;
Using entrepreneurial, capital, and research networks to deliver services for entrepreneurs.

By integrating entrepreneurship into the country’s development efforts, government lends credibility and draws attention to the role of entrepreneurs allowing them to gather the momentum required to enable them actively participate in the transformation of the economy.

2. **Offer incentives that foster entrepreneurship.** Numerous examples indicate that access to reliable and steady sources of funding is essential to entrepreneurial growth and sustainability. By establishing a framework that encourages the funding of new ventures, government can help ensure that solutions that work will sustain and grow their impact. To achieve this objective, government needs not only to invest in diverse sources of risk capital to fund entrepreneurs, but also to provide the fiscal incentives for investors to provide funding by:

   Developing a rich base of early-stage capital options to fund entrepreneurs;
   Supporting and incentivizing angel investors;
   Ensuring that risk capital is available to the wider society to broaden and enhance entrepreneurial capacity.

3. **Take successful approaches to scale.** Expanding the reach of a proven solution is often critical if the solution is to become truly transformative. Given the difficulties with recognizing, supporting the dissemination, or funding to scale, of successful initiatives, government can play a crucial role in expanding the reach of solutions that work by
Ensuring that knowledge is produced with clear standards and with easily accessible data.
Building a repository and disseminating information on what works and what does not.
Building entrepreneurial readiness through offering entrepreneurship education in the curriculum.
Supporting faculty entrepreneurship in the higher education system.

The Role of Institutions of Higher Learning

This section reflects on the multiple dimensions in which institutions of higher learning promote entrepreneurship. Universities have tremendous impact on innovation and entrepreneurial development. Notable universities that have played this catalytic role in the United States include Stanford and Silicon Valley, University of Texas and Austin; University of North Carolina and Research Triangle. Harvard University and Massachusetts Institute of Technology also illustrate how universities can also serve as a source for talent and ideas, serving as economic magnets for investments, entrepreneurs and talent to a region. Universities equally serve an important networking function connecting innovators across a region through their incubators and technology parks. In developed countries, many entrepreneurs start up their companies at their universities precisely because they can have continued access to knowledge and talent. In addition, many universities have restructured their research capabilities to be more responsive to local industries, setting up specialized research units, joint cooperative ventures, or interdisciplinary projects.

Higher education institutions certainly have a unique and vital role to play in their interaction with the three levels - macro, firm and individual - of entrepreneurship. First, higher education institutions can partner with governments in developing the required strategy for fostering entrepreneurship both at the individual and the firm level.
Also critical is the role of higher institutions in originating the content and setting the tone for developing the policy and institutional framework for entrepreneurship.

Second, there is the imperative of dramatically scaling up the quantity and quality of higher education across different disciplines and striving to become world class. Within that context, in addition to the disciplines of science, engineering, entrepreneurship should be promoted. There is very little consensus on the precise contours of entrepreneurial education. The many facets of entrepreneurial education include raising awareness of the central concepts about entrepreneurship by teaching students about entrepreneurs and their individual experiences. A broader view of entrepreneurial education includes encouraging the attributes of successful entrepreneurs by equipping students with the skills and knowledge to start a successful business. A third facet would relate to using the process of the creation of new ventures to help students acquire the range of business skills required to run a successful business. Higher education has the potential not only to teach about entrepreneurship, but also nurture the qualities of entrepreneurship.

Third, a critical role for institutions of higher education is to promote innovation by supporting academic and research activities, often with historical antecedents and far reaching impact beyond their immediate vicinity. Similarly, business and institutions of learning can partner to nurture innovation and entrepreneurship. Germany was the pioneering country where the university/industry relationship helped create the pharmaceutical industry in the early 19th century. Institutions of higher education fuel a more knowledge-intensive approach to development, a viable option for many developing countries and possibly the only route to sustained, outward-oriented development.

Fourth, traditionally, institutions of higher education conducted basic research that contributes to underlying scientific understanding, leaving the process of converting research results to commercial products to
the private sector. Recently, institutions of higher education have experienced the limitations of licensing technologies to industry and are forming private corporations from technology developed through their own research. For instance, Helsinki University of Technology created Innopoli, a business incubator on its campus funded through various public and private sources. Technology-based business incubators managed by institutions of higher education present a myriad of options related to technology transfer, educational opportunities, and community development, creation of wealth and jobs, and scientific freedom. There are more than 4,000 business incubators in the world, according to the American National Business Incubator Association (NBIAs). Through these business incubators, entrepreneurial institutions can create the social capital that can sustain development of intellectual capital in their regions and consequently foster the creation and growth of high technology firms that will lead innovation and wealth creation in that society.

5. Conclusion

Economic growth generated by entrepreneurs is the core engine of a virtuous cycle that develops an economy. Successful entrepreneurs, through their breakthrough technologies and rapidly growing businesses, create new wealth that can generate even greater economic growth. The policy environment needs to be one that will foster the growth of entrepreneurs. The burden is on policy makers to understand the key factors that help entrepreneurs to thrive. Some of the issues that require close attention include addressing infrastructure constraints, the disproportionate regulatory burden that entrepreneurs have to carry, enhancing access to finance and the overall health of the capital markets, the financial incentives for entrepreneurs, and the

'Reasonable people adapt themselves to the world. Unreasonable people attempt to adapt the world to themselves. All progress, therefore, depends on unreasonable people'.

George Bernard Shaw
protection of intellectual property. A thorough analysis of the unique challenges that entrepreneurs face Nigeria is critical and should be complemented by a time bound action plan for each of the stakeholders that can foster entrepreneurship. Entrepreneurship leverages the human capital that Nigeria is endowed with and empowers more people to participate in unleashing Nigeria’s potential.
Arunma Oteh
The Role of Entrepreneurship in transforming the Nigerian Economy
Seventh Convocation Lecture
Igbinedion University, Okada, Edo State
Arunma Oteh serves on the Board of the International Financing Facility for Immunization (IFFIm), an innovative social entrepreneurship initiative sponsored by the governments of France, Italy, Norway, Spain, Sweden, South Africa, and the United Kingdom. IFFIm leverages the capital markets to convert long-term pledges totaling USD 5.3 billion to fast track immunization in 72 of the world’s poorest countries. She has been nominated by His Excellency, President Yar’Adua to serve as the Director General of the Securities and Exchange Commission, and is awaiting Senate confirmation. Until her nomination, she was a Vice President at the African Development Bank, and played a leadership role in the internal reforms that have scaled up the Bank’s response to Africa’s development challenges. She also held other key positions at the Bank, notably serving as the Bank’s Group Treasurer for five years and managing a varied portfolio of assets and liabilities totalling several billions of dollars. Prior to her distinguished seventeen year career at the Bank, she worked in corporate finance, consulting, teaching and research for a number of institutions including Harvard Institute for International Development, U.S.A. and Centre Point Investments Limited, Nigeria. Arunma Oteh holds a Masters Degree in Business Administration from Harvard Business School, Harvard University, Boston, U.S.A. and a first class honors degree from the University of Nigeria, Nsukka, Nigeria.

Between 1995 and 2000, she promoted a dialogue among hundreds of young Africans on the way forward for Africa. The results are captured in the widely acclaimed volume, ‘African Voices, African Visions’ published in 2001 under the auspices of the Nordic African Institute. She often speaks on topical issues affecting Africa and is passionate about Africa’s economic development and unleashing the potential of youth in society.