You Win Some, You Lose Some: The Political Economy of Formal Entrepreneurship in Kampala, Uganda

by

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Abbreviations

BA – Bachelors Degree
DB – Doing Business Report
GDP – Gross Domestic Product
GEM – Global Entrepreneurship Monitor
ILO – International Labor Organization
KCC – Kampala City Council
KCCA – Kampala Capital City Authority
MSME – Micro, Small, and Medium Enterprise
MUBS – Makerere University Business School
NGO – Non-Governmental Organization
NRA – National Resistance Army
NRM – National Resistance Movement
OECD – Organization for Economic Cooperation and Development
PEAP – Poverty Eradication Action Plan
PERD – Public Enterprise Reform and Divestiture
SME – Small and Medium Enterprise(s)
SSA – Sub-Saharan Africa
TEA – Total Early-Stage Entrepreneurial Activity
UGX – Ugandan Shillings
URA – Uganda Revenue Authority
VAT – Value Added Tax
WAEMU – West African Economic Monetary Union
WB – World Bank
WBGES – World Bank Group Entrepreneurship Survey
WBES – World Business Environment Survey
WEF – World Economic Forum
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“There are few worse things that society can do to its young than leave them in limbo.” – Margaret Thatcher
Chapter 1: The Stifled Entrepreneur

I sat across from a Makerere University Business School (MUBS) graduate in a popular café, an oasis from the dusty and crowded bustle of Kampala’s city square. He was animatedly describing his small restaurant business, which he funded from resourcefully selling mobile airtime on the side of the road. Food services, he explained, were always in high demand – especially restaurants that allowed people to sit down for a traditional plate of matooke and chicken stew. Moreover, many restaurants also sold airtime, allowing him to diversify and simultaneously continue in his initial line of work. Smiling, he envisioned his business’s next steps – hiring more employees and turning the restaurant into a hotel, which was an apparent common trajectory for those in the restaurant business. This progression symbolized permanence, but since food was the center of hospitality, the next step would not be unnatural or particularly drastic. Glancing down at my guiding interview questions for reference, I then asked: “Can you describe your business registration process, including any barriers you may have faced?” Shaking his head, he responded: “I didn’t register.”

Noting the confused look on my face, he qualified that he wanted to register, but deferred, choosing to keep the restaurant at a small scale. I knew that informal businesses existed – in the short walk from the taxi to the café I must have walked by at least 10-15 informal sellers, displaying airtime cards, tabloids, and snacks on the sidewalk. However, I assumed that this sector was limited to small, mobile enterprises, often run by those who were poor or simply looking for an additional source of income. Nevertheless, this well-educated, growth-oriented businessman fell
into the same sector. Apparently, he was not a unique breed; many of his former classmates found themselves in a similar situation. Indeed, he pointed out, many other restaurants were not registered; especially those that simply served food but did not offer full seating. Despite paying a yearly tax to the Kampala City Council (KCC) upon solicitation, he did not meet regular tax or registration requirements. I would soon discover that this blurred line between formal and informal status is strikingly common in Uganda.

This young entrepreneur seemingly had all the tools that would allow him to excel in a sector distinct from street vendors. The MUBS Entrepreneurship and Small Business Management BA equips aspiring entrepreneurs with the skills necessary to thrive in a highly competitive business environment, such as Uganda (MUBS website). The program incorporates classes in business management, economics, finance and accounting, marketing, and even business law. Theories of innovation and the social spillovers of entrepreneurship, such as job creation, poverty alleviation, and broad-based economic growth, inspired and encouraged students throughout. Regardless, this respondent and so many of his peers choose to remain in the highly competitive and limited informal sector.

The puzzling question emerges: Why do entrepreneurs with such high potential opt for the informal sector? What factors account for this societally sub-optimal distribution? I reveal that the decision to join the formal sector is a rational and strategic choice, greatly defined by the level of corruption, degree of persistent government enforcement, and regulatory barriers. Perhaps more interestingly, though, strategies are shaped by incentives, both those provided by government but also those
that emerge through supply-chain relations and normalized perceptions of government.

My research will illuminate the decision of the marginal entrepreneur, identifying the economic, social, cultural, and institutional factors that shape the entrepreneur’s decision. The outcome of interest – the dependent variable – is the formal sector. For the purposes of this project, I define the formal sector as including businesses that fully comply with registration laws and pay taxes in full. This is discussed in depth in Chapter 2. Formal businesses are significant because formality is often a symbol of quality, throughout the realm of international business. Movement toward formalization could enhance state-market relationships, as well as the overall development of the state. A more formal environment could lead to further international investment and business partnerships, as well as reliable firms for local consumers. Theoretically, formalization could give voice and bargaining power to emerging entrepreneurs, enhancing a burgeoning middle class, while avoiding crowding-out effects in the informal sector.

There are many arguments justifying why entrepreneurs opt out of the formal sector. One of the most common arguments is that people lack the proper training and education to navigate the regulatory system (Benjamin and Mbaye 2012; Muwonge, Obwona, and Nambwaayo 2007). This case, however, poses a direct counter to that argument as entrepreneurs with more than adequate training continue to pursue the informal sector.

Another common argument is that entrepreneurs do not register their businesses because culture dictates otherwise (DeSoto 2002). This has a degree of
truth to it, but the effects of peer decisions to formalize have a nuanced relationship with the emerging entrepreneur’s decision depending on supply-chain and client demand, as well as perceptions of government policies.

Similarly, a reasonable argument is that informal entrepreneurship is just a stepping-stone on the path to formal entrepreneurship (Interviews with L07, L02). All begin as informal sellers, creating a crowded and competitive market from which only the most capable progress to formalization. This may hold water, but even those who are highly capable tend to delay, or never make, the transition.

To provide a last assertion, weak institutions and high costs dissuade entrepreneurs from pursuing formal status. This is largely true; poor governance, complicated bureaucratic processes, and burdensome fees all serve as deterrents. However, as will be discussed in depth in Chapter 3, a simple improvement in these areas may not necessarily result in increased formalization.

In the following sections, I first discuss the relevance of choosing the formal sector. Why should we be concerned with this decision? What are the implications of more entrepreneurs opting for the formal sector? I then discuss entrepreneurship as a phenomenon. While the outcome of interest throughout this project is the formal sector, entrepreneurship is at the heart of this project, as it manifests and relates with economic growth and development. This introductory chapter concludes with a discussion of methodology, informant choice, and an outline of the chapters ahead.

**Why should we care about the formal sector?**

Undoubtedly, the informal sector is an integral component of the Ugandan economy, comprising an estimated 97% of enterprises (Nangoli et al. 2013). As a
developing country with a high unemployment rate, many of the uneducated and jobless turn toward informal entrepreneurship to ensure some sort of subsistence income. However, I had always imagined that those with potential would avoid the highly competitive informal sector, and instead, pursue opportunities in the underdeveloped and narrow formal sector.

Informal firms are typically small, low skilled, and transient. Failure rates are high – one in three Ugandans reported shutting down an enterprise in 2004, and many businesses do not survive to see their first birthday – indicating low job security as well as low levels of growth potential (Walter et al. 2004; Nangoli et al. 2013). If they do survive long enough to hire, only 3% of startups in the 2010 Global Entrepreneurship Monitor Survey employed 6 or more people (Namatovu et al. 2010). Most of these businesses offer the same products or services; according to Ugandan perceptions, 76.5% reported that businesses offer the same products, while merely 4.1% offered unique products (Namatovu et al. 2010). With low product diversification and survival rates, all informal entrepreneurs “cope with very high levels of risk” (WEF 2013). Not only do promising entrepreneurs hedge their potential, they also stunt growth at a societal level. They create more traffic in the informal sector – potentially crowding out those who turn towards the informal sector out of necessity – and fail to contribute meaningfully to broad-based poverty alleviation and innovation.

Acknowledging and highlighting the distinction between formal and informal entrepreneurs, as well as the heterogeneity within the informal sector, is significant in light of recent trends in economic development initiatives. If Uganda truly wants to
develop – and do so rapidly – it must consider whether a general push for entrepreneurship is an adequate policy. Since the work of Muhammad Yunus and the rise of microfinance, entrepreneurship and bottom-up development have become increasingly popular (Banerjee and Duflo, 2011, 207). While some argue that it is necessary to push overall entrepreneurship to eventually attain innovation and productive entrepreneurship, it may be more effective to consider how we might parse out those more promising entrepreneurs trapped in the informal sector.

This would shrink the informal sector, allowing Uganda to move more towards the high end of that U-curve as formal entrepreneurship grows (Klapper et al 2010).1 By identifying the factors that influence one’s decision for or against formalizing, we can then gain insight into how this to shift towards a truer realization of Uganda’s growth potential. It would also assist in avoiding crowding-out of necessity entrepreneurs, while simultaneously adhering to the needs of an emerging middle class. There are significant socioeconomic implications from a shift to formalization. Inequality in Uganda is very high, with a limited middle class or notable mid-sized firms. This is in part because those in the formal sector are few and taxed heavily. Those who are rich or have connections with the government are not burdened nearly as much as those who choose to undergo formalization on their own. With the growth of a middle class, there are also political implications as more gain bargaining power. A robust middle class places more demands on education and other government services.

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1 Klapper (2010) argues a substitution effect between formal and informal entrepreneurship. The proportion of and linkages between the two sectors will be discussed in more detail in the following chapters. For now, it is only relevant insofar as people move towards the formal sector, the informal sector will likely shrink and become more homogenous.
Identifying the decision-making factors also provides advice to governments working to make the formal sector more worthwhile to entrepreneurs. This is not solely a consideration of how government can more effectively punish those who do not conform to formal laws. Instead, it may inform how policy could support businesses. This would further allow businesses to send a clearer signaling effect to one another, enhancing the economy’s functioning. For instance, the restaurant owner trying to grow into a hotel will actually gain credibility from formalizing – sending a sign to customers that the food and service is of a certain quality, and further attracting consumption of his firm’s products. This extends beyond just the national level, encouraging international investors and government parties as well. A shift towards formalization would induce more sustainable employment and partnership opportunities, enhancing economic growth through tax revenues and investment.

What is entrepreneurship?

Defining “Entrepreneur”

An entrepreneur is a self-starter, someone who can mobilize resources to start a new venture when faced with adversity. They are risk-takers who know their skills and traits well, capable of repurposing them to turn a profit. Challenges and obstacles become opportunities for creativity and moneymaking.

There is debate about defining who entrepreneurs are. Although entrepreneurship is a vital economic force, there is little consensus about what actually constitutes entrepreneurial activity (Audretsch et al. 2006, 5). Peter Kilby has gone as far as to liken the entrepreneur to a coveted, fictional Heffalump (Kilby 1971). The Heffalump, like the entrepreneur, is a hunted mystical creature from the
tales of *Winnie the Pooh*: rumored and talked about, but never quite captured. Scholars persistently attempt to capture its meaning to no avail. My study focuses on entrepreneurs as high-potential, marginal entrepreneurs. These entrepreneurs are starting businesses out of personal choice and direction. They are free to choose whether they join the formal or informal sector, given extensive toolkit they are equip with through the MUBS Entrepreneurship program. These are subjects of interest as I consider why so many join the informal sector in Uganda.

**Types of Entrepreneurs**

In the literature, these high-potential, marginal entrepreneurs are often distinguished from necessity entrepreneurs as opportunity entrepreneurs. Although all entrepreneurs are self-starters who mobilize resources to start a new venture, the nature of the enterprise that emerges is a reflection of the business environment along with personal traits and abilities. The diversity in types of entrepreneurs will have varying effects on the overall economy and society. This subsection provides a discussion of entrepreneurial types according to the literature.

For the purposes of this study, I assume that high-potential entrepreneurs fit well with common terms like formal, opportunity, pull, or type-A entrepreneurs. Opposite this cohort of entrepreneurs are necessity, push, informal, or type-B entrepreneurs. I also argue that the dualistic categorization of types is an attempt to better understand the wide-ranging interpretations of the entrepreneur and their relationships to economic growth. However, it will become clear that there is heterogeneity within this dualism.
Since the early 2000’s, surveys such as the Global Entrepreneurship Monitor have been finding particularly high rates of nascent entrepreneurship in developing countries – rates that are much higher than in many developed countries (Walter et al. 2003). At the root of this negative relationship between level of development and growth lies a distinction in types of entrepreneurs, specifically opportunity versus necessity. Generally, the former are “pull” entrepreneurs, drawn to start a business because they recognize an opportunity or inspiring idea. The latter turn to self-employment out of “push” factors, possessing no other option and turning towards enterprise as a means to survive.

In developing countries, the proportion of necessity entrepreneurs tends to be much higher. These necessity entrepreneurs, or as some call them, the working poor, exist mainly in the arena of the informal sector. Since they lack adequate startup capital and the proper know-how to register and run a formal business, they exist informally. Indeed, the informal sector in developing countries tends to dominate, which would reflect a higher proportion of necessity entrepreneurs.

While there may appear to be a higher proportion of necessity or informal entrepreneurs because of a larger poor population, it may be due to the tendency to analyze reality using Occam’s Razor, which suggests limiting analysis to fewer sectors (Fields 2004). Although there are more than just necessity and opportunity
entrepreneurs, the heterogeneous groups in the informal sector disguise as the necessity type in surveys for simplicity. This builds off the literature on labor market multiplicity. Fields (2004) points out that employment and creating opportunities for labor is the most effective method of ensuring economic growth, but labor market dualism induces a more complicated relationship (Fields 2004, 4).

He identifies the formal sector as modern, industrial, and urban, whereas the informal sector is traditional, agricultural and rural. On the other hand, informal businesses are small, have low entry costs, rely on indigenous resources – kept within the family – require low levels of skill, and involve competitive unregulated markets (ILO 1972, 6). Within the informal sector, however, there are those who are unable to join the formal sector and those who desire to be in the informal sector (Fields 2004, 22).

To understand how this dualistic approach would fit into the story of self-employment, I borrow from William Baumol’s (2008) model. As proposed above, formal entrepreneurship closely mirrors productive entrepreneurship. These “A-type activities” positively impact social product and allow society to fully realize potential gains, creating social benefit. On the other hand, unproductive entrepreneurship parallels informal entrepreneurship. These “B-type activities” are limited in their ability to drive the overall economy and society forward. Whereas an entrepreneur on the margin might prefer to engage in a formal enterprise, if formality is inadequately incentivized, an entrepreneur will likely opt to maintain an informal business, or set the idea aside and attempt to find a job in the traditional job market. Regardless of the social payoffs in the formal sector, the private payoffs may not properly reflect these
benefits – as per the definition of externality. Thusly, the rational entrepreneur will not engage in formal, or productive, enterprise.

To elaborate, in Baumol’s model exogenous factors determine the type of entrepreneurship that emerges. His argument illustrates the notion that the social payoffs of formal enterprise – increased tax revenue, increased employment, innovation, poverty alleviation, and overall economic growth – typically go unconsidered on a private level. Since entrepreneurs are likely to make decisions based on their personal payoffs, not all entrepreneurs will contribute equally to economic growth – that is, entrepreneurs and their subsequent enterprises do not necessarily engender increased social product. He reasons that if entrepreneurs are simply creative people, looking to make a profit, it is expected that not all of them will be concerned with whether or not the activity they engage in will add to social product (Baumol 2008, 84). This holds even if their goals were an impediment to overall development.

Furthermore, variation in social product does not result from the entrepreneur’s specific activity or objective, but instead, by the governing payoff structure of one entrepreneurial activity relative to another. In Baumol’s words,

“If the rules are such as to impede the earning of much wealth via activity A, or are such as to impose social disgrace on those who engage in it, then, other things being equal, entrepreneurs’ efforts will tend to be channeled to other activities, call them B” (Baumol 2008, 85).

Even if these B activities contribute less, or negatively, to production or social wellbeing, the rules of the game favor B over A, and thus, society may suffer the consequences as the set of entrepreneurs and their distribution are likely to switch, or even drop out of the picture if an A-type entrepreneur’s talents are not suited by
option B. This builds off the idea that institutions and other factors play a role in
determining entrepreneurship’s relationship with economic growth. Whether a policy
of formal sector employment creation has favorable labor market effects depends on
which labor market model best fits a particular country’s institutional circumstances
(Fields 2004).

Role of the Entrepreneur and Growth

As such, varying types of entrepreneurial activities emerge depending on
institutional environment, psychological factors – such as risk-taking or high-
achieving tendencies – and sociological factors – like socioeconomic hierarchy and
cultural values – in turn leading to some level of growth (McClelland 1971; Kilby
1971, 4). For example, in a weak institutional environment that does not value
formality an entrepreneur will likely choose to pursue B-type activities in the
informal sector, contributing minutely to broad-based economic growth.

The precise role of entrepreneurship in the economy is a long debated
phenomenon in the literature. While the level of entrepreneurship relates to a given
country’s level of economic development, the exact nature of this relationship is less
obvious (Wennekers et al 2005, 293; Benjamin and Mbaye 2012; Wennekers et al
complication may exist in part because the role of the entrepreneur has remained
elusive and evolving.

Richard Cantillon first identified the entrepreneur as a risk-bearer in the early
18th century, buying factor services with the intent to sell the product at uncertain
prices in the future (Kilby 1971, 2). Later that century, Adam Smith and David
Ricardo both acknowledged that entrepreneurship was a critical factor for successful economic performance by creating competition (Holcombe 2008). Smith posited that as markets grew, entrepreneurship would lead to innovation, further increasing in the division of labor and hence, productivity. Jean Baptiste Say broadened this definition, adding that the risk-bearing entrepreneur combines and gathers factors of production in a new way (Kilby 1971, 2; Schumpeter 1911, 54). John Stewart Mill, however, was the first to distinguish an entrepreneurial function from that of simply providing. Ultimately, entrepreneurship became part of a “catch-all” residual factor of economic growth capital (Kilby 1971, 2).

In a distinct line of thought, the 1911 and 1942 works of Joseph Schumpeter defined the entrepreneur as an engine of capitalism, playing a dynamic role in the cycle of creative destruction (Heilbroner 1995, 295-296; Schumpeter 1911; Schumpeter 1942). These innovators combine the factors of production in new ways, introducing a change into economic life and generating profit. The revolutionary point was that these innovators did not necessarily reap this profit – they spurred change, without necessarily experiencing the reactions that followed. Closely following the entrepreneur’s innovation, a swarm of imitators would generalize this innovation to the masses, spreading new technologies and realizing the returns that the entrepreneur facilitated. Profit surges may be relatively short lived, however, since competition and increased availability of the innovation would force prices down, creating a space for another entrepreneur to emerge – spurring prices, and refreshing the circular flow of capitalism.
Related to Schumpeter’s description of the entrepreneur, is Kirzner’s entrepreneurial model. In his eyes, entrepreneurs create opportunities for more entrepreneurial activity, satisfying consumer satisfaction at a lower cost – which indeed is not that distinct from Schumpeter (Holcombe 2008, 67; Kirzner 1973). The distinguishing point in his theory, however, is that the entrepreneur equilibrates the model, as opposed to disturbing the existing equilibrium; the entrepreneur fixes issues of market ignorance. Either way, though, both theories emphasize entrepreneurial ability to seize unexploited opportunities spurring a change in the market environment.

The entrepreneur creates and responds to inertia. As entrepreneurship increases, it spurs subsequent activity and strengthens the business environment. Simultaneously, the business and institutional environment either encourages or deters entrepreneurs – similar to a chicken-and-egg problem. The direction and nature of the causal relationship between entrepreneurship – and specifically, distribution of entrepreneurial types – and a country’s level of economic development is difficult to determine. Wennekers et al (2005) compellingly posit a U-shaped relationship between a level of development and entrepreneurial dynamics. As a nation develops economically, the prevalence of nascent entrepreneurship declines, until they reach high levels of economic development and nascent entrepreneurship surges once more (Wennekers et al, 305). This ties into the asymmetry between developing and industrialized countries (Klapper et al 2010, 139). There are relatively lower requirements of investment, human resources, knowledge, and capital in the popular retail sectors than at high levels of industry. As a nation develops, there are lower
levels of self-employment – firms begin expanding and hiring, and the types of firms become more advanced, making it more difficult to adhere to start-up standards (Wennekers et al 2005, 305). There are new opportunities for entrepreneurship at high levels of economic development with abundant technology and supportive business laws, as well as at very low level when there are copious untapped markets.

The quadratic U-shaped relationship holds for both opportunity and necessity entrepreneurship, but levels of per capita income decrease with high levels of necessity entrepreneurship (Wennekers et al 2005, 306). This implies that informal entrepreneurship has a smaller impact on a country’s economic growth. A larger informal economy relates to less tax revenue, and therefore less investment in infrastructure and economic growth. This is not to say that informal entrepreneurship has no contribution to the economy at large. Informal economies often indirectly positively affect tax revenue and growth through increased consumption (Klapper et al 2010). Nonetheless, informal entrepreneurship is associated with slower growth and employment than the productive alternative.

**Methodology and Case Selection**

In the following chapters, I build a theoretical framework of market and non-market factors that influence the decision to formalize, and transition from a qualitative analysis to a game theoretic approach. Game theory is useful for studying interdependent decision-making in a formal and methodological framework (Munck 2001, 173). Interdependent decision-making often reflects a social problem – a puzzle that involves decisions of various players in society, as opposed to just a simple cost-benefit analysis of a particular individual. The issue at hand is certainly a social
problem; the level of formal entrepreneurs is below the socially optimal level given the continued pursuit of informal activities even by those who are high-potential. Moreover, game theoretic analysis can integrate research on a wide range of issues – such as political economy– which is particularly helpful in cases concerning economic development, due to its interdisciplinary nature (Wydick 2008). It provides a succinct framework for analyzing a specific issue, and will provide readers and policymakers with a means to extend beyond the particular case of Kampala.

I selected the case of Uganda, and specifically Kampala, based on prior exposure and research. Having previously conducted field research in Kampala on the tangentially related topic of financial literacy in the fall of 2012, not only had I already had the opportunity to study and observe informal enterprise, but I also had a sense of the culture. I was familiar with the local language and transportation system, and was fortunate to have several connections at MUBS through which I could acquire the contact information of past and present students. Given the time constraint – less than a month to collect the necessary data – it made most sense to remain in one region and tap into already established networks.

While this does seem like a limited scope, the case of Kampala may be indicative of entrepreneurship and business practices in other similar cities and regions. According to the World Economic Forum Africa Competitiveness Report (2013), Uganda is a Factor-Driven (Stage 1) economy in terms of development. Stage 1 countries have a GDP per capita of less than US$2,000, and compete based on factor-endowment of unskilled labor and natural resources. They maintain competitiveness depending on well-functioning institutions, infrastructure, a stable
macroeconomic environment, and a healthy and literate workforce. Many of these countries have large informal sectors.

African countries grouped similarly are Benin, Burkina Faso, Burundi, Cameroon, Chad, Cote d’Ivoire, Ethiopia, Gambia, Ghana, Guinea, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Nigeria, Rwanda, Senegal, Sierra Leone, Tanzania, Zambia, Zimbabwe, and globally extends to include Bangladesh, Nicaragua, Pakistan, Vietnam, and Yemen. Given such rankings and discussions in existing literature, namely Benjamin and Mbaye’s (2012) discussion of the informal sector in West Africa, it seems that much of what might be concluded in terms of the drivers and constraints of formal enterprise may apply to other similarly categorized regions as well.

The following graphs illustrate how this market might compare to others. The first compares 59 factor driven economies by the level of development to Total Early Stage Entrepreneurial Activity (TEA) as a percentage of the population. The first graph illustrates the high levels of entrepreneurship in factor-driven economies. Among those Stage 1 economies, Uganda ranks among the highest in terms of early-stage entrepreneurial participation. The second supports the notion that factor-driven economies tend to specialize in consumables – which often require a lower degree of quality and commitment. Aside from distinguishing Stage 1 entrepreneurship, these graphs show that there may be differences among Stage 1 economies as well.
Figure 4: Total Early-Stage Entrepreneurial Activity (TEA) for 59 Economies in 2010, by Phase of Economic Development, Showing 95 Percent Confidence Intervals

Figure 10: Sector distribution of early stage entrepreneurship activity by phase of economic development

Source: Global Entrepreneurship Monitor (2010)
Providing a regional comparison, the next graphs illustrate the ease of doing and starting a business. Uganda is more in the range of these economies, but we can observe how a country like Rwanda with strict enforcement and high levels of government organization would allow for a better business environment.

Moreover, as the literature above implicates, due to the non-definitive nature of entrepreneurship, it is often best to analyze entrepreneurship and its effects at the local level. Audretsch et al. (2006) explain that entrepreneurship is all relative to some benchmark – “what may be perceived as change to an individual or enterprise may not involve any new practice for the industry… it may just represent domestic change” (Audretsch et al. 2006, 7).

**Informants**

I limited my research to those educated at the MUBS Small Business and Entrepreneurship program because these respondents most adequately represent the cohort of high-potential entrepreneurs on the margin – most realistically viewing formalization as a strategic decision. Since many turning towards entrepreneurship are hoping to merely earn a daily subsistence, these necessity entrepreneurs or working poor are less concerned with formalizing. Many such entrepreneurs are uneducated, lack start-up capital, and are potentially unaware of the requirements for properly registering a business. With an underdeveloped and narrow formal sector, it is impossible to absorb and support all of the livelihoods that presently depend on the informal sector, and as such, I shift my focus towards those who have the potential to opt for formality.

I posit that those educated by one of the most prominent programs in the country (and the East African region) are most likely represent the subjects of interest; they possess the knowledge necessary to register, an awareness of tax policies and laws of business practices, an extensive education on business start-up, and, theoretically, a support network. Upon pursuing entrepreneurial activity, they are
making a conscious, educated decision whether to fully register and pay taxes or not. Additionally, I chose to interview several lecturers at MUBS, hoping that these respondents would provide context and highlight the factors they find most crucial to molding these emerging high-potential entrepreneurs— which in turn may reflect the values and impressions held about the role of entrepreneurship in Uganda.

Moreover, many of those interviewed represent Uganda’s youth – the future generations currently struggling to find employment in an increasingly privatized job market. Since the shift to a privatized economy in the early 1990’s, the public sector shrank dramatically, and the skillset required to thrive in the workplace changed (Dunn 2012). Whereas previously the public job market valued abiding, relatively complacent workers prepared to take instruction, the private sector values competitive, critically thinking, and self-driven workers. Unfortunately, the education system has not seen much reform, and students continue to learn through rote and repetitive teaching, leaving them unprepared to thrive in a changing job market. Interviewing youth currently grappling with job creation in the face of severe unemployment may shed some light on the careers of future generations.

The sample included in the study was determined somewhat by chance. Upon acquiring the contact information of dozens of MUBS students through a lecturer in the Entrepreneurship department, I reached out to them by telephone to set up interviews. This tedious process entailed many failed attempts to connect with informants, and interviews depended largely on the simple act of selecting a number that was still in service. Upon getting through to potential respondents, I then explained my project, gauged interest, and arranged to meet somewhere convenient
for them, offering to compensate travel or provide a beverage as an appreciative gesture. I ensured that participation was voluntary, and that respondents understood the extent of the study. Names and identities remain anonymous, as agreed to in written informed consent forms.

One-on-one interviews served as the main method of data collection during field research. In-person interviews allow individuals to express personal motives and share anecdotes freely, without pressure from peers. Moreover, interviews proved to be superior to surveys or written correspondence because they allowed for clarification and unanticipated follow-up questions. To check for consistency, I attempted to triangulate information by gathering responses from graduates, current students, and lecturers. This also allowed for observations in evolving perspectives between current students and graduates, as well as any discrepancies between what the lecturers believe they are equipping students with and what students actually feel equipped to pursue given their education. When interviews were not possible, I attempted to send questions via email and designed an online survey for current MUBS students, in the hopes that even after I departed, lecturers might share this with their students.

**Thesis Trajectory**

I use the case of Uganda to illuminate the decision-making process that emerging entrepreneurs face. Arguably, one of the most impactful ways to do this is through the construction of a game-theoretic framework. First, however, I build a theory that distinguishes between market and nonmarket factors that influence entrepreneurial formality in Chapter 2. After establishing these, as well as a working
definition of formality, I move on to build a game theoretic framework – drawing upon the factors identified in the previous chapter. The game theoretic model in Chapter 3 reveals the effects of externalities and sub-optimal outcomes when entrepreneurs choose to remain in the informal sector. As I will reveal, this is in large part due to the Ugandan government’s inability to align social benefits with private ones – lacking adequate enforcement and incentives to formalize, as well as the potential social response to government initiatives.

After completing the theory-building components, Chapter 4 provides an analysis using information specific to the case of Kampala. It is in this chapter that I include the bulk of my findings in the field. Following this chapter, we can imagine how Uganda might compare to other economies, and how we might adjust this distribution. I also offer policy suggestions in the concluding Chapter 5.
Why are well-educated entrepreneurs not rushing to join Uganda’s formal sector? Why is it that they do not capitalize on their investment in superior entrepreneurial education by distinguishing themselves in the formal sector? The graduate who packages snacks and sells them on campus could brand her products, making a name for herself and expanding to source established groceries. Instead, she continues to sell her products on the street or in the market, delivering perhaps to friends, barely differentiating herself from those without marketing skills or awareness of business law. This chapter explores some of the core reasons provided in the literature, such as institutional strength, ease of registration, and benefits to formal entrepreneurs, as well as some that are not.

There is heterogeneity in the informal sector, in which both the working poor and those with promising growth potential group together. This crowded sector contains some who enter out of necessity, while others maintain informality as a desirable choice (Fields 2004). This complication calls for a framework that recognizes the interplay of two categories: market and nonmarket factors (Grimm, van der Hoeven, and Lay 2011).

Market factors are those within the corporate arena, involving economic constraints and preferences of consumers and clients that influence business contracts and operations. Non-market factors include those outside of the corporate arena, social, institutional, political, and cultural forces. This distinction is useful because it emphasizes the political economic nature of entrepreneurship. It encompasses the demand entrepreneurs may have for joining the formal sector in addition to Uganda’s
reasons for supplying and supporting this choice, recognizing the influence of extra-economic factors as well (Grimm, van der Hoeven, and Lay 2011; Espach 2005).

Interestingly, although these factors fit into distinct categories, interactions are evident. This gives way to a game theoretic analysis in the following chapter.

These factors are important because of Uganda’s current situation: an overcrowded and socially sub-optimal informal sector sits precariously alongside a narrow and underdeveloped formal sector. The rest of this chapter is organized as follows: first, I define firm formality, which is the outcome of interest. Second, I discuss the range of market and non-market factors associated with the decision to pursue a formal status. In the next chapter, this framework extends to a game theoretic model, given the strategic and interactive nature of these factors.

**Defining Firm Formality**

What does it mean to be a formal firm? For the purposes of this paper, I define formality by two criteria: 1) complete and centralized registration and 2) payment of regular business income taxes. A firm is informal if incompletely or improperly registered, or by evading or only paying partial taxes. While there are other criteria common in the literature, these two are the most determinative – mainly because they result in government recognition and theoretical benefits, such as access to credit or formal property.

**Complete and Centralized Registration**

Registration is one of the most common criteria for formality in the literature, partially because informality is frequently associated with illegality – an informal business is one that is operating illegally, without documented recognition from the
government. Formal firms, on the other hand, are those that are legally accounted for with the necessary government agencies and in the taxable sector (Desai 2011). While this still holds true in some cases, informal activities are no longer just those that do not comply with legal and procedural expectations. Tokman (2007) points out that as research on the informal sector continues the separation between registered and the unregistered is not quite distinct.

Given the decentralized and disjointed nature of many bureaucracies in developing countries, there are multiple agencies with which to register – city municipality, localities, property registry, and more. For example, it is quite common for firms to register with municipal enforcement, but evade registration with another department – such as tax authorities (Benjamin and Mbaye 2012). Benjamin and Mbaye found that it was actually rare for firms to be completely unregistered. Instead, most informal firms register in at least one department, or have at least begun the registration process. As such, the specification of “complete and centralized” is crucial; the informal sector includes partially registered firms, only recognized by some government departments. For the purposes of this paper, I hold that only those that are committed to fully navigating and completing the registration process are formal firms.

**Full Payment of Taxes**

For similar reasons, firms are informal even if they partially pay taxes. While some firms entirely evade taxes, the spectrum of formality because of tax payment is broader and more varied than a simple “evade” or “pay” dichotomy. There are a range of tax structures, varying tax policies and systems that exist in developing
countries. To provide an example, countries in the West African Economic and Monetary Union (WAEMU) have presumptive lump-sum taxes in addition to the traditional business income tax as an alternative for firms unable to meet standard requirements (Benjamin and Mbaye 2012). Mainly because informal firms cannot produce detailed documentation of their revenues for proper income taxes, enterprises under a certain threshold of annual sales solely uphold a presumptive tax. Furthermore, in many countries it is common for informal firms to pay VAT tax, but fail to meet the regular taxes expected by fully registered formal firms (Muwonge, Obwona, and Nambwaayo 2007). They also likely cannot file VAT tax returns due to lack of documentation. As such, the specification of “full payment” is relevant because of the likeliness that many informal firms have paid some partial tax.

**Common Characteristics of Formal Firms**

While I restrict my definition of formal firms to the characteristics above, it is worthwhile to note that there are several other important characteristics commonly associated with formal firms. These include fixity of workplace, firm size, proper accounting practices, and access to or support from formal credit. I explain below why I do not include these in my definition.

**Fixity of Workplace**

Fixity of the workplace is an indicator of formality because it signifies a firm’s ability to acquire property. As mentioned previously, access to property is often only possible with official proof of registration. A fixed workplace also differentiates firms from the high degrees of mobility in developing countries’ markets (Benjamin and Mbaye 2012). Street vending is an entry point for many
entrepreneurs, commonly seen walking with a basket of produce or selling skewered meat at bus stations. If instead a firm owns property specifically for business purposes, it is likely that this is a registered firm – especially, because it is easier for authorities locate that firm. I do not to include this criterion in the definition of formality because while it is a common characteristic of informality, it is not deterministic. An example of a formal firm that remains mobile might be an independent consulting service.

**Firm Size**

Informality is often associated with small firm size. The United Nations System of National Accounts (1993), for example, defines the informal sector as encompassing “small enterprises that employ fewer than 10 employees and are not registered with a given administration.” The size criterion implies that informal activities are often survival strategies for those living in poverty, labeled as the “working poor” (Tokman 2007, Benjamin and Mbaye 2012). Since formal employment is rare due to narrow formal sectors, informal enterprises arise employing an average maximum of ten employees. These small firms are typically low-skilled, lacking the necessary organizational capacity to properly manage permanent employees and fully formalize their firm through honest bookkeeping.

Albeit popular, the size criterion is not indicative of formality. This is mainly because there can be large informal firms, as well as small formal firms. Instead of a determinant, size is more likely a sub-outcome of informality; informal firms may strategically stay small so that revenues do not exceed the threshold for paying full income taxes. Additionally, firms of all levels of formality tend to be small in the first
few years of startup, and may take a significant amount of time to grow to the point that they are hiring upwards of ten employees. For these reasons, “size” was not included in my definition of informality.

**Proper Accounting**

Honest separation of personal and business accounts is another common criterion, most notably used in the International Labor Organization’s (ILO) 2002 definition of informal business: “an unregistered firm with no clear line separating business activities from household activities.” However, business standards in a given country may vary with levels of financial literacy. For example, whereas maintaining a steady inventory is a standard practice in many well-organized Western businesses, this is not commonplace for firms in developing countries. Instead, businesses typically wait to sell out before rebuilding inventory. Another example is record-keeping practices; although financial literacy programs stress the separation of household and business accounts and maintaining detailed balance sheets, even established firms have lax bookkeeping practices (Drexler, Fischer, and Schoar 2010).

Similar to formality, financial literacy is a spectrum, depending heavily on business protocols. Financial literacy rates are particularly low in developing countries, and the expectations for revenue reporting to attain formal-status may be lower. For instance, an adequate financial education in a developing country may emphasize managerial capital and basic accounting skills—such as cost estimations and separation of accounts—but may not incorporate detailed revenue reporting or investment finance. This is evident in Benjamin and Mbaye (2012), finding that
among the registered firms surveyed, an estimated 19% were underreporting revenues. While this may be strategic tax evasion, it still indicates a low standard of accounting.

Poor accounting is widespread, indiscriminate of informal and formal firms. The measure of honest accounting on its own is narrow, but more descriptive when contextualized in the registration or taxation processes. Registration, for example, requires a report of revenues for creating income tax statements, but the standard accepted varies between countries. Proper accounting is a byproduct of formalization. A better sign of formality is to evaluate those who have met standards set forth by the government by successfully registering, as opposed to comparing reporting methods.

**Access to and Support from Formal Credit**

Access to formal credit is associated with formal business, since a formal line of credit requires documentation. Banks demand financial and administrative documents from firms wishing to apply for a loan, and as such, it would be impossible for informal entrepreneurs to access formal credit (Benjamin and Mbaye 2012). However, while formal financial support reflects credibility, access to bank credit is not deterministic of firm formality. Collateral requirements tend to be unappealing and avoided by even registered firms. Many raise finances from internal funds or informal loans from a friend or family member (Levenson 2012). Because of the prevalence of informal lending in both formal and informal sectors, formal credit is an insufficient measure of formal business.

**Why Formalize?**
What market and nonmarket factors influence an entrepreneur’s decision to join the formal sector? Here I identify a range of possible explanations found in the literature. The two chapters that follow build on this in two distinct ways; Chapter 3 develops a game theoretic analysis, while Chapter 4 analyzes the case study of Kampala, Uganda. The concluding Chapter 5 will provide methods for extending analysis beyond this case.

**Market Factors that Influence Formalization**

Market factors, as defined previously, are those within the corporate arena—what some may colloquially refer to as “strictly business.” Typically, these envelop the constraints imposed by clientele or preferences of consumers that might affect business operations and decisions.

**Can formalization enhance credibility and firm image?**

A credible firm is reliable and predictable. While difficult to measure, credibility implies that a service or product is consistent, building a sense of trust that those without credibility may not have. As such, entrepreneurs may want to formalize as a signaling effect; registration may be a means to signal credibility to customers and clientele. Dedicating time and money to complete registration demonstrates a commitment to a long-term service. A firm would not invest heavily in the startup process if it did not expect to last long. This is especially true if informal entrepreneurship is a popular or viable alternative. Similar to investments in higher education, firm registration sends market signals that an enterprise offers a quality product. They would only incur the requisite costs if they placed a high value on their enterprise.
Moreover, this signal may even transcend existing familiar trust relationships or social ties. Registration and proof thereof can provide a standard and automated signal of reliability, as opposed to the personal connections that often dictate consumption choices in developing countries. Furthermore, an accompanying sense of respect creates an air of personal and corporate responsibility, which may in turn further motivate an entrepreneur to adhere to formal standards.

**To what extent does demand affect formalization?**

**Consumer Demand**

Consumer demand dictates what products or services exist in a given economy. Buyers’ preferences largely determine what sellers provide, seeing as without an interested consumer-base, firms will have no way to turn a profit.

A strong incentive is the formal entrepreneur’s ability to expand and market to a wider audience. With full registration, firms need not restrict themselves to word of mouth and existing social networks. Instead, they can openly advertise their business without the fear of making themselves known to enforcers. However, the effectiveness of marketing also depends on consumer demands. Resource-availability and household incomes partially shape demand (Grimm, van der Hoeven, and Lay 2011, 6). Together with cultural and traditional preferences, these constraints determine a standard of quality and product diversity. For instance, many food and beverage items remain in the informal sector, although they tend to be in highest demand (Bohme and Thiele, 2011). Since an entrepreneur could sell peanuts easily on the side of the road, formal outlets rarely carry them, even if they are a staple.
Studies reveal that even if household incomes are rising – leading to a growing propensity for consumption of formal goods – there is not a succinct transition from informal to formal activities, as one might expect. In the words of Grimm, van der Hoeven, and Lay (2011), the “demand elasticities for informal goods and distribution channels are generally not too far below and in some cases even above unity, which points to a slow and uneven transition process” (Grimm, van der Hoeven, and Lay 2011, 6). Certain goods and services will remain in the informal arena with continual consumer support, regardless of formalization or advertising initiatives.

Supply-Chain, Client Demand, and Population Proportion

In addition to consumer demand dictating entrepreneur choice, demands of other established and emerging businesses play a role. Typically, we imagine that formalization would allow business partnerships to flourish. An established business owner is unlikely to pursue a business deal with an informal seller, mainly due to the credibility signals cited above. In this sense, formalization would play a substantial role in meeting client or supply-chain demands. However, depending on the type of enterprise, there may be an advantage for an entrepreneur to remain in the informal sector.

There are substantial demand linkages between the formal and informal sectors (Grimm, van der Hoeven, and Lay 2011). Muwonge, Obwona, and Nambwaayo (2007) emphasize that these manifest as both backward and forward linkages. Backward linkages involve the supply of necessary inputs for production from the formal sector, and forward linkages involve the use of the informal sector’s
products and services as inputs for the formal sector’s production process. There is a strategic position for the entrepreneur based on where they fall in this relationship. Subcontracting to the informal sector may be more common because inputs are cheaper for formal firms. Formal business owners are more likely to purchase inputs, such as lumber, from informal sellers because there is no added VAT tax or hiked prices to compensate for the costs of formalization. Bohme and Thiele (2011) do find that linkages vary on degree of informality, and formal businesses less frequently connect with firms that are low in capital stock or completely unregistered (Grimm, van der Hoeven, and Lay 2011, 7). Therefore, complete informality may not benefit the emerging entrepreneur in terms of supply chain demands.

This may vary across sectors of the economy. For example, a particularly high-end formal restaurant or catering service may wish to source from a formal produce seller. If a restaurant wishes to signal high quality – ensuring that clients will not get food poisoning, for instance – they may choose to select a supplier that is also formal and high quality. However, a formal entrepreneur who produces furniture will likely choose to purchase lumber from an informal seller. Given the choice between a formal or informal source, the formal source will likely be more expensive to compensate for taxes and registration fees. Unlike produce, the difference in lumber is observable, and there would be little incentive to buy from a formal seller.

Additionally, this may dictate the proportion of entrepreneurs in the informal sector. If many formal firms require that others be formal for business matters, we might imagine a higher proportion of emerging entrepreneurs in the formal sector. However, if the informal sector is viable, many will strategically choose to remain
informal. Especially because of the ease associated with common informal activities – typically involving selling raw materials – the informal sector will remain attractive.

The decisions of other firms highly influence the resulting distribution of formality. Klapper et al (2010) points to a U-curve relationship between levels of development and informal enterprise. As more of the population enters the formal sector, the informal sector shrinks, and vice versa. Moreover, the larger the informal sector is, the less likely it is for law-enforcers to track down individuals. This shows that what other entrepreneurs decide in terms of formalizing or not has a heavy effect on whether or not an emerging entrepreneur formalizes. An environment in which there is a distribution favoring informality will only exacerbate, as more continue to move towards informal business.

**Can formalization provide opportunities for investment and access to credit?**

Formalization and proof thereof makes it possible to obtain formal credit. This is beneficial to the entrepreneur because it is a reliable source of financial support, but also signals credibility to investors. Registration represents reliability and credibility, providing a competitive edge to the registered firm; consumers may be more attracted to a successfully registered and high-quality business, ensuring long-term profit.

Since formalized firms are perceived as more trustworthy than informal sellers, internationally, investors are more likely to support a project that maintains a certain degree of permanence. Along these lines, formal firms are also associated with higher future earnings (Grimm, van der Hoeven, and Lay 2011). Even informal businesses require substantial investment at the outset, but maintain at low levels of capital, due to high and rapidly decreasing marginal returns. Entrepreneurs in the
informal sector are often stuck at low levels of capital, due in part to diminishing returns in an unstable business environment. Only when capital exceeds a threshold of an estimated $500 (international dollars) do entrepreneurs begin to earn a positive marginal return Grimm, van der Hoeven, and Lay 2011, 4). Formalization could draw in substantial investments to assist with breaking the low-capital barrier. However, earning formal credit can be risky, and may only be possible with the proper connections and coveted collateral.

Can formalization guarantee property rights?

As stated in the Doing Business Report – a World Bank administered international survey – “ensuring formal property rights is fundamental” to creating a conducive business environment (Doing Business 2014, 41). If property is informally administered, regardless of documentation, entrepreneurs may not be able to provide collateral to receive loans or credit from formal providers. Additionally, in terms of marketing and developing a regular consumer base, it is helpful to secure property so that entrepreneurs can establish a location.

Acquiring formal property for the strict purposes of business requires proof of registration (Benjamin and Mbaye 2012). Set property enhances an entrepreneur’s ability to grow and hire additional employees. Without a set location, it is difficult to organize and manage employees. A highly mobile and elusive firm is likely to lack the administrative capacity necessary to oversee employees. An element of trust comes into play; if unregistered, and therefore, bearing more risk, hiring employees is a liability.

Non-Market Factors that Influence Formalization
As previously stated, non-market factors include those outside of the corporate arena, often encompassing social, institutional, political, and cultural forces. I split this broad category into two subcategories: institutional and cultural factors. The institutional includes political actions and policies as well as bureaucratic and state structures. The cultural includes social, religious, and traditional characteristics of a community that influence entrepreneurial decisions.

**Institutional Factors**

*What are the costs of registration and bureaucracy of regulation?*

Cost implies more than just the fees paid for registration and taxes – it also accounts for the time and effort necessary to navigate the process of formalization. Even if fees are manageable, a tedious and unclear registration process deters many from fully registering. Relaxing regulations leads to an increase in registered enterprises. This is typically a result of marginal firms formalizing when they could have otherwise remained in the informal sector (Loayza, 1997). Excessive regulation reduces business growth, productivity, and inhibits the use of new technology (Benjamin and Mbaye 2012). As such, ease of registration heavily impacts the perceived cost – especially in that it raises opportunity cost by reducing the firm’s ability to focus on strengthening other capacities of the business in the meantime.

Indirect costs and fees further down the road add to this burden. Such costs include fees to maintain or renew registration, potential progressive taxes as the firm grows, and costs of keeping up-to-date to meet regulatory requirements. Additionally, the cost of goods they sell may increase, not only to reflect better quality, but also to compensate for these costs. Without a feasibility test, the firm’s earnings may take a
hit in rising costs. Similarly, formal entrepreneurs pay employees more substantially and regularly.

*What are the costs of evasion?*

An entrepreneur may be more inclined to pay registration fees and taxes in full if the risk of detection is high. According to Dabla-Norris, Gradstein, and Inchauste (2008), firms choose to enter the informal sector to avoid costs associated with formal sector regulations. The firm, however, runs the risk of apprehension and subsequent fines. Generally, registration reduces risk of arbitrary payment, since bribes should be less necessary with proof of formalization. Upon complying with registration procedures, a firm can focus on strengthening operations, as opposed to hedging their success to avoid enforcement, fines, arrest, or foreclosure. Assuming laws are in place, there is usually an accompanying punitive system to ensure that these laws serve as a credible threat. The extent to which government sanctions informal firms for failing to meet tax or regulatory expectations determines the degree of risk reduction. If people can evade taxes without fines, or if bribes suffice in place of high tax thresholds, the benefits of formalizing through full payment of taxes reduce significantly (Benjamin and Mbaye 2012; Lawson 2008).

One of the simpler arguments for informality is the ease of evasion in a system that lacks an organized, strict enforcement in a system of weak government and poor rule of law. The World Justice Project “leads a global movement to strengthen the rule of law for the development of communities of opportunity and equity,” defining rule of law by several measures (World Justice Project Website). In a system adhering to rule of law, all members of society – official and individual –
are accountable under clear, stable, and just laws. Laws are enforced and efficient, delivering justice ethically and objectively. The World Justice Project surveys and ranks countries around the world based on nine factors: limited government powers, absence of corruption, order and security, fundamental rights, open government, regulatory enforcement, civil justice, criminal justice, and informal justice. Measures of open government and regulatory enforcement are crucial to understanding the legitimacy and value of formalization and adhering to business law.

In developing countries, while a regulatory system may be in place, the quality and the state’s capacity to enforce regulations are often weak. Fragmented bureaucratic structures often detract from institutional strength, which facilitates a lack of transparency, regular documentation, and adamant, nondiscriminatory enforcement. Dabla-Norris et al (2008) find a succinct positive correlation between rule of law and formal firm growth. In a low-functioning bureaucratic environment, the probability of being apprehended decreases, and the informal sector grows (Dabla-Norris, Gradstein, and Inchauste 2008). People are unlikely to pay for something that they may otherwise successfully evade. Furthermore, if authorities do not maintain clear documentation, entrepreneurs may pay fees doubly due to lack of proof.

What are the state’s tax policies?

Tax policies vary greatly between, and sometimes within, countries. The structure of corporate taxes – whether progressive, flat, or an alternative combination – and the frequency of payments may greatly determine how willing an entrepreneur is to pay in full (Pickhardt et al 2010, 2011).
If a tax system is challenging to navigate, the time and effort associated with paying full taxes acts as a deterrent. Similarly, if tax burden is heavy, emerging entrepreneurs may favor informality. A given tax regime heavily influences an entrepreneur’s decision to pay full taxes. If, for example, the government provides a lower threshold of income tax for smaller, lower-earning firms, strategically, it is in their best interest to evade full tax payment, and thus, formality (Benjamin and Mbaye 2012). With such a system, as more people opt for the informal sector, the tax burden falls on those few formal entrepreneurs – further decreasing the appeal of the formal sector (Olongo and Baguma, 2013).

**Does formalization affect the degree of corruption that entrepreneurs face?**

Degree of corruption in this case mainly refers to abuse of powers by government officials. While the forms of corruption may vary from bribery, to patronage, to extortion, corruption implies an inconsistent and illegitimate enforcement of laws and formal rules.

Corruption heavily interferes with an entrepreneur’s decision to abide by formal regulatory rules. Documentation of paid taxes and registration should free entrepreneurs of bribes or other extractive practices. However, in many developing countries there is a high prevalence of corruption and nepotism. Preferential treatment and bribery within a system may become the modal way of navigating regulations, as opposed to the codified registration process. If entrepreneurs can easily pay a bribe that is relatively manageable to the expense of formalization, many may opt for the informal sector. Additionally, if a citizenry feels as though government does not
provide fair treatment, entrepreneurs will be reluctant to support the government’s demands for formality.

High levels of corruption also disrupt the delivery of public services and sound public financial management; not only does corruption impede smooth business operations, it also discourages entrepreneurs from contributing to tax revenue. Lack of transparency and accountability leaves taxpayers unsure of how government spends their money (Martini 2013). Without a succinct separation between public and private finances and an open budget, citizens have no way of knowing whether their money is being pocketed or used to benefit the country’s development. This may further discourage formalization and paying government administrators.

*Will entrepreneurs gain access to public services?*

One incentive of formalization is access to public services – including infrastructure, education, and health services, all of which the government provides typically thanks to tax revenue funding. Steadily and reliably providing these goods may further facilitate economic development and strengthen the business environment. If people recognize positive inducements for filing taxes, more will be willing to comply with tax requirements (Alm et al. 2012). Increasing the number of taxpayers may also reduce inequality by expanding tax-base – instead of the burden falling heavily on a small cohort, tax burdens may decrease for all as the proportion of those paying increases (Olongo and Baguma 2013).

However, poor quality public services – such as water, electricity, or transport infrastructure – implicate low returns to formalization (Grimm, van der Hoeven, and
Lay 2011, 7). Data shows that larger and productive formal firms more frequently have access to electricity, water, and telecommunication. Even then, though, many of these are difficult to obtain and costly; access is not guaranteed consistently even after formalization (Grimm, van der Hoeven, and Lay 2011, 8). Moreover, if infrastructure makes it so that expanding beyond a certain region is difficult or costly, the desire to expand and deal with infrastructural barriers weakens. To make formalization a worthwhile investment in this sense, public services must be reliable and accessible.

*Do entrepreneurs receive external support?*

Not only does access to public services matter, but access to support in the form of subsidies, grants, or scholarships – whether governmental or privately offered – may play a more crucial role. Since an entrepreneur could easily free ride without exclusion from such services, access to exclusive programs because of formalization can act as a catalyst for transition. In the words of Benjamin and Mbaye (2012), the payoffs depend on “the differential access to these services for formal and informal firms.” Assuming these services are only available to those that endure registration, there is incentive to complete formalization. NGOs, private banks, or universities may also offer scholarships or grants, providing funding as well as capacity-building support.

Furthermore, support must continue beyond the level of microenterprise, adhering to the needs of various levels of firm development. The World Business Environment Survey (WBES) – conducted by the World Bank–explains that even if there is adequate support for small firms, the support may decrease as enterprises
grow (2003). Mid-sized firm owners report feeling just as, if not more, constrained than those small business owners. Help from the government might not be easily forthcoming or sustainable; absence of an agency that addresses the needs of new and growing firms compromises the payoffs of this alleged benefit.

Weak institutions might also inhibit real incentives and support. The Global Entrepreneurship Model (GEM) works to explore the link between entrepreneurship and economic development through a conceptual model—its ultimate purpose is to “describe and measure, in detail, the conditions under which entrepreneurship and innovation can thrive” (GEM website). The GEM examines the accessibility of government programs to formal firms, evaluating their effectiveness in supporting firms at all levels. If not all have equal access to these programs— for example, if only elite firms or certain areas can access benefits, public services will likely serve as a deterrent rather than an incentive (Namatovu et al. 2010).

**Social Factors**

*Are there opportunities for education and training?*

Particularly in uneducated populations, education and access to information heavily influence people’s ability to navigate the registration process. However, formal education in much of Africa “retains an antiquated orientation toward preparation for a career as a government official and fails to develop practical skills…that are needed by private firms” (WBES 2003). The GEM 2010 investigates the quality of training in the formal education system and the relevance of curricula to starting or managing a business. When there is a mismatch, other organizations often intervene to provide the necessary training, but the availability and quality of such
programs remains dubious. On-the-job training has in some cases proven to be more successful, but only 4.6% of firms with fewer than 10 employees in Kenya, Zimbabwe, and Zambia offer training programs (Namatovu et al. 2010). Without early education and widespread training, many will continue to pursue the informal sector – sometimes out of sheer lack of awareness.

What is culturally valued?

Cultural and social norms often trump formal business practices in developing countries, especially in building consumer or client relationships. Whereas formal entrepreneurs could gain an audience through marketing initiatives, the degree to which this is a common practice is uncertain. Although there are certainly signs and placards posted, perhaps due to lower literacy rates or the familial nature of sub-Saharan culture, it is more common to gain customers through word of mouth and personal connections. As such, if advertising is not a highly valued benefit of formality, then it will likely not be a crucial deciding factor for formality.

Additionally, societies in developing countries may traditionally not value business as a career – especially, formal business. Many post-colonial, privatized economies maintain the view that white-collar employment is the coveted career. Some traditions even view business as dirty. For this reason, many do not open businesses with the intent of permanence. The informal sector becomes the preferred arena for a transient means of making money whilst searching for a hired position.

What are the normalized views of formalization?

Personal connections and the entrepreneur’s social circle also heavily influence the degree to which someone would feel inclined to join the formal sector.
The attitudes held towards formalization – whether respectful or resentful – determine the prevalence of formal entrepreneurs. If the majority remains in the informal sector, emerging entrepreneurs are less likely to embark into the sector less familiar.

Furthermore, communal dynamics and cultural business practices may deter emerging entrepreneurs from entering the formal sector. If attaining capital and a consumer-base is possible through informal vessels, there is little that the formal sector has to offer.

Attitudes also affect tax and registration compliance. Although many nations begrudge taxes, there is a sense of engagement and citizenship when contributing to tax revenue, and complying with civic and professional expectations (Traxler 2010). Those who pay may feel as though they have a stake, and be more likely to get involved in politics to ensure that their money is going towards causes they respect. This only holds if citizens respect and value the regulation. If they feel supported by their government, or if the government has demonstrated responsible use of taxpayer money, then entrepreneurs may be more willing to contribute to this tax-base. This often ties back to the notion of having sound institutions free of corruption, but also has to do with general attitudes towards administration and nationalism.

The degree to which civic engagement and nationalism is emphasized in schooling is instrumental in an entrepreneur’s decision to formalize. In order for someone to view taxes in a positive light, there must be a degree of loyalty and accountability. Citizens that feel a part of a cohesive group, or a part of a singular nation, will be more likely to contribute to the common cause (Olson 1965).

However, if people feel no sense of connection, it will be difficult to justify full tax
payments. This results from the degree of political discourse in a given community. If there is evident aversion toward a particular political leader – whether due to corrupt tendencies or policy preferences – an entrepreneur is likely to feel negatively about paying taxes in support of that political party. Political affiliation or degree of political engagement may come into play here.

**Alternative Arguments**

One popular argument holds that entrepreneurs do not enter the formal sector simply because they are unaware of the procedures or lack the human capital to generate an advanced, formal firm (Benjamin and Mbaye 2012; Muwonge, Obwona, and Nambwaayo 2007). Education may shape the perceptions of others towards business and formalization. Early-stage intervention may create a societal appreciation of entrepreneurship, while also increasing the levels of entrepreneurial potential overall. In line with the discussion of factors above, education and training is certainly important – especially if introducing entrepreneurial education at a young age. High-potential entrepreneurs continue to pursue informal opportunities, regardless of their investment in training. This implies that while education may support formalization, it is not a sufficient causal factor.

A second argument is that entrepreneurs avoid the formal sector because culture dictates otherwise (DeSoto 2002). This has a degree of truth to it, especially in shaping consumer demands and targeting clientele through informal social networks. Moreover, normalized attitudes towards government affect the degree to which someone values formality. However, the effects of peer decisions to formalize have a
nuanced relationship with the emerging entrepreneur’s decision depending on supply-chain linkages.

Similarly, another common justification is that informal entrepreneurship is just a stepping-stone on the path to formal entrepreneurship (Interviews with L07, L02). All begin as informal sellers, creating a crowded and competitive market from which only the most capable progress to formalization. The above discussion, however, outlines a number of other factors that affect this decision, regardless of level of entrepreneurial ability. Even if an entrepreneur is fully capable of making the transition to the formal sector, they may refrain due to government policies, costs, incentives, and more.

This brings me to the final assertion that weak institutions and high costs dissuade entrepreneurs from pursuing formal status. This is largely true; poor governance, complicated bureaucratic processes, and burdensome fees all serve as deterrents. However, an improvement in these areas may not necessarily result in increased formalization. I expand upon this in the following chapter.

Summary

The table below compiles and summarizes the factors cited above. By categorizing them into market and non-market, while recognizing the sub-categories of institutional and cultural, I highlight the interdisciplinary nature of the entrepreneur’s dilemma.

All factors in the above framework are important in the entrepreneur’s decision-making process, but as will become evident in subsequent chapters, the existing literature underemphasizes perceptions toward government and the nuances
of formal-informal linkages. The next chapter will transform this theoretical discussion into game theoretic framework. Since I am ultimately interested in suggesting policies that may shift the margin toward the formal sector, the game theoretic model will highlight how political economic and social factors interplay in a way that may allow for manipulation of the existing distribution.

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<td>Demand</td>
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<td>• Consumer demands and pressure</td>
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<td>• Supply-chain and client demand</td>
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<td>• Population proportion</td>
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<td>Investment and access to credit</td>
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<td>Enforced property rights</td>
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<th>Non-Market</th>
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<td>Costs and fees of registration</td>
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<td>Regulatory bureaucracy</td>
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<td>Cost of evasion</td>
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<td>Tax policies</td>
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<td>Degree of corruption</td>
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<td>Access to public services</td>
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<td>External support</td>
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<td>Education and training</td>
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<td>Cultural values</td>
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<td></td>
<td>Normalized views</td>
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*Summary table of all potential factors from the previous chapter’s theoretical framework*
Chapter 3: Strategic Selection

Using the framework from the previous chapter, a game theoretic model will succinctly frame the decision-making process of the high-potential entrepreneur. Formalization occurs as a result not just of market forces, but also institutional actors and social norms or expectations. Market demand, for example, might be a necessary but insufficient condition for the effectiveness of formalization (Espach 2005). Formalization depends on the effectiveness of regulatory laws, among other things. This, in turn, relies upon the delivery of benefits minus the costs of complying with fees and taxes compared to the next best alternative (Grimm, van der Hoeven, and Lay, 2011, 3). The goal in this chapter is to tighten the extensive theoretical framework from the previous chapter, identifying which measures most directly influence these benefits and costs.

Why a game theoretic approach?

Game theory is becoming more widely accepted in the field of comparative politics and political economy (Munck 2001). Rooted in theories of rational choice, game theoretic analysis studies interdependent decision-making in a formal and methodological framework (Munck 2001, 173). It emphasizes strategic choice within universally accepted principles of expected utility choice making, an eye towards actors and their actions, and exogenous rules that dictate the potential strategies that each player may have (Munck 2001, 177-178). With this aspect of universality, game theory is not limited to any particular domain, offering a means of analysis that can integrate research on diverse issues – such as political economy – resulting in “cumulative knowledge” (Munck 2001, 178). This subsection will justify using game
theory for the case of entrepreneurship in Kampala, and explains why it is becoming more popular in the field of economic development.

Game theory is a useful tool for analyzing problems in which costs and payoffs are heavily determined by choices of others, known as social problems. Whether individuals or institutions, one player’s decision depends on the actions of another acting body. This approach is particularly helpful in cases of economic development because of its interdisciplinary nature (Wydick 2008). It is impossible to comprehend issues of underdevelopment strictly through the lens of economics, and instead we must use political and social phenomena as a means to understand poverty and socially suboptimal outcomes (Wydick 2008, xvi).

In the social problem at hand, the level of formal entrepreneurs is below the socially optimal level as high-potential entrepreneurs continue to pursue informal activities. While there is no shortage of entrepreneurs, many of the enterprises emerging tend to have few or no employees, as well as limited assets and earnings (Banerjee and Duflo 2011, 213). This is sub-optimal for economic growth, since social benefit and payoffs of formalization may be arguably higher than the current reality. However, because people act in their own self-interest, they are going to follow the track that will guarantee individual profit, less concerned with creating employment or paying taxes for improved public services.

According to Wydick (2008), economic development is reliant upon an institution’s ability to align social benefits with personal incentives. Institutions, a special set of social norms, determine the rules of a game by creating rules and guidelines. High-functioning institutions are able to foster incentives for people to act
in the long-term interest of the community, rather than in the short-term self-interest. The ability of market institutions to provide services or incentives, enforce predictable deterrence, and sensitize people through training and education plays a significant role in entrepreneurial decisions, and affects the distribution of types of entrepreneurial pursuits (Baumol 2008; Holcombe 2008; Lawson 2008; Kirzner 1973).

As discussed in the introductory chapter, Baumol (2008) posits that levels of entrepreneurial productivity vary because of an individual’s personal expected payoffs within a greater governing structure. He argues, “if the rules are such as to impede the earning of much wealth via [productive] activity A…then, other things being equal, entrepreneurs’ efforts will tend to be channeled to other activities, call them B” (Baumol 2008, 84). Even if B-type activities contribute less to production or social wellbeing, the rules of the game favor B over A, and thus, society may suffer the consequences as high-potential entrepreneurs take on B-activities or even drop out of the picture.

Accordingly, the entrepreneur’s specific activity or objective does not determine variation in social product. Instead, the governing payoff structure of one entrepreneurial activity relative to another determines social production. To relate this to the case at hand, whereas a certain entrepreneur might prefer to engage in a formal enterprise, inadequately incentivized formalization will lead the entrepreneur to opt to for informal business, or attempt to find a traditional job. Regardless of the immense social payoffs that the entrepreneur may be aware of, private payoffs may not reflect
these, and thus, the rational entrepreneur will not engage in formal, or productive, enterprise.

As alluded to in the theory chapter, institutions that are weak will send weak and mismatched signals to nascent entrepreneurs. In a setting with unclear rules – whether because of corruption, lack of enforcement, or overall weak rule of law – an entrepreneur will likely not to comply with institutionally imposed rules. In the game theoretic literature, institutions are special cases of social norms that determine the rules of the game, determining how actors behave in a given social context. Social norms allow players to predict the behaviors of others, subsequently guiding their own behavior and coordinating social interactions accordingly. Contributing to this overarching idea is Cristina Bicchieri, who defines social norms as “clusters of self-fulfilling expectations,” that depend not only on the expectations of others, but also on the personal preferences that depend on those very expectations (Bicchieri 1993, 222). Bystanders and others in the choice-making arena enforce these through social punishments or external sanctions (Stout 2006). A norm only holds if there is a tendency to feel shame at the thought of behaving in a forbidden or contrasting manner (Elster 1989). State bodies and institutions are special cases of social norms that alter the scope for the emergence and enforcement of existing norms through coercion or externality.

Institutions, defined as “the prescriptions that humans use to organize all forms of repetitive and structured interactions,” can be formal – consciously designed and explicitly articulated – but can also dictate informal constraints and norms (Ostrom 2005; Aoki 2001). For formal, externally imposed norms to hold – and
trump guiding informal constraints – there must be credible threat of punishment or fear. A government with weak rule of law – a set of norms that support bureaucratic responses – cannot hope to pose a credible threat. Standardization of rules and contracts, bureaucratization, and enforcement build expectations and decisions accordingly. If each citizen of the state does not feel as though there is a danger of punishment, then statehood and rule of law does not quite hold – there is an alternative guiding power, namely social norms, which may hold stronger over formally dictated methods.

Beyond fostering a fair and predictable institutional environment, strong institutions must align social interests with private interests (Wydick 2008). Regulatory institutions can enforce compliance with laws that will maximize social returns, but also provide entrepreneurs with an improved business environment. If the system’s enforcement capacity is unpredictable, the chances of punishment for evading the regulation process are low, and there is less incentive to comply. Complementarily, setting tax rates that are fair – as opposed to extractive – and offering benefits such as tax holidays or subsidies to formalized firms would more closely incentivize emerging entrepreneurs to make socially optimal decisions to enter the formal sector. As such, overall enforcement and fairness of programs and laws has much to do with the entrepreneur’s dilemma.

**Defining the Model**

Drawing on the work from the previous chapter, I choose several key variables for the model, summarized on a table below. They are the most comprehensive and representative of costs and benefits in all three market, social, and
in institutional factors, capturing the importance of sound enforcement, rule of law, fair costs, and social expectations.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Represents:</th>
<th>Reflects:</th>
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<tbody>
<tr>
<td>$k$</td>
<td>Level of entrepreneurial capability and potential earnings</td>
<td>Education and training Supply-chain and client demand</td>
</tr>
<tr>
<td>$t$</td>
<td>Tax rate</td>
<td>Tax policies</td>
</tr>
<tr>
<td>$p$</td>
<td>Probability of enforcement – sheer chance of being caught</td>
<td>Population proportion/demand</td>
</tr>
<tr>
<td>$q$</td>
<td>Probability of enforcement and payment of taxes</td>
<td>Degree of corruption Cost of evasion</td>
</tr>
<tr>
<td>$b$</td>
<td>Bribes</td>
<td>Degree of corruption</td>
</tr>
<tr>
<td>$c$</td>
<td>Cost of formalization</td>
<td>Costs and fees of registration Regulatory bureaucracy Degree of corruption</td>
</tr>
<tr>
<td>$g$</td>
<td>Formal sector multiplier</td>
<td>Credibility Demand Cultural values Normalized views External support Investment and access to credit Adequate/accessible public services Property rights</td>
</tr>
<tr>
<td>G</td>
<td>Government expenditure</td>
<td>Costs and fees of registration Tax policies Population proportion/demand</td>
</tr>
</tbody>
</table>

Factors from the previous chapter taking form as variables included in the game theoretic model

**Heterogeneous human capital**

First, I account for the fact that entrepreneurs are heterogeneous. As discussed in detail in the introductory chapter, some entrepreneurs enter the formal sector and some do not. This reflects a ray of abilities and potential, represented by $k$, capturing the capability of entrepreneurs. Those interviewed for this study would likely have a higher value of $k$, given that they have a higher level of entrepreneurial potential because of significant investment in human capital. To draw from the theoretical framework, this also reflects some of the previously mentioned social factors, such as education level and training. Higher investment in human capital, along with the
ability to exist in the more exclusive formal sector, will likely reflect higher earnings as well.

Population density – distribution of $k$ – also reflects supply chain relations and client demand. If many clients and other firms demand formal counterparts, we would expect to see a higher distribution of formal entrepreneurs and higher levels of human capital investment. In the case of Uganda, there is currently some externality that is making the distribution uneven, clouding a distribution that solely reflect entrepreneurial ability – as is given by the heterogeneity within the informal sector. This could potentially be measured by the overwhelming ratio of necessity to opportunity nascent entrepreneurs (Namatovu et al. 2010).

**Tax Rate**

One factor that most simply reflects the costs that impede entrepreneurs is $t$, the tax rate. In many countries, tax rates are progressive or proportional to income. As a firm grows and profits increase, they attain higher earnings. While this may encourage young firms, it also discourages many from surpassing – or reporting that they have surpassed – the minimal tax threshold. In the case of Uganda, for example, firms that earn less than 5,000,000 UGX need not pay any income taxes (Grant Thornton 2012, 3). As such, firms may be encouraged to stay small and hidden in the informal sector.

**Enforcement**

Not only is the tax rate determinative of a firm’s decision to formalize, but equally, and if not more so, is the probability that taxes and regulatory laws are enforced. Represented by $p$ in the model, this probability measure captures the degree
of institutional adequacy and the ability to actually solicit taxes from those who are not paying. This measure of enforcement has to do with population proportion and institutional strength. If $p=1$, this could indicate a very small informal sector or fully capable revenue authorities. Aside from potential data on the population of the informal versus the formal sector, this could also be measured by funding for the Uganda Revenue Authority or how many officers are present relative to the population in the busy urban center.

Beyond this, $q$ represents the probability that once caught, official rules are consistently and fairly enforced. Credible threats of regulation only come from credible governments, and the penalties of non-compliance or likelihood of capture must be significant for this to hold. If rules were upheld such that $q = 1$, as one might imagine is the case in Uganda’s neighboring Rwanda, there would be fewer informal firms. Evading taxes would be nearly impossible, given the credible threat of enforcement and smaller population. Alternatively, in a more corrupt and opaque environment, it is possible that bribes take the place of official fines.

**Bribes**

Along these lines, the model will include a measure of corruption, $b$, to represent bribes. This indicator shows that formal laws might not necessarily be the only guiding rule of the game. If a government is not credible, and if public officials do not adamantly and fairly enforce laws, then there is less incentive to follow government protocol. Bribery is one of the more common forms of daily petty corruption that entrepreneurs face. Transparency International’s indicator on how many people pay petty bribes on a regular basis could be a potential measure. For the
sake of this model, this is only explicitly present as a separate measure in the informal sector. In the formal sector, the all-encompassing measure $c$ would include any additional under-the-table payments necessary to formalize.

**Cost of Formalization**

The $c$ variable not only captures official costs and fees of registration, but also accounts for the regulatory bureaucracy and payments that emerge as a result of corruption throughout the process. Regulatory bureaucracy includes the research, time, and effort necessary to navigate the entire registration process. In the case of Uganda, there are 15 steps to fully register a business, each requiring completion on a different day (Doing Business 2014). It takes patience and commitment to persist through the process in its entirety. As a result, many find a way to expedite the process by paying a bribe or under-the-table favor to public administrators. The unofficial component of $c$ is difficult to measure, but the official costs and scale of ease do provide easier numerical measures.

**Benefits of Formalization**

As given by the discussion of market factors in the previous chapter higher profits are associated with formalization. Drawing from the theoretical factors, this is a result of credibility and signaling, as well as consumer demand and cultural values. Additionally, it may reflect the positive returns and reactions given by those consumers who value formalization. Entrepreneurs may escape public shaming or negative attitudes towards them with formalization. Conversely, this measure may reflect lack of government credibility. If government standards are low and arbitrary, then it is unlikely to gain much value from formalizing, and we might expect $g$ to be a
smaller multiplier. In this sense, $g$ captures positive returns and reactions of consumers and clients who value formalization and a greater demand for quality—$g$ may not be large if formalization was not a valued signal of credibility.

In this model, a multiplier $g$ represents benefits, and reflects how much larger formal payoffs might be. The property $g > 1$ reflects the higher financial payoffs to the formal sector. This may be a result of meeting demands of a higher-class consumer group, gaining access to credit and investment, or offering higher quality and expensive products.

**Government Expenditures**

To incorporate institutions and government as a constraining actor, I include a measure of government expenditures, G. This determines tax rates and regulation costs, but is also written as a function of taxes and proportion of entrepreneurs in the formal sector. Taxes negatively relate to proportion of formal entrepreneurs. If the government expenditure is set, and $p$ is high, then the individual tax rate may decrease. That is, if there are many people paying taxes regularly because of consistent enforcement, then each individual tax paid decreases. However, if not many people are in the formal sector, then the government has to charge exorbitant and burdensome tax rates to compensate. Certainly, a government’s balance is comprised of much more than these sources of revenue, but for this simplified model, these play a determinant role in the budget balance.

Seeing how variations in these variables affect the proportions at equilibrium in the formal and informal sectors will provide an idea of the causes of the
discrepancy between the sub-optimal and optimal distributions. Thereafter, we can imagine how the equilibrium distribution might drive closer to the ideal proportion.

**Building the Model**

Following these justifications, $k$ represents the entrepreneurial potential of a given entrepreneur and reflects potential profits, taking values on a continuum between 0 and 2. As mentioned previously, higher values represent higher levels of entrepreneurial potential and human capital investment. For simplicity, let $k$ distribute uniformly over this range, with associated density $\frac{1}{2}$ and cumulative density function $k/2$.

**Informal Sector Payoffs**

The benefit to an entrepreneur operating in the informal sector is earning potential, $k$, minus some cost. With some probability $p$, a government official catches the entrepreneur. If the entrepreneur is indeed caught running an informal enterprise, there is a probability $q$ that the entrepreneur will be forced to pay a proportional tax rate $t$. Alternatively, with the probability of $(1-q)$ the entrepreneur will instead be coerced into paying a bribe $b$. Both probability measures are valued between 0 and 1. For the purposes of this model, the net benefit to operating in the informal sector is thus $\Pi_I = k(1-pqt) - p(1-q)b$.

**Formal Sector Payoffs**

A formal entrepreneur must pay some cost $c$ to enter the formal sector with certainty. As mentioned previously, this cost is not only the actual fees associated with registration, but also captures time, nuisances, and under-the-table payments made during the process. The benefit to certification is given by $gk$, with the
multiplier being \( g > 1 \). This implies that there is a net marginal benefit to formalization only if \( gk - c > 0 \Rightarrow k > c / (g - 1) \), where \( c / (g - 1) \in (0, 2) \). In words, this means that the level of entrepreneurial potential, investment in human capital, or potential profits, must be greater than the registration cost relative to the profit amplifying effect of \( g \). A formal sector entrepreneur additionally pays proportional taxes, but unlike the informal entrepreneur, he or she pays this tax with certainty. Therefore, the net benefit of being in the formal sector is \( \Pi_K = gk(1-t) - c \). I assume that the cost of registration is greater than the alternative of simply paying a bribe, \( c > b \).

### Determining Equilibrium

An entrepreneur will enter the formal sector if and only if \( \Pi_F > \Pi_I \). To expand:

\[
gk(1-t) - c \geq k(1-pqt) - p(1-q)b \Rightarrow k \geq (c - p(1-q)b) / [(g-1) - (g-pq)t].
\]

This shows that the entrepreneur will only join the formal sector if the payoffs in the formal sector are higher than payoffs associated with remaining in the informal sector. I use this to determine the “dividing line” level of entrepreneurial potential/human capital investment, \( k_f \), such that

\[
k_i = (c - p(1-q)b) / [(g-1) - (g-pq)t].
\]

This represents the equilibrium proportion of entrepreneurs in the informal sector is thus, given the assumed distribution of \( k \), \( k_i / 2 < 1 \) and the proportion in the formal sector, denoted \( P(k_f) \), equals \( (2-k_i) / 2 \).

### Building in Government as a Rational Actor: The roles of tax revenues, certification costs, and the budget balance condition

Assume the government has general expenditures \( G > 0 \), which in this case is composed of certification costs \( q(k_f) \), with \( q'(k_f) \leq 0 \) because as \( k \) increases the
costs of formalization for each individual decreases. This has to do with the idea that as the population of the formal sector grows, the cost burden that each individual entrepreneur faces decreases because the government has a broadened tax-base. If \( k \) is small, reflecting low potential profits, the government is less likely to bother enforcing because a low-earning firm would not meet necessary tax thresholds. It would take more effort to identify such small firms, and subsequently, they may easily fly under the radar. We might assume that \( q(k_f) = c \cdot P(k_f) \), where \( P(k_f) \) is the proportion of entrepreneurs in the formal sector and \( c \) is the cost constant.

Alternatively, I posit scale economies in formalization, which would be the case in a state with progressive taxes or one in which higher-earning businesses face a proportionally higher tax burden. If this is the case, and supposing the simplification formalization costs are the only source of funding, the composed formalization costs are \( c \cdot (2 - k_f) / 2 = q(k_f) \). Beyond that, the government’s budget balance is a product of taxes and formalization costs: 

\[
t = [(2 - k_f) / 2 + pqk_f / 2] = G \Rightarrow \\
t_b = 2G / [(2 - (1 - pq)k_f].
\]

**Determining Optimality**

The optimal distribution of entrepreneurs would not depend on the level of income taxes \( t \), the probability of taxing informal entrepreneurs \( p \), or the expected bribes \( b \). Instead, it would solely depend on the true costs and benefits of formalization, determined by the value of \( k \) such that \( gk - [q(k) / P(k)] \geq k \). If there were no scale economies to formalization, this would entail \( gk - c \geq k \Rightarrow k \geq c / (g - 1) \).
However, assuming that there is a proportional income tax, the next-best level of entrepreneurship in the formal sector would be such that $k$ is greater than the cost in relation to the multiplier and tax rate: 
\[ gk(1-t) - c \geq k(1-t) \Rightarrow k^*_f \geq c / [(g - 1)(1-t)] \]
Here the critical value of $k$ is $k^*_f = c / [(g - 1)(1-t)]$. This occurs under a fully functioning institution; there is no measure representing corruption or potential lack of enforcement. Therefore, the next-best optimal proportion of entrepreneurs in the informal sector is $c / 2[(g - 1)(1-t)]$, while the optimal distribution is:
\[ P(k^*_f) = (2 - k^*_f) / 2 = 4(1-t) + c^2 / 2[(g - 1)(1-t)] \]

**Identifying the Wedge**

Two realms emerge: one of equilibrium and one of optimality. In the equilibrium realm, the sectoral division between formal and informal firms is affected by corruption, enforcement, and bribes. Plausibly, this results in a sub-optimal distribution wherein there are more entrepreneurs in the informal sector than expected, given levels of $k$ potential. In the optimal realm, the distribution only depends on actual costs, $k$-level, and the multiplier $g$ – which reflects benefits of formalization. This realm is free of irregular enforcement or corruption, meaning that $pq=1$ and bribes ($b$) are absent.

In graphing these two realms, we not only determine the actual points of optimum and equilibrium, respectively, but can also explore how changes in certain factors will bring the equilibrium closer to the optimum. In both scenarios, the x-axis reflects values of $k$. As we move farther away from 0 on the horizontal axis, the distribution of entrepreneurs in the informal sector increases. This holds given that population proportion or distribution is determined by $k/2$, and as $k$ increases towards
2, we find more entrepreneurs in the informal sector. On the y-axis is $t$, or varying tax rates. All functions are converted to and graphed as $t(k)$.

**Optimum**

The optimal distribution point is: $k^* = \frac{c}{(g-1)(1-t)}$. When transforming this to a function of $t$, it becomes $t = 1 - \left(\frac{c}{(g-1)k^*}\right)$. The first derivative with respect to $k$, is positive, which implies an upward sloping curve. The second derivative – determining curvature – is negative, which implies concavity.\(^2\) This expression approaches negative infinity as $k$ approaches zero. Additionally, the $k$-intercept of this curve – or where it crosses the horizontal axis – is $\frac{c}{(g-1)}$.

\(^2\) The exact derivatives and full mathematical breakdown can be found in the appendices.
Recall that the budget-balance condition in this situation of $pq = 1$ is $t_b^* = G$ - a horizontal line. This line crosses the curve at the optimum distribution point. To solve for this, I set $G = 1 - \left( \frac{c}{(g-1)k^*} \right)$ and solve for $k^*$, which results in $k^* = \frac{1-c}{G(g-1)}$.

**Equilibrium**

A similar approach applies in the equilibrium situation. We transform equilibrium critical value of $k_i = (c - p(1-q)b) / [(g-1) - (g - pq)t]$ into $t = \left[ \frac{g-1}{g-pq} - \frac{c-p(1-q)b}{(g-pq)k} \right]$, where the slope is positive and the concavity is negative – a similar shape to the optimal distribution curve. The second equation is the budget balance constraint, which is already in the correct form: $t_b = 2G / [(2 - (1 - pq)k_i]$. In this equation, both the first and second partial derivatives are positive, which will result in an upward sloping and convex graph.

To illustrate the equilibrium critical value of $k$, I first graph the budget-balancing level, noting that this expression is equal to $G$ when $k = 0$ and goes vertical at $k = 2 / (1 - pq)$. Next, I graph the equilibrium critical value equation, which approaches negative infinity as $k$ approaches zero. The point at which this curve crosses the horizontal axis is $\frac{c-p(1-q)b}{g-1}$. The variable $\mathcal{C}$ will be discussed in detail in the next subsection.

Where the two curves – budget balance and critical value of $k$ – cross is the equilibrium point. The math for this case is far more complicated, entailing a good deal of algebra. For the purposes of this discussion, I reduce the intersecting points to:
The key point is that there are two points of intersections, one of which is closer to the optimum due to a more favorable distribution of \( k \), and another which is farther along the \( k \)-axis, approaching compete informality.

From here, two key questions emerge: 1. How do these points relate to the optimum? 2. Are both of these points relevant? The next subsection will include a discussion that first compares the single, “better” equilibrium to the optimum. This is followed by an analysis of the plausibility of the second equilibrium. If there are two relevant equilibria, the game in question is primarily one of coordination. I will consider under what circumstance both points hold, and then from there, how to

\[
k = \frac{1}{2(g-q)(pq-1)} \pm \sqrt{\text{some very large quadratic}}. \tag{3}
\]

This quadratic is in the appendix, courtesy of Wolfram Alpha. The algebra is irrelevant and lengthy. Including this in the text would detract from the succinctness of the argument.
coordinate between the two. Both subsections will entail a discussion of how changing factors other than \( k \) will affect the distribution outcome.

**Comparison**

First, I answer the question, how does the equilibrium critical value curve relate to the optimal critical value curve? In answering this, I compare the crossing points on the horizontal \( k \)-axis. Recall that the optimal curve crosses at \( \frac{c}{(g-1)} \) while the equilibrium curve crosses at \( \frac{c-p(1-q)b}{g-1} \). I differentiate between \( c \) and \( \bar{c} \) because, as explained earlier, the costs associated with formalization in a realm without corruption and regulatory dysfunction would be less than in the realistic realm. The pure \( c \) reflects officially and institutionally standardized fees and time associated with formalization. However, in a world where enforcement is imperfect, the cost of formalization might include additional bribes that one might pay to accelerate the process, time or money wasted because forms were lost, or other detriments resulting from hiccups throughout the process.

From earlier, we know that the cost definitely paid in the informal sector must be larger than the potential bribe paid in the informal sector (given by the condition \( c > b \)). Otherwise, entrepreneurs would always enter the less costly formal sector, and this problem would not be relevant. In this model, I expand upon this, adapting a key assumption that the net equilibrium formalization cost is always higher than that in the pure, optimal realm: \( \frac{c-p(1-q)b}{g-1} > \frac{c}{(g-1)} \). This means that any equilibrium will be sub-optimal, because the curve will always be farther to the right – towards a higher informal distribution – of the optimal curve.
I now approach the second question: are there two relevant equilibria? An intersection above $k=2$ would imply that everyone is in the informal sector, which is not relevant to this discussion. The next subsection of Scenario 1 assumes that the second equilibrium distribution is above the $k=2$ cut-off, ignoring the “worse off” equilibrium. I call this scenario “Shifting Policies” because this outcome reflects ideas in the literature, but also only requires changes in government actions – like changing level of enforcement and costs. I refer to Scenario 2 to as “Shifting Perceptions” because it requires changes in perceptions to attain an optimal shift, resulting from a coordination game between two relevant equilibria.

**Scenario 1: Shifting Policies**

In this scenario, only one of the equilibrium points – the one lower left on the graph – is below the $k=2$ divider. Here, the main question is: how do we bring the equilibrium point closer to the optimum?
To find the effect of changes in $p$, $q$, $g$, $b$, and $c$ on the equilibrium, I take the partial derivatives of

$$t = \frac{g^{-1}}{g-pq} \cdot \frac{c-p(1-q)b}{(g-pq)k} -$$

the equilibrium critical value equation – with respect to each of the variables. If the partial derivative is positive, the equilibrium curve shifts up. A shift up would result in an equilibrium point closer to the optimum, as it would intersect the budget balance curve at a point that favors formal distribution more than before.

Indeed, all changes are positive, except for the change in $c$. These findings imply that a policy to increase enforcement, for example, would result in an increase in the formal sector population. The same holds for policies that would increase the $g$ multiplier – the incentives and benefits of formalization – or those that might increase $q$ by better adhering to rule of law. An increase in bribe rates ($b$) – whether reflecting public officials who are less likely to accept a petty bribe to evade the law, or an environment in which the government is even more apathetic or oblivious to cracking down on corruption – would also result in a shift toward the formal sector. For variable $c$ – which also reflects elements of regulatory disorder or inefficiency – the partial derivative is negative, meaning that an increase in the cost of formalization would result in a shift away from the equilibrium.

This scenario makes changes in policy straightforward. While the actual feasibility of implementation of such policies, especially those that address corruption, remains questionable, policies targeted at increasing benefits, enforcing

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4 For clarity, I do not graph the change in $c$ as I fear this would clutter the graph. In a manner similar to the change in $p$, $q$, $g$, and $b$, the reader can imagine that instead of shifting the curve up and to the left, it would create movement down and towards the right. I maintain this approach for the graph in the next subsection as well.
punishments, and addressing evasion would move society towards the optimal distribution based on entrepreneurial potential alone.

**Scenario 2: Shifting Perceptions**

Now I discuss Scenario 2, in which both intersections are relevant equilibria. To find when this occurs, I set $k=2$ in both the budget balance and equilibrium critical value equations, and solve for the intersecting points. If $k=2$:  

$$
\frac{2G}{2-(1-pq)^2} = \frac{g-1}{g-pq} - \left(\frac{c-p(1-q)b}{(g-pq)^2}\right).
$$

It follows that only if $\frac{2G}{pq} \geq \frac{2(g-q)-c-bp+bpg}{q-pq}$ then both intersecting points are under $k=2$.

The same analysis involving partial derivatives applies, and we find the same relationships with changes in $p$, $q$, $g$, $b$, and $c$ as before. However, upon shifting the curve up, the worse-off equilibrium moves in the opposite direction of the optimal distribution. This has a striking significance: policies that once would have alleviated
the degree of sub-optimality now exacerbate it, moving the distribution closer towards complete informality, and vice versa. Addressing the issue will require intricate and careful policy design.

While alarming, this could theoretically be the equilibrium distribution in an environment where attitudes towards the government regulation are apathetic or spiteful. Plausibly, in a country with years of entrenched corruption and few initiatives to provide public goods, citizens may ignore a crackdown on enforcement or attempts to adhere to laws. A resistant citizenry may emerge, wary of government initiatives. Instead of complying with laws and formalizing, entrepreneurs may remain informal in spite of the government due to lack of trust or confidence.

As such, it is crucial to identify which equilibrium is the current state in order to address the issue. Additionally, if a country is at the worse-off equilibrium, before considering how to reach optimality, it is more realistic for policymakers to consider how to coordinate towards the better equilibrium first. In the following chapter, I speculate which equilibrium best explains the current situation in Uganda using interview responses and country-specific research. This will inform policy recommendations in the concluding chapter, but will also reveal an area for future research.

Extensions

Given this model, we can imagine how different countries may stand relative to Uganda on this graph. In a country like Rwanda, for example, with more organizational capacity and more strictly enforced laws, the measures of $p$ and $q$
would increase (Transparency International). This would place entrepreneurs in the formal sector, as the possible equilibria would be closer to the optimal distribution.

Of course, this is a simplified model, and we might expect to inadequately account for certain factors. The inability to capture entrenched corruption, for example, is a weakness. The model treats the government as a rational actor, which would imply that levels of corruption might shift. However, as will be discussed in the following chapter, Uganda has a history laden with corruption and illegitimacy. Another potential shortcoming is that the model underemphasizes incentives to the government. Although we see the payoff structures of the entrepreneurs, we remain unaware of the benefits of increasing enforcement and promoting formalization to government actors.

Additionally, as with all rational choice models, this model is unable to fully capture irrational decisions and strong social or cultural factors. For example, given a history of civil war and ethnic differences, an entrepreneur in the North may simply be unwilling to do business with someone in the South. This would limit the extent to which formalization would increase consumer base. An entrepreneur may prefer to remain informal and build his clientele via word of mouth and personal connections to ensure remaining within a certain trust circle.

To check the feasibility of this model, the following chapter explores whether or not Ugandan entrepreneurs really behave in this way. Using mostly data from one-on-one interviews, I will attempt to place Uganda on this graph. This will inform ways for policymakers to encourage a move toward formalization.
Chapter 4: Left in Limbo
An Analysis Involving the Case of Kampala

The streets of Kampala are crowded with eager vendors, selling packets of groundnuts, air time cards, newspapers, and Rolexes — a salty and greasy local favorite comprised of a thin vegetable omelet rolled in a fresh chapatti. Whether walking through traffic with baskets of goods or displaying produce in a crowded market place, these sellers wedge themselves between various auto repair and spare parts shops, printing stands, clothes and beauty shops, used electronic stores, and small restaurants. Persistent taxi drivers and conductors call out their destined localities, hawking passersby, trying to squeeze an eleventh or twelfth passenger into an illegitimate seat. Young men recline on their boda-bodas — dilapidated motorcycle taxis — clustered by trees, signposts, and the occasional shopping mall or bank to find a fare. Amidst the never-settling dust and unmarked streets, Kampala is a bustling, entrepreneurial city.

Despite these high levels of entrepreneurial initiatives, a very low number participate as formally registered firms. As determined in the previous chapter, the current sectoral distribution makes it so that even those with high levels of entrepreneurial potential and human capital investment remain informal. This sub-optimality is rooted in the government’s inability to fully enforce regulatory laws, due to both the inadequacy of authorities to track down each individual and weak rule of law and transparency. This echoes the previously explored notion that government corruption and enforcement oftentimes drive the decision of entrepreneurs to
formalize (Klapper et al 2010, 146). When enforcement is less than perfect, the
distribution deviates from the ideal.

Changes in enforcement, rule of law, regulation costs, corruption, and
incentives to formalize can all have an impact on the distance between the current
distribution and the ideal. Such is the scenario of Shifting Policies. However, there
are potentially two sub-optimal societal outcomes, making a movement towards
formality a problem of coordination. It is necessary to determine situation best
represents the case of Kampala before suggesting policies to address the
heterogeneity in the informal sector.

Theoretically, this could be determined by simply using data on changes in the
population of informal entrepreneurs alongside changes in policies related to \( p, q, g, b, \) and \( c \) – as defined in the previous chapter. If an increase in enforcement, for
example, resulted in a decreased proportion of informal entrepreneurs this would suit
the scenario of Shifting Policies. Unfortunately, such data is not consistently
available, and sources that might have estimates are rarely reliable. The informal
sector is by nature elusive; many firms go unidentified. Gauging the proportion of
entrepreneurship in the informal sector – or even those in the formal sector, relative to
enterprise growth overall – would be a challenge. Moreover, surveys and reports of
corruption may approximate measures of enforcement, but determining the exact
probability of enforcement would be a task beyond the scope of this project.

This chapter, therefore, seeks to use the case of Kampala to illustrate the sub-
optimal sectoral division, and speculate which scenario best informs the large
proportion of underperforming entrepreneurs. I hypothesize that Kampala’s story best
represents a society found at the point closer to the Shifting Policies scenario. In that scenario, positive changes in enforcement, rule of law, incentives, or bribery create movement towards formality. Responses obtained during interviews largely support this.

Following a brief history of entrepreneurship in Uganda and a description of entrepreneurship as it manifests today, this chapter will discuss the variables in the rational choice model. Despite the difficulty of quantifying the measures in the model, I abstractly conclude the degree to which the technical model tells the story on the ground as well as consider alternative explanations that remain unidentified. Although this chapter focuses on the model as it relates to Kampala, the concluding chapter provides an extended interpretation. I support my analysis with field observations, interviews with lecturers, graduates, and students of the MUBS Entrepreneurship Program, and a number of global surveys, newspaper articles, and country-specific reports.

**Entrepreneurship and Growth in Kampala**

In the late 1980s, after President Yoweri Museveni and the National Resistance Movement (NRM) came to power, Uganda was one of the first Sub-Saharan African countries to embrace privatization and liberal market policies. After privatizing in 1993, the 1990s and early 2000s were years of impressive economic growth and structural reform, with GDP growth averaging 7% per year. Uganda was a model performer, stabilizing an economy that had experienced negative growth rates in the previous decades of civil war (World Bank Country Overview, “Uganda,” 2013). This unleashed the immense untapped potential of Uganda’s rich natural
resources and agricultural commodities, manufacturing and tourist industries, as well as banking and finance sectors, creating mass opportunities for emerging entrepreneurs (Walter et al. 2003, 4).

Many of the initial entrepreneurs were “transfer agents”—entrepreneurs who would not necessarily be considered innovative in much of the world, but introduced enterprises that were underdeveloped or nonexistent in Uganda. The reentry of international, and particularly Ugandan Asian, entrepreneurs previously excommunicated during Idi Amin’s rule supported the rise of transfer enterprises. This entrepreneurial surge fuelled growth and development, laying a bed for foreign direct investment, attracting aid and support from donor communities (Walter et al. 2003).

Since then, Uganda has been a hotbed of entrepreneurship, leading the world as the most entrepreneurial country by all measures in the GEM 2003, and maintaining rankings in the top 10 since (Walter et al. 2003; Namatovu et al. 2010). Even through the recent global economic crisis, surveys have indicated that upwards of 80% of Ugandans have entrepreneurial intentions (Namatovu et al. 2010, 10; Xavier et al. 2012). Despite impressive and sustained entrepreneurial activity, however, growth and overall performance has slowed.

Despite a solid macroeconomic foundation and high levels of entrepreneurial activity, there has not been much positive change in terms of economic productivity in recent years. Uganda maintains low levels of inflation, stable foreign exchange rates, and positive GDP growth rates (Ministry of Finance 2011, 5). However, GDP growth has decreased from nearly 11% in 2006 to 3.4% in 2012, and although the
gross value added at factor cost has had an upward trend over the years, the available data shows a slow down.

In the mid-2000’s, GDP at factor cost\(^5\) was growing billions annually, but converged to changes in the 100-million range. Recently we have observed a dip, dropping from $15,962,902,577 in 2010 to $15,445,809,061 in 2011 (World Bank Databank). While these statistics do not suffice to conclude a trend, a story emerges when looking at overall GDP growth as well. The African Development Bank reports that although real GDP growth is expected to rise to 5.5% by the end of 2014, growth remains under Uganda’s potential (African Economic Outlook 2013). While these are not direct measures of productivity, they reflect a functioning and growing economy.

Whereas the work of transfer agents – repurposing resources and borrowing ideas from other countries – may have engendered real growth in Uganda’s less developed stages, such enterprises may be less effective with fewer untapped markets and increasingly constrained resources. Since privatization, an unsupportive and non-traditional business culture has resulted in heavy proportions of informality. It is not necessarily the amount of enterprise in a country that contributes to growth; pure “entrepreneurship as a mechanism for wealth creation is not that effective – despite being the most entrepreneurial country in the world so far, it is still one of the poorest” (Walter et al. 2003, 26). The imitative nature of popular informal enterprise may have run its course as a tool for effective development and growth.

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\(^5\) Defined by the World Bank as the “derived sum of the value added in agriculture, industry, and service sectors.” Also known as gross value added at factor cost, this is determined by subtracting each sector’s intermediate consumption from gross output. I decided to use this as a proxy for productivity mainly because determining total factor productivity was impossible, given available statistics and time. I deemed this appropriate as a productivity indicator because it eliminates intermediate goods, which gives an idea as to how much of GDP relates to final products.
Why has imitative enterprise persisted?

**Lack of Supportive Education**

A proper and necessary shift in education did not accompany the shift to privatization. According to Irene Mutumba – founder of the Private Education Development Network, an NGO that provides financial and entrepreneurial education to Ugandan youth – there is a growing gap between the education system and the workplace. “When the education system was set up a long time ago in Uganda, it was quite appropriate because government was the biggest employer.” People were educated to be obedient government workers. The government previously owned all parastatal organizations in health, agriculture, education, and more. Most everyone who completed the education system was immediately absorbed into the market. The job market shifted dramatically with privatization; companies thrived off profit, targeting employees with “attitudes and mindsets that would enable competitive and productive workplaces” (Interview, November 2012).

This education system, however, continued to produce people who were not equipped to compete for a job. Due to the disengaged style of learning, students had grown accustomed to awaiting instructions. Complacency followed students to the workplace, where they would anticipate instructions from the employer as opposed to taking initiative or being innovative. Because such students were not moving companies forward, they were getting fired or further perpetuating unproductive businesses. A poverty concentration of 31%, as well as a young population with more than 50% under the age of 15, exacerbates this predicament (Dunn 2012, 12; Mundy
and Musoke 2011, 14). With sizeable formal unemployment, many turn towards entrepreneurship, but rarely is the enterprise risky or innovative.

**Prevalence of Informal Sector**

According to statistics published by the Doing Business surveys, there were 20,800 newly registered firms in 2012 (Doing Business Website, 2013). Given a population of 36.35 million, this would implicate a very low percentage of less than 1% involvement in recent start-up activity (World Bank Databank). However, compared to the total early-stage entrepreneurial activity statistics provided in the 2012 Global Entrepreneurship Consortium – which includes informal ventures as well – upwards of 35% of the population is involved in early-stage entrepreneurship (Xavier et al., 26). While the latter statistic is more flexible in its definition, and therefore, could include more than just businesses started this year, the gap is striking. It reflects how few firms are registering in comparison to those who opt out of registration.

The conclusions reached in these international surveys are echoed at the local level in Kampala, and more particularly, in the case of promising, well-educated and trained entrepreneurs. Of the 29 graduates of the MUBS Small Business and Entrepreneurship program interviewed for this project, 14 had reported presently running their own business. Of the 15 who were not currently owners of an enterprise, most either worked with family members’ enterprises or expressed that they were transitioning toward embarking on their own venture. Despite these high numbers, only four of the 29 had explicitly attempted to enter the formal sector through registration.
Previous research implicates that informal entrepreneurship is associated with lower levels of productivity (Benjamin and Mbaye 2012). Studies show a large productivity differential between informal and formal firms only grows smaller in the case that informal firms are large. Since only 3.1% of early-stage firms expect to provide 5-19 jobs, and a miniscule 0.4% may contribute 20 or more, it is unlikely that most informal firms are large in Uganda (Xavier et al. 2012, 62). In my interviews, entrepreneurs tended to have no more than 3-5 employees, most of which were family members. Accordingly, the high concentration of informal firms could be one of the reasons for these lower productivity and growth rates.

This is not to say that informal firms do not contribute to development; most respondents said that although the informal sector is crowded and lacks diversification in terms of scale, informal enterprise contributes positively, both socially and economically. Informal enterprises allow owners to earn income, and even if only hiring 1-5 people, employees begin earning an income as well. This increase in income will eventually lead to an increase in consumption, which has a multiplier effect in the economy (Interview with L07, June 2013). Informal enterprise is crucial in terms of poverty alleviation, but also in terms of occupying youth and reducing crime rates (Interview with L08, June 2013).

Moreover, most informal entrepreneurs pay some sort of tax or fee – whether through solicitation or when paying VAT, export, or import taxes for intermediate goods (Interview with G20, June 2013). One graduate even said that those in the informal sector contribute to economic growth, but they themselves do not benefit – “the KCCA can come by every other day and take a little bit of money because they
are not registered, and they cannot even apply for tax returns” (Interview with G20, June 2013).

Regardless of the benefits, the stifling effects of informality are more prevalent. Money solicited from policy or KCCA authorities does not contribute to government revenue due to corrupt police systems (Transparency International). Even without corruption, these payments are less than what a firm regularly paying taxes would contribute. Especially in light of recent suspension of budget support aid, Uganda will rely heavily on tax revenues in the 2013/2014 financial year (Daily Monitor, June 2013). With an increased dependence on a corporate tax base, if informality remains the norm, it will be a challenge to ensure a steady stream of tax revenues and economic sustainability.

Limiting Mindsets

Firm growth tends to take a subdued form in an overly crowded business environment. There is little room or incentive for innovation. The pervading imitative mindset may have a stifling effect. Almost in line with Schumpeterian theory of creative destruction, entrepreneurs tend to borrow and flock to others’ ideas – observing the success of a neighbor, and using the same technologies to imitate his firm, expecting the same success (Interview with L03, June 2013). Reassuringly, many of the graduates reported being involved in consulting or catering services, small-scale snack- or agro-processing, real estate, bakeries, or retail. Categorized by some respondents as middle-class enterprises, by some standards these are still on the level of microbusiness that those in poor areas would pursue. Whereas those copying
early transfer agents were spreading firm types that were not previously prevalent, now imitation simply increases competition and stifles individual profits.

Instead, as one of the prominent lecturers at MUBS explained, Ugandan entrepreneurs come to deem success in business diversification. As opposed to opening new branches to expand or brand businesses, entrepreneurs will open an entirely new business (Interview with L09, June 2013). Whether they shift completely or keep multiple businesses running simultaneously, most focus on simply attaining a level of sustainability or sustenance; scarcely opting for investments, mergers, or innovations that may allow for a breakthrough to a higher threshold of growth.

Stunted innovation and muted human capital results in an overwhelming amount of capable youth, settling for jobs far beneath their capabilities. A pertinent example is that of the boda-boda driver; many of those who offer this risky service are university educated. Apparently, many come to Kampala or surrounding areas to study, but upon graduation, cannot find a job. They then find themselves investing in a boda-boda, chauffeuring the more impatient residents of Kampala around the city. I learned this through discussions during my own boda-boda rides. According to the 2010 GEM, Uganda’s labor force is growing at a rate of 3.4% per annum, creating on average 390,000 new job seekers on a yearly basis. However, there are only an average of 8,120 jobs available. With such high levels of unemployment, many under employ themselves to ensure some source of income.

A dangerous attitude of entrepreneurship as a transient alternative – a placeholder – to work, as opposed to a career or a commitment, emerges. Even those who reported running small ventures were looking for jobs simultaneously, instead of
focusing energy on their firm. Many of those living on $1-2 per day diversify instead of investing or skill building, reflecting similar impermanence (Banerjee and Duflo 2006). It is shocking to note that such shortsighted attitudes transcend lower socioeconomic levels. Even those with university degrees find themselves in the same sector as necessity entrepreneurs, treating enterprise in a similar fashion.

This finding brings into question an under-researched subset of the population – one that we may expect to look unique. The implications of the similarities reflect a great deal regarding the overall business environment and the interaction between politics and market. Those who have obtained training seemingly cannot avoid the constraints that even poor Ugandans face. The discussion that follows considers these high-potential entrepreneurs using the game theoretic variables.

**Discussion of the Game Theoretic Variables**

I hypothesize that the case of Uganda fits the game theoretic model, and although it is difficult to conclude, I speculate that Uganda more likely represents the scenario of Shifting Policies – one in which improvements in enforcement, for example, results in a shift toward optimality. While many factors contribute to the wedge between the ideal and current distributions of formal and informal enterprise, irregular enforcement and corruption often underlie these factors. As will be argued in later sections, low levels of enforcement foster illegitimacy, a confluence between the informal and formal. Even formal institutions are laden with informal practices, which would discourage wholly formal attitudes and practices from forming. The impression seems to be that young, educated Ugandans are looking for government actions to facilitate proper business practices and move them towards the formal
sector. There are, of course, caveats and extensions to this generalized rational model – most prominently the question of whether the government is a rational actor. I discuss this towards the end of the chapter.

Aspects of “g” – Is the Formal Multiplier large or small?

Increasing incentives to formalization would theoretically result in an increase in the proportion of the formal sector. This hypothesis seems to hold, as many express desire for increased support, education, and an environment of higher quality.

Consumer Demand

One of the first factors to consider in terms of registration is how demand comes into play – do consumers value registration? Will consumer-base increase in response to a firm formalizing? In terms of demand, one of the main things that came across was an absence of a culture of quality (Interview with L07, June 2013). Lack of skilled labor, government support, poor infrastructure, and high degrees of transient firms conflate to result in low business standards (Interview with G19, June 2013). As one lecturer put it, whereas in the United States there are well-organized, highly developed systems where formality is the mode, in Uganda informality dominates – systems lack strict, clear processes (Interview with L02, June 2013). This impotent environment combined with high levels of necessity entrepreneurship work together to create an attitude towards entrepreneurship that is frivolous. Instead of viewing business as a viable career alternative, many view it as a way to make “a quick buck” (Interview with L06, June 2013). As such, entrepreneurs are unlikely to invest heavily to provide high-quality goods. Consumers eventually come to liken quality with imported goods. Playing into common expectations in this manner does
not encourage innovation or registration, since success requires exploiting something that is already there.

Moreover, Ugandans tend to be fairly rooted in tradition when it comes to consumption; they want the same things, and expect to purchase them in the same place. Certainly, Uganda’s natural resource endowment supports a number of consistent and familiar resources (Ministry of Finance 2011, 7). Unwavering demand for these products particularly comes from Ugandans in lower-middle socioeconomic classes. In addition to the economic constraint that these buyers face, many of them lack exposure to other regions or products.

To provide an illustrative example, one lecturer discussed the curious, all-too-frequent case of multiple tomato sellers setting up stands right next to each other in crowded market places. It seems entirely unreasonable to the onlooker, but in reality, if one were to enter an untapped area, opening his tomato stand further down the road, many would grow suspicious (Interview with L10, June 2013). Such an act would also make the seller more susceptible to enforcement since he would be isolated. Forced registration would then drive prices up, discouraging buyers from supporting that particular tomato seller, and driving them to return to the marketplace where they typically purchase their produce.

Given these reactions, an entrepreneur would not expect his consumer base to expand broadly with a certificate of registration. However, although Ugandans may continue to support firms that lack-quality, there is an encompassing sense of disapproval and disrespect towards small-scale, informal sellers. Consumers are aware that informal entrepreneurs pursue micro-ventures without much skill or
careful planning – such firms serve to earn money in the now, presenting entrepreneurs in a light that is unreliable and uncommitted to consumer satisfaction.

In the early stages, many call nascent entrepreneurs names or look down on those trying to build from scratch (Interview with L09, June 2013; Interview with G17, June 2013). Entrepreneurs are only truly recognized at a higher scale; there is a great amount of respect and admiration for those who do run registered firms.

In the current situation, however, registration may only be in the best interest of the entrepreneur who hopes to target consumers of higher income or those involved in a less common business – which would likely take longer to realize the multiplier effect due to lack of popularity.

**Education and Training**

Almost everyone interviewed – lecturers, students, and graduates alike – emphasized the connection between education and entrepreneurship, or lack thereof. As discussed above, the education system encourages rote learning, and inadequately prepares Ugandans for a privatized, competitive, and creative job market. It seems as though Uganda has caught on to the mismatch between the job market and the public education. With the presence of NGOs, government-funded financial literacy initiatives, as well as education programs run by microfinance institutions and banks, entrepreneurial and financial education programs are trending. They have also begun incorporating entrepreneurial education at the early levels of learning. According to the recent budget report, the education sector is to receive the second most funding, focusing mostly on quality and relevancy of education – “imparting the necessary
skills and knowledge required to tap the creative abilities of individuals in order to enhance society’s wellbeing” (Ahimbisibwe 2013, 8).

Focus on early stage entrepreneurial intervention received heavy support in interviews. As one professor put it, a few years at the university program cannot combat an entire upbringing. Students still tend to view the entrepreneurship program as an academic venture, and not necessarily a gateway to a career. They mainly do their work and take exams to receive good marks, still expecting to find employment after graduation, viewing entrepreneurship mainly as a way to make money in the meantime or an area of study. Without early childhood education to encourage risk-taking, innovation, creativity, and the more technical side of enterprise, graduates cannot come to fully value enterprise.

**Normalization and Culture**

Along the lines of education is cultural normalization – to what degree are attitudes conducive to formal entrepreneurship? What are the general attitudes towards government and business that would influence perceptions of registration?

One trend that seems to have been normalized is the “keep it ‘til you earn” mindset (Interview, June 2013). Commonly, Ugandans will embark on a business venture, until they reach a point of profitmaking. Once they begin earning, however, they are happy to sustain a lower level of earnings. If they desire increased earnings, they will open another business or look for a job simultaneously (Interview with L09, June 2013). There is a cultural fear of commitment that many interviewees indicated. Much of this is rooted in the historical riskiness of the business environment.
Uganda has a history of political instability, a past ridden with civil war (Martini 2013, 2; Interview with L02, June 2013). In a vulnerable, unstable state, people are less likely to make investments or plan. Survey responses from current MUBS students indicated that planning and future orientation were among the least descriptive of Ugandan culture.

A heavy reliance on the agricultural sector further creates a sense of risk. Especially in light of recent climate change, seasons and harvests are becoming less predictable. Even those in urban Kampala have ties to the village; many go back for holidays or even have an additional home or venture in their birth village. As such, there may still be the mentality shared in rural areas. For these reasons, people distribute their energies between a few different ventures (Banerjee and Duflo 2006). This further entrenches the view that enterprise is something transient and impermanent, small and supplementary.

An illustrative anecdote is the story of a MUBS student who ran a money lending business during his time on campus. He had some allowances and earnings saved up and decided to loan to students, turning a profit by charging interest. His business quickly grew, but as it grew, he became nervous – unprepared for the managerial responsibility and commitment. He shut down the lending business, using his earnings to start an auto parts shop, which he also shut down as it began to grow. This student explained to me that although he was becoming successful, a part of him still viewed entrepreneurship in the traditional sense – as an option for those who failed. People went to school to get white-collar jobs, as lawyers, doctors, or government employees, not businessmen or women (Interview with G01, June 2013).
Viewing entrepreneurship as a back up plan as opposed to a career decreases the incentive to invest in long-term registration. This also further perpetuates the issue of low standards and poor quality goods.

Another factor is the idea of nationalism or civil society, of being part of a cohesive group. If people feel responsible toward the Ugandan state or cause, they may be more likely to register and support the state at large. They may also be more willing to trust one another and support each other’s businesses. However, there is a fare amount international trading and importing to attain “quality” goods. There are also remaining schisms and stereotypes. The Acholi in the North and the Baganda in the Central/Southern region tend to maintain grudges following the civil war, and acts of favoritism by President Museveni tend to make matters worse. This is the case in many African countries; because most African countries were arbitrarily determined during colonialism, many tribes and ethnicities exist within one country. In the city of Kampala, this is less of an issue, since it is a fairly inter-regional and international city.

The normalized views toward registration and formality tend to be split and rather political. One narrative depicts the government as stifling and unjust, while another values those who attempt to adhere to the rules in place. To provide an illustrative example: in early December there was a fire in the crowded Owino market in Kampala, destroying millions of shillings of property. This trading center is an outdoor market with over 500,000 traders, most of which were informal (Kasujja, Masaba, Lule, Candia, and Ssenyonga, 2013). Police responded aggressively, and ambulances and fire departments were slow to the scene. There were speculations that
because the market was not truly supposed to be there, responding units purposely delayed. Since many of the sellers were informal, it could be that the government would have less incentive to protect these businesses because they were not paying for these public services. In the comments on the online media coverage, Ugandans argued over whether it was the fault of the terrible government or the irresponsible vendors. Those holding the former opinion seemed to blame the illegal and informal system that dominates their society. Generally, people would like systems to formalize and function properly, but some view this as unrealistic due to corruption and poor governance.

Despite all of this, there is a general awe and appreciation for successful, registered Ugandan entrepreneurs. In interviews, most described registration as something admirable, acknowledging that informal business was not nearly as conducive to growth and did not allow for true innovation. They wanted to emulate those with these formal firms.

**Access to Finance**

According to the MUBS respondents, obtaining start-up capital may be an obstacle, but not an excuse. Limited access to finance is often considered one of the main weaknesses to enterprise growth in Uganda (Ministry of Finance 2011, 8). Start up capital on average is an estimated 10 times the GNI per capita (Doing Business 2014, 20). To raise this money, students are encouraged to develop mentorships, and reach out to all contacts when starting a business – one mentioned going through all numbers in his phone, obtaining a small amount of money from each person to support his startup.
Although banks and savings unions offer loans for Small and Medium Enterprises (SMEs), a chicken and the egg problem emerges: firms do not have enough money to formalize, and when they turn to formal creditors for support, they lack necessary documentation of registration or collateral to obtain that loan (Daily Monitor, 2013). Many seek loans from family, social networks, or informal lenders instead (Levenson, 2012). Given these seemingly viable and simpler opportunities for capital, entrepreneurs can circumvent formalization.

Assuming a business does register, the process of getting credit has improved over time, and Uganda performs far better than the Sub-Saharan African regional average – ranking 42/189 economies, with SSA ranking 113 (Doing Business 2014, 51). Although strength of legal rights has remained at a ranking of 7 out of 10 since 2005, depth of credit information has increased from 0 to 5 out of 6 (Doing Business 2014, 52). This improvement reflects an increase of accessibility and scope of credit.

Additionally, Uganda’s recent Budget Report highlights impressive financial sector development. Access to financial services – which are integral in encouraging savings practices and investment – has increased given the growing number of Commercial Banks, providing 360 branches throughout the country. Uganda has experienced modest improvement in terms of private bureau coverage over the years, scoring a 4.1% in 2014 (Doing Business 2014, 52). The investment rate has also risen from 24.5% of GDP to 25.2% in the previous year (Daily Monitor, “Uganda Financial Year Budget Speech,” 3).

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6 Private credit bureau coverage is measured in % of the adult population. It reflects the number of individuals and firms listed in the largest private credit bureau (Doing Business 2014, 50).
Despite this improvement, the private bureau coverage remains relatively low, meaning that few adults actually receive credit from private companies. Moreover, there has been no reform in terms of getting credit since 2011 when Uganda enhanced access by establishing an improved private credit bureau (Doing Business 2014, 54). Reports also indicate that survival rates of investments are 46%, possibly due to the high cost of borrowing and infrastructure bottlenecks (Budget Speech, 2013). From an entrepreneur’s perspective, although formal financing has become more accessible, informal alternatives may decrease the incentive to register. One can imagine that a crackdown on these informal channels while simultaneously providing more accessible formal funds would likely result in a shift towards formalization.

Property Rights

To secure property, Uganda requires that entrepreneurs register in the capital city, and follow up with the local municipality (Doing Business 2014, 41). The responses of the firms in the Doing Business Report imply a difficult process. In terms of overall rankings, Uganda scores slightly worse than the average of Sub-Saharan Africa, earning a 126/189 versus a 121 (Doing Business 2014, 43). Over time, the cost of registering property has remained relatively stable and low – hovering under 3% of property value (Doing Business 2014, 45). The time and number of procedures have declined, and presently, it takes 11 procedures and 47 days to register property (Doing Business 2014, 44). As a business owner goes through the process, each subsequent procedure is associated with a higher cost and time to complete (Doing Business 2014, 42).
The government has made reforms regarding property rights in recent years. Notably, in 2012 Uganda increased efficiency of property transfers by establishing standards and recruiting more officials to work in the registration offices. In the following year, Uganda introduced a requirement for those wishing to purchase property, requiring them to obtain an income tax certificate before registration (Doing Business 2014, 46). Ostensibly, this would be an effective way of ensuring that entrepreneurs are paying their taxes and registering – granting them access to easier property transfers and registration. However, with disorganized administrative offices, this results in delays at the Uganda Revenue Authority and Ministry of Finance adding an extra level of difficulty for entrepreneurs. In that same year, 2013, Uganda began digitizing registration processes, including title registry. This certainly is a step in the right direction of making the process more streamlined, facilitating communication with commercial banks and other departments of registration.

Of the potential barriers to formalization, respondents rarely mentioned property rights explicitly. Currently, processes are tedious, expensive, and disorganized, whilst laws tend to be unenforced in a wholly informal environment. As a result, enterprises run out of households or remain mobile – selling snacks around campus or free-lance consulting. Subsequently, property rights may not hold much value to the emerging entrepreneur, dissuading formalization. There is hope after the recent declaration of the 2013/2014 budget, which allocates more attention to increasing security to land ownership rights and reforming unnecessary laws and regulations within the licensing regime (Daily Monitor 2013, 40).

**Government Support and Services**
Mentioned above was the idea that without prevalent public services and support, Ugandan entrepreneurs will not cooperate and support the government through registration. While Uganda has made it clear that supporting SMEs is among its greatest priorities – especially since the declaration of the goal to become a middle-income country by 2017 – it remains questionable how accessible these programs are, and whether they actually offer quality services (Mugerwa 2013, 3). Whether due to inadequate training, education, financing, or availability of basic infrastructure, many of the graduates interviewed stated that the government poses more limitations than it does assistance, all indicating that there was room for improvement. All but three graduates said that government influences the entrepreneurship process, while only one disagreed, and the remaining two did not seem to take a particular stance.

One of the main issues is that Uganda has a single policy towards Micro, Small, and Medium Enterprise (MSME). By lumping these three drastically different types of enterprise together, there is little incentive to grow from micro, to small, to medium. There are policy components focused on business linkages, formalization, sustainability, and growth – which would implicitly assist a micro firm to transition to the next level – but as previous literature has indicated, if medium-sized business owners do not realize a proportional increase in support, there is little incentive to grow (Ministry of Finance 2011; Benjamin and Mbaye 2012).

One of the areas in which the government influences enterprise is through private sector partnerships. Recently, the government passed the Public-Private Partnerships (PPP) Bill, which intends to mobilize private sector investment in
infrastructure projects (Daily Monitor 2013, 18-19). Since poor infrastructure imposes a binding constraint to business, this partnership could alleviate this bottleneck.

However, reactions to the recent budget allocation to the private sector were largely negative. Private sector players were disgruntled with the funds allocated to the Ministry of Trade, Industry, and Cooperatives. District and local trade officers will find it more difficult to promote trade and fund networking activities given the stifled budget support. Mr. Moses Ogwal, a policy analyst at the Private Sector Foundation of Uganda expressed that this may tamper with the growth of SMEs, which the Ministry is at the forefront of supporting. As a result, the Ministry will unfortunately have to reduce supervision of cooperatives and scale-down engagements of SMEs (Ladu 2013, 13-14).

The availability of entrepreneurship funds and grants plays a role in encouraging enterprise as well. A recent piece in the Daily Monitor entitled “Jobless Youths Resort to Sand Mining in Nebbi” aptly describes the struggles that budding entrepreneurs experience when acquiring said grants. A group of 20 or so youths gathered to start a natural resource project. One of the leaders explained that they “failed to access the hyped youth fund due to ‘tough conditions’ set by the banks” (Okaba 2013, 17). Upon visiting Centenary Bank with a proposal, they had to produce a land title, guarantors, and a business certificate. As discussed previously, many of those seeking credit or loans are unable to acquire purchase the necessary licenses, leaving these funds inaccessible to them.
The same issue of the Daily Monitor described a government scholarship fund, sponsoring a university education for more than 20 bright, low-income youth. Students apply from across East Africa, expected to be “equipped with skills suitable for the job market” (Chekwech 2013, 17). In addition to this selective and vague program, the government has a few other scholarship options, already sponsoring some 4,000 students at universities throughout the country (Chekwech 2013). In addition to this is the Youth Venture Capital Fund – cited by just one of the interviewed entrepreneurs. The Ugandan government, DFCU, Stanbic, and Centenary Banks avail UGX 25 billion in a venture capital fund to support budding entrepreneurs between the ages of 18 and 35. This fund requires businesses to be in operation for at least three months in compliance with local business licensing requirements. It also requires that entrepreneurs hire at least four people by the end of the loan period, as well as take mentoring and financial training sessions (Ministry of Finance Website). Not widely mentioned by respondents, this program may be inaccessible to the emerging entrepreneur.

The general perception of the government’s support for enterprise and individuals’ success is crucial to formal business compliance. If an entrepreneur does not feel supported by their government, they would be unlikely to adhere to regulations. As mentioned above, the reactions to the Owino market illustrate the split in such perceptions. Some people accused the government of purposely delaying responses to the crisis, while others blamed irresponsible informal sellers and petty thieves for creating the crisis in the first place.
We are left wondering though, even if these sellers were all formal sellers, does the government have the capacity to attend to these crises? The poor quality and absence of support is apparent from the time it takes for ambulances to arrive or power outages that people still experience on a regular basis. If the government is an unreliable provider entrepreneurs may not feel a push to follow their rules.

**Distribution of “k” – Population Proportion and Supply-Chain Demand**

Registration reinforces a positive firm image and paying taxes reflects corporate responsibility, signaling a certain commitment to reliability and growth. In terms of collaborating with other firms or expanding business, one respondent aptly stated “no one wants to do business with an informal business; it lacks trust” (Interview with L06, June 2013). Formalized firms are perceived as more trustworthy than informal sellers. Investors – both international and local – are more likely to put their money into a project that they know will have a degree of permanence. Since growth takes a different form in many Ugandan businesses – in diversification as opposed to single-firm expansion – partnerships may be a less common business strategy. Moreover, Uganda’s ability to enforce contracts remains limited, making formal partnerships less promising (Doing Business 2014, 85).

Uganda is attempting to encourage value addition along the production chain. Arguing “the key to the growth and success of MSMEs lies in processing their products for higher quality,” the Ministry of Finance plans to promote product certification and develop an internationally recognized accreditation system (Ministry of Finance 2011, 18, 25). If the government were to actually implement inspections, it
formalization would become more necessary in the eyes of emerging businesspeople – especially if the substitution effect argument holds (Klapper et al. 2010).

Nevertheless, current aspects of the supply chain linkages may sway an entrepreneur to remain informal. Entrepreneurs selling intermediate goods benefit from maintaining informal status. One lecturer simultaneously owned a formal furniture business, and discussed his visits to the lumberyard. Of some 17 lumber sellers only two were formal sellers. Conceivably, someone who themselves complied with rules to register – and aware of the theoretical benefits of registration, given his status as lecturer – would support the minority of formal businesses. As a businessman, however, he chooses to purchase his lumber from the informal sellers because their product is cheaper (Interview with L09, June 2013). Depending on the type of business an entrepreneur wishes to engage in and the clientele they are targeting, informality could serve as a strategic advantage.

**Variable “c”: Registration and Regulation**

The registration process posed one of the greatest barriers to Ugandan entrepreneurs, according to interview and survey results. Of those who graduated, all but one identified the registration process as a barrier. Respondents described systems as tedious, unfair, disorganized, and expensive. Anecdotally, many expressed beginning and investing in the initial steps of registration process only to face additional fees or unexpected barriers, due to something like a pre-existing company name. Although four months ago Uganda’s Registration Authority developed an online registration system, entrepreneurs still describe a lack of a streamlined, well-documented process (Daily Monitor, June 2013).
The full registration process is a lengthy 15-steps, and no more than one cannot be completed in a given day. With numerous steps and departments involved, entrepreneurs or authorities may easily get lost in translation – causing entrepreneurs to have wasted time and money, left with only partially registered firms. Some steps seem arbitrary, particularly the final step of designing a company seal. Additionally, many of these steps require fees with the initial fee approximately equivalent to $11 and the total process amounting to $270. In a country where the GDP per capita is a mere $547, this is no trivial amount (World DataBank).

<table>
<thead>
<tr>
<th>No.</th>
<th>Procedure</th>
<th>Time to Complete</th>
<th>Associated Costa</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Submit the Name Reservation Form to the assessment window of the Uganda Registration Services Bureau (URSB) and obtain the bank payment slip</td>
<td>1 day</td>
<td>USH 25,000 + USH 2,000 bank fee</td>
</tr>
<tr>
<td>2</td>
<td>Pay the name reservation fees at the bank</td>
<td>1 day</td>
<td>Included in previous procedure</td>
</tr>
<tr>
<td>3</td>
<td>Reserve the company name</td>
<td>1 day</td>
<td>no charge</td>
</tr>
<tr>
<td>4</td>
<td>Sign the declaration of compliance before a Commissioner of Oaths</td>
<td>1 day</td>
<td>USH 2,000 -10,000</td>
</tr>
<tr>
<td>5</td>
<td>Obtain the slip-in for the payment of the registration fee and the stamp duty from URSB</td>
<td>1 day</td>
<td>no charge</td>
</tr>
<tr>
<td>6</td>
<td>Pay the registration fees at a designated bank</td>
<td>1 day</td>
<td>no charge</td>
</tr>
<tr>
<td>7</td>
<td>File the registration documents at the Office of the Registrar and Obtain the Certificate of Incorporation</td>
<td>1 day</td>
<td>see comments</td>
</tr>
<tr>
<td>8</td>
<td>Obtain a Tax Identification Number (TIN) and Register for taxes at the Uganda Revenue Authority</td>
<td>5 days</td>
<td>no charge</td>
</tr>
<tr>
<td>9</td>
<td>Receive inspection of the business premises by the Uganda Revenue Authority (URA)</td>
<td>1 day</td>
<td>no charge</td>
</tr>
<tr>
<td>10</td>
<td>Obtain the application forms for the trading license</td>
<td>1 day</td>
<td>no charge</td>
</tr>
<tr>
<td>11</td>
<td>Receive inspection of the business premises by the licensing officer and Obtain the assessment form</td>
<td>1 day</td>
<td>see the following procedure</td>
</tr>
<tr>
<td>12</td>
<td>Pay the license fee at the bank</td>
<td>1 day</td>
<td>see the following procedure</td>
</tr>
<tr>
<td>13</td>
<td>Obtain the trading license</td>
<td>10 days</td>
<td>USH 400,000</td>
</tr>
<tr>
<td>14</td>
<td>Register with the National Social Security Fund (NSSF)</td>
<td>4 days</td>
<td>no charge</td>
</tr>
<tr>
<td>15</td>
<td>Make a company seal</td>
<td>2 days</td>
<td>USH 225,000</td>
</tr>
</tbody>
</table>

Figure 1: The steps required for full firm registration, reported by the Doing Business Report 2014.

Moreover, without having a contact in public administration, the application may receive little attention. One woman expressed that she was only able to register her business because she had a close family friend see her case through registration (Interview with L23, June 2013).
Ugandan business laws and regulations have remained similar for the past 10 years. In all measures, most of the registration processes – from obtaining and registering property to starting up a business – have become cheaper. However, in terms of the bureaucracy involved, procedures remain unwelcoming. The number of procedures to start a business since 2004 has decreased from 18 to 15, and the days to register have gone from 34 to 32, a miniscule change overall. In terms of paying taxes, it still takes over 200 hours on average to complete tax processes, improving only from 32 to 31 payments annually. Uganda has dropped from 96 to 98 in the rankings as income tax has remained above 25%. The time to resolve insolvency has remained a constant 2.2 years and in the past year, it has resolving insolvency has dropped over 10 rankings. A similar pattern exists with enforcing contracts – although the time associated with this process has decreased, it still involves 38 procedures and a payment of 44.9% of the claim (Doing Business 2014 Website). This history reflects a lack of an effort to encourage the formal sector, which may further entrench the preference for the informal sector.

Uganda scores equally low in measures of open government and of regulatory enforcement, receiving a rank of 86 out of 97 countries surveyed. More particularly, government regulation is only effectively enforced with a score of 0.34/1.00, and without improper influence with a score 0.28. In terms of expediency, administrative proceedings infrequently progress without unreasonable delay, attaining a score of 0.26 (World Justice Project 2013). The nation has also scored below the 50th percentile for measures of Rule of Law, Government Effectiveness, Regulatory
Quality, and Voice and Accountability, according to Transparency International (Martini 2013, 2).

There is evidence in the recent 2013/2014 Budget Report that there will be more of a concerted effort to ensure enforcement. Since a larger portion of the budget will depend on taxes, the government must work to expand the current tax base. According to Allen Kagina, Commissioner General of the URA, although taxes are to be increased, the tax increment is not that large. In his words, “this is the first time we are funding our economy by 81%, so we have to be in charge of our economy” (Daily Monitor 2013, 4). The Uganda Registration Services Bureau anticipates collecting an additional UGX 15 billion and the URA expects new tax measures to amount to UGX 159.5 billion – total tax collections will be UGX 8.3 trillion, compared to last year’s UGX 7 trillion (Daily Monitor 2013, 2, 60). This is a lofty goal for a government that struggles to fairly collect tax payments, and potentially leaves room for more arbitrary collection if weak and disorganized enforcement persists.

An environment that loosely enforces laws – if at all – is not conducive to formalization for obvious reasons: the tedious and costly process of registration will be of little value in a nation that does not hold formal systems to a high standard. Without fair and consistent enforcement, an entrepreneur can rely on the more probable case of not being fined or prosecuted, or being cheated by the URA. If, however, laws are taken more seriously – by both citizens and enforcers – there may be a shift towards formalization.

Variables “b” and “q”: Corruption and Rule of Law
Lack of transparency and poor regulation create fertile grounds for rampant corruption. Indeed, according to international rankings such as Transparency International’s Corruption Perceptions Index, Uganda is among the world’s most corrupt, ranking 140 out of 177 countries with a score of 26/100 (Transparency International). Uganda also received a low Control of Corruption score of -0.88, which is in the low-performing 21 percentile. Widespread corruption is the greatest impediment to economic development, as well as provision of public services – the nation has a culture of impunity, exacerbating clientelistic practices and patronage (Martini 2013, 1). The World Economic Forum’s Global Entrepreneurship surveys reveal that Ugandans perceive corruption as the most problematic factor for doing business (World Economic Forum 2012).

Citizens experience petty corruption on a daily basis. As Martini puts it, “illegal payments are so widespread that they often happen in full view, with public officials openly asking for bribes in exchange for services, and citizens and companies openly paying without complaining” (Martini 2013, 2). To provide an example, I recall seeing a police car pulled over near a gas station. Most taxi drivers drove by unnoticed. On my ride to town that morning, my van slowed as the police officer signaled to stop. As it pulled over, the police asked for some money, and everyone got out of the taxi to find another ride – hoping to avoid delay in the busy commute. My taxi looked no different than the others, and did not seem to be operating out of the ordinary. Nonetheless, the drivers gathered some cash, handed it to the officer, and went on their way as I remained among the few still sitting in the back.
High levels of corruption interrupt the delivery of public services and sound public financial management. Not only does corruption impede smooth business operations, it also discourages entrepreneurs from contributing to government revenue due to the lack of transparency and accountability in government spending (Martini 2013). Without an open budget, citizens have no way of knowing whether money goes toward benefitting the country’s development. According to the 2012 Open Budget Index, Uganda scored a mediocre 65/100, providing substantial information to the public on the budget process. Nevertheless, tax expenditures remain unclear (Martini 2013).

With about 10% of the budget aimed at Public Sector Management, perhaps there will be a concerted effort to strengthen the management of public finances and improve governance (Daily Monitor 2013, 2). As Dr. Roberto Ridolfi, Head of EU Delegation said: “It is good President Museveni has committed to fighting corruption and to investigate people who stole (OPM) money. I can see some good progress. If the response by government is a positive one, then the country will grow” (Daily Monitor 2013, 2). A number of bills passed to combat corruption and increase transparency, including the Free Zones Bill and the Anti-Money Laundering Bill.

However, it is important to take these intentions with a grain of salt, as budget reports remain largely opaque. Although Madame Kiwanuka – the financial minister – emphasizes enhancing transparency and accountability to improve the value of money and combatting corruption, many Ugandans are quick to point out how the minister was unable to explain why promises made last financial year were hardly
met. The funds poured into infrastructure and transport projects, in particular, remain incomplete and neglected, given by the poor condition of roads (Mugerwa 2013, 3).

Despite all of this, respondents mentioned corruption as a distinct barrier to entrepreneurship less often than bureaucratic complications and poor systems of regulation. Of the 29 graduates interviewed, 12 explicitly said corruption posed a limitation, 1 explicitly said no, and 16 did not specify. This number may be lower than expected because corruption often influences entrepreneurship and decisions to formalize indirectly. They experience corruption daily through inadequate infrastructure, unfinished roads, or poor electricity, but not necessarily during registration.

Variable “t”: Tax Structure

Tax structures and tax rates play a distinct role in whether or not one will be willing to adhere to tax guidelines. Uganda has a progressive tax system. Relative to other countries, Uganda actually has reasonable tax rates for small businesses (Doing Business 2014). Income tax rate for a company is typically 30% of the firm’s chargeable income (Grant Thornton, 1). As depicted in the chart below, firms that earn less than 5,000,000 UGX are not required to pay a tax. As far as small businesses go, the highest a firm would pay is UGX450,000, which amounts to approximately $183. This may be higher since withholding returns and deductibles require diligent filing on a monthly basis, and such bookkeeping is rare among Ugandan entrepreneurs.
In addition to business taxes, individuals are required to pay an income tax. This depends on the income bracket in which that particular individual falls. Those earning under UGX 2,820,000 are not required to pay anything, but as income grows, so does the rate of tax (Grant Thornton, 2). While progressive taxes are arguably an effective way to combat inequality, in the case of a nation like Uganda with shoddy formal practices, there is incentive to underreport earnings. In the end, a heavier tax falls on those who do register.

Although there may not be much of a change in income tax, Ugandans can expect to see significant increases in taxes on inputs such as fuel and kerosene, vehicle registration, and mobile money transactions in the coming year (Kulaboko 2013, 16). It is possible that these increases dissuade entrepreneurs from formalizing, since they will be spending more money on goods, leaving them with less to spend on corporate tax payments.

**The Government as a Player: The Constraint of Budget Balance**

The game theoretic model treats the Ugandan government as a rational actor. This raises two important questions: 1. What incentives exist for the government to push for formalization? 2. Is the government actually capable of making this decision?
First, I address these questions from a historical standpoint. President Museveni’s government holds little legitimacy as it is laden with a history of clientelism and corruption. From 1986-1996, the first 10 years of NRM rule, there was a resuscitation of key state institutions. Borrowing from Rubongoya (2006), while the NRM was initially able to legitimate and consolidate power, the movement did not extend legitimacy to the state itself (Rubongoya 2006, 3).

Successful democratic institutions depend on a sharp distinction between the formal and informal sectors. A governance realm must engender trust, compromise, and bargaining between elites and citizens. If there is not a sense of consensus, representativeness, and governability, informalism and personalized decision-making enters the realm of formal institutions (Rubongoya 2006, 13). In the case of Uganda, presidential supremacy subordinated institutional checks and balances on executive power (Rubongoya 2006, 12). Museveni and the NRM began limiting political participation and representation after 1996, in which NRM supporters and elites had the upper hand. Corruption was prevalent in the parliament, URA, police, judiciary, and public offices (Rubongoya 2006, 13-14). Any disregard or manipulation of formal rules creates distrust and contributes to lack of legitimacy (Rubongoya 2006, 15).

Given a history of entrenched corruption, it is questionable as to whether the current regime has any control over proper enforcement. If corruption and lack of enforcement is coming from deep within the system, it may be difficult to ensure actual change in government actions and popular perceptions. If, however, we assume rational acting, the government must see some incentive to promoting formalization
and a sound business environment. Aside from raising tax revenues, following through with laws could result in a more cooperative and supportive citizenry. If a government seems reliable, citizens are more likely to comply with rules. The following measure from Transparency International’s website (2013) supports that the majority of constituents take efforts to combat corruption seriously.

Percentage of people who feel their government’s efforts to fight corruption are:

- 24% Ineffective
- 18% Neither effective nor ineffective
- 58% Effective

There are potentially more detractions to enforcing laws and benefits to Museveni’s regime. With a functioning formal sector, high-potential entrepreneurs may pursue sustainable medium sized firms. This may result in a robust middle class, presenting changes in demands. Whereas previously the government may have only responded to the demands of elites, a middle class may express dissatisfaction with existing public services. Whereas there is certainly discontent with the quality of these services now, because of the stifling inequality and lack of faith in the government, the lower-class majority may not bother pressuring the government to address issues. Once these educated entrepreneurs gain more power, and government starts functioning properly, higher expectations emerge.

Counter-Arguments and Limitations

While the above explanations hold, there are certainly counter-arguments to consider. One of the immediate reactions might be that those graduates in the
informal sector are simply taking the necessary stepping-stones toward formality. As one lecturer put it, they “have to start somewhere.” One aspect of the program that most students highlighted was the ability to develop mentorships with successful Ugandan entrepreneurs – those considered the most esteemed like the owner of Spear Motors or UgaChick. Of the graduates who mentioned this practical component of the program, all were genuinely surprised to learn that many of these businesses started from the bottom, just as they were doing. Especially since the graduates interviewed completed their education in the past three years, it is unfair to conclude that their businesses would not evolve similarly.

Almost all lecturers said that while the students at MUBS have an advantage in terms of operations management and creativity, many of their businesses are the same in terms of firm type. A few years of education and training in entrepreneurship cannot fully offset years of stronger limiting factors – such as impractical education systems, the aforementioned aspects of culture and normalized attitudes, or corrupt and complicated registration systems (Interview with L11, June 2013). Everyone in the system experiences these countrywide disadvantages, regardless of education level.

Another complication to consider is determining causation in the relationship between high entrepreneurship and high unemployment. Uganda is experiencing a youth bulge – an exponentially growing youth population. Because the population is growing at such a high rate, it is hard to parse out statistics and conclude whether or not jobs actually emerge. This is to say, these enterprises may create jobs, but because the population is growing so rapidly, these employment opportunities quickly fill,
without alleviating the overall unemployment rate. However, most entrepreneurs in interviews did not hire upwards of five people, often hiring less.

One thing to note is that two of the main reports used for data in this section – Doing Business Report and Global Entrepreneurship Monitor reports – differ in that Doing Business aims to expose how easy or difficult it is for a local entrepreneur to run an SME when complying with regulations. It presents quantitative indicators on business regulations, focusing specifically on regulations, such as registering property, dealing with permits, obtaining electricity, accessing credit, paying taxes, enforcing contracts, and more (Doing Business 2014, 4). The GEM reports, on the other hand, tend to focus more on the impressions of respondents, identifying the degree to which certain factors present barriers or are conducive to business. GEM defines entrepreneurship as “any attempt at new business or new venture creation” (Walter et al. 2003, 12). Earlier versions of the study do not parse out those who are formal and those who are not.

As with any research project, there are limitations to my personal data collection methods. Because my research topic stemmed from a broader interest, the questions asked in interviews evolved over time to more poignantly focus on formalization. This may to understatement in those who have explicitly formalized. In hindsight, if I had developed this model previously, I could have asked entrepreneurs’ anticipated reactions to policy changes.
Chapter 5: Shifting the Focus

There is immense untapped potential in Uganda’s entrepreneurial scene. Entrepreneurial activity remains high, and crowded markets overflow with hustling risk-takers. Although entrepreneurship contributes to economic growth, job creation, and innovation to some degree, the contribution of emerging entrepreneurs is stifled due to a problematic sectoral distribution. Even those entrepreneurs who are most promising find themselves opting for the informal sector, leading to limited and unsustainable business – potentially crowding out the “working poor” who need the informal sector most (Tokman 2007). This also further prevents the development of a possibly productive spiral of contributions to government services, which in turn contribute to a better business environment.

With superior skills and training, entrepreneurs who embark on informal activities have the ability to survive better than those around them, but only to a certain extent. The diversity within the informal sector – in terms of entrepreneurial potential and human capital levels – chokes those with higher levels of education and business capacity, as well as their ability to have positive effects on society and the overall economy. Additionally, it chokes the development of the creation of a middle class in Uganda. Active research is underway on the significance of growing middle classes in developing countries (Resnick 2013). The development of a middle class has major economic, social, and political ramifications, especially in ensuring democratic practices.

Contrary to popular arguments in the literature, it is not just a matter of education and training (Benjamin and Mbaye 2012; Muwonge, Obwona, and
Nambwaayo 2007). Although entrepreneurial education is important for promoting formalization, this study demonstrates that even those with advanced entrepreneurial educations frequent the informal sector. Moreover, this research extends beyond the assumption that cultural tendencies are to blame for heavy favoring of the informal sector. Although perceptions of formalization and attitudes towards business play a role, they are not wholly determinative of an entrepreneur’s decision to formalize. In conjunction with this, I also posit that government weakness, bureaucratic barriers, or inadequate enforcement alone does not deter entrepreneurs. Social, cultural, and institutional factors conflate with market factors to shape the formal payoff structure.

This concluding chapter will first reframe the entrepreneurial dilemma, reemphasizing the major points and discoveries of this study. I will then describe how the game theoretic model and subsequent findings can inform future areas of study or policy change in other countries. I conclude with policy suggestions – a set for Shifting Policies and a set for Shifting Perceptions. While the two categories may apply in conjunction with one another, Shifting Policies alone will not address an exacerbated informal distribution resulting from entrenched corruption.

Roots of the Problem

This problem is rooted in an issue of the government’s inability to properly address the degree of heterogeneity in the informal sector. Certainly, literature on the topic is increasing as more scholars acknowledge that informality and the idea of necessity may not be clear-cut. However, this study shines a unique light on a sub-set of the population that we might expect to act differently. Those in question have undergone training and extensive entrepreneurial education, enrolling and graduating
from the most esteemed entrepreneurship program in the nation, if not the region.

Oftentimes, training and education are policy tools to increase the number of opportunity or formal entrepreneurs, and yet, this does not seem to change the outcome. These Ugandan youth are investing not only in their human capital potential, but also in the possibility of a Ugandan middle class, increased employment opportunities, and opportunities for future investment.

Certainly, having an environment in which any form of entrepreneurship is a means to earn a living is important. Uganda has an economy that allows people to act on a propensity to earn; stable liberal macroeconomic policies are in place so that entrepreneurs can seize or create opportunities, at least to provide subsistence. Eventually, through a multiplier effect, this may result in growth and jobs, but to realize substantial broad-based economic gains the government must parse out those sub-optimally in the informal sector by encouraging an economy of standards and commitment to business. This will address issues of crowding, unstable employment, transience, low quality goods, and even competition for investment within the region.

Current policy recognizes the importance of formalizing or at least adhering to certain business standards to promote investment. However, the main issue is that instead of working to parse out the heterogeneity of emerging businesses, it lumps together MSME in one policy (Ministry of Finance 2011). This is problematic in that those with microbusinesses receive the same amount of support as medium businesses, but face heavier tax burdens on top of having to manage a larger initiative. An argument emerges that medium and growing enterprises do not need more support because they grow in their capacity. Nevertheless, firms are unlikely to
take the necessary steps to transfer to the next level if they receive the same amount of support with less effort.

As mentioned in the introduction, the literature’s tendency to distinguish between the formal and informal so succinctly is informed by the theory of Occam’s Razor. Occam’s Razor encourages scholars to simplify theories whenever possible, avoiding only the most necessary theoretical tenets for analyzing a given problem. Just as in the labor market literature, the entrepreneurship market splits into these two categories (Fields 2004). However, while in theory this may be a helpful point of analysis, it may actually be debilitating in practice – particularly when it comes to policy design. By lumping entrepreneurs into two categories, it is easy to overlook the nuances within the two groups. More targeted policy design that works towards pulling out those with higher potential. Those who have assumed the role of necessity entrepreneurs could very well become productive opportunity entrepreneurs in a supportive environment (Baumol 2008). If policies can pull those with higher levels of $k$ from within the formal sector, and tailor policies to adhere to a diverse informal sector, we might be more effective in shifting the distribution point.

**Relevance of Game Theoretic Model**

Through Chapter 3’s game theoretic model, I have determined that factors like government enforcement, regulatory barriers, corruption, and incentives – including social perceptions and pressures – have huge effects on the decision to formalize. All of these factors depend not only on the government’s ability to establish and signal commitment to entrepreneurs, but also the degree to which society accepts this commitment. If things like poor public service delivery, costly registration, or
arbitrary and illegitimate enforcement continue, constituents will likely be skeptical of this commitment. As is given by Scenario 2 of the game theoretic model: there is an equilibrium point at which positive changes in enforcement, rule of law, or benefits to formalization actually result in movement towards the informal sector. Plausibly this could occur in a scenario where the government is not seen as a rational, committed actor, but instead, as innately corrupt or unresponsive.

In game theory, a commitment device forces a player to stick to a certain strategy. Even if a trigger strategy is in place, it will not necessarily hold unless there is some sort of signaling or commitment device. For example, an entrepreneur might agree to formalize if the government provides incentives and low costs. Nevertheless, if the government is viewed as dysfunctional or corrupt, the entrepreneur may not expect the government to comply, and they will deviate from the trigger.

Formalization is a commitment device to the entrepreneur, and serves as a signal to investors and consumers – an entrepreneur pays the money or navigates the registration process is likely to demonstrate more commitment and reliability than those who have not. However, there does not seem to be a parallel for government in a realm that has less than perfect enforcement and rule of law.

The problem of how to commit a corrupt regime is one that I do not have the capacity to solve, especially given the scope of this project. Luckily, just because a government is corrupt, does not mean that a citizenry will not appreciate and oblige by steps towards more formal systems. Hopelessness and apathy towards government is certainly a plausible sentiment, but if the government is able to demonstrate an interest or at least express responsiveness, it is possible that some will embrace the
assistance. In a sense, the point of equilibrium depends wholly on attitudes towards the government, and whether the people view it as a rational actor or not. Since I cannot conclusively tell which point Uganda is at, I speculate using responses from interviews. There is an overarching respect and admiration for large, formal Ugandan firms, as well as an ambition to gain recognition and run a successful business. Many respondents point to the issue of difficult and costly certification, of a low quality product market, of the important role that the government plays in supporting entrepreneurship. As such, I take this as evidence that Uganda’s suboptimal equilibrium is the one in Scenario 1, or the worse-off point in Scenario 2.

Another way to consider the applicability and reality of the model is by extending the model to other places. Does this model only hold true for the case of Uganda? Or can we imagine how it might apply elsewhere? In this next section, I attempt to determine the extent of the model, after which I discuss policy suggestions based on which equilibrium society finds itself.

Kampala’s Counterparts: Determining the Extent of Analysis

While the sample in question was a specifically selected cohort, they pursue enterprise in quite a similar manner to others in the wider urban Ugandan context. As such, it is plausible that entrepreneurship in the urban centers of other Sub-Saharan African countries will carry similar characteristics, making this model and analysis extendable. In the general GEM 2012 report, Uganda fits with other Sub-Saharan African countries going through an “entrepreneurial revolution.” Meaning, there is likely an influx and high concentration of entrepreneurship in other SSA countries as well. Exploring the prevalence of informal versus formal entrepreneurship may verify
for these countries whether this revolution will actually lead to widespread economic gains and socioeconomic change.

While it is difficult to gauge attitudes towards entrepreneurship, cultural factors, preferences in demand, and supply chain linkages across the region, there are statistics on how other countries relate based on prevalent factors in the game theoretic model: corruption, formalization costs, and enforcement.

![Figure 1.1 Where economies stand in the global ranking on the ease of doing business](image)

Source: Doing Business database.

To provide some context, Uganda ranks above the SSA average in terms of overall business environment; higher than its counterparts to the South, but around the same or worse than its counterparts in the East African Union. In terms of initial registration and regulation, Uganda fares far worse. This is likely a positive factor for other countries, since registration was the main barrier to Ugandan entrepreneurs.

Given a distinct set of variables, we can infer that countries with a higher capacity to enforce, easier business startup, and supportive business environment will be closer to the optimum point. Uganda’s neighbor, Rwanda, serves as a perfect example. Rwanda’s entrepreneurial scene performs better than others in the region.
On the overall ranking world map, Rwanda is in a higher-ranking group than the rest of the region. Recently, an article in the New York Times praised Rwanda’s business-oriented economic model (Kulish 2014). Growth rates have reached nearly 8% this past year, and despite a small population of just 12 million, Rwanda is one of the most attractive African markets for international investment.

This could be due to Rwanda’s ability to maintain formal standards. Although I have only been to the capital city of Kigali, there is a drastic difference between the Rwandan urban center and the Ugandan urban center. Roads are well paved, shops are clearly labeled, crosswalks and traffic lights are used appropriately, and streets are kept clean. Even the moto drivers – the Rwandan boda-boda drivers – are formal; they must wear vests of a particular color, with a particular number indicating locality, as well as carry a helmet for both themselves and their passengers. The Rwanda Development Board claims that business registration can take as little as 6-hours (Rwanda Development Board 2014). This paired with the small population and well-organized downtown area would make enforcement easier and crowded informal markets more difficult. Of course, Rwanda has a very complicated recent history given the 1994 genocide and reconstruction since. Perhaps sweeping things under the rug and starting anew led to a commitment to formal systems. Regardless, Rwanda is seemingly integrating itself into the international business scene, adhering to formal standards of enterprise. We can imagine Rwanda’s sectoral distribution of entrepreneurs to be much closer to the ideal distribution.

The game theoretic model designed in this thesis could be a useful tool for analyzing entrepreneurial markets in developing countries. It is possible that factors
will weigh differently or added entirely depending on cultural and historical differences between regions. Having a tool similar to this, though, lends itself to a closer, more critical analysis of entrepreneurship. Now that countries are pushing for SME support and microfinance as a means to attain growth, policymakers must critically question whether business as it is currently emerging is effective. Upon determining a suboptimal equilibrium, policies might be refined in order to address the particular scenario. Many of these countries with similar characteristics may be underperforming, stifling the potential of young, promising entrepreneurs. The youth remain in limbo, as they search for success, simultaneously unable or unwilling to pursue the potentially fruitful formal sector. The model could highlight a push toward formalization, business growth, and steady employment.

**Policy Recommendations**

I now propose policies for each of the potential scenarios. The first list of policies in Scenario 1 would also apply to the better off equilibrium in Scenario 2.

**Scenario 1: Shifting Policies**

Given that improvements in enforcement $p$, rule of law $q$, reductions in costs and regulatory barriers $c$, less opportune bribes $b$, and increased benefits $g$ would increase formalization I propose:

1. Uganda should continue in line with current initiatives to streamline the registration process. Online registration is certainly a positive change, but should be accompanied by a set, accessible office with administrators to available to assist entrepreneurs through the process.
2. Government should demonstrate a commitment towards their projects and public services. With the mass amounts of money flowing towards road-building, as well as expected increasing tax rates, constituents expect to see change. Uganda should work towards following bills like the Anti-Money Laundering Bill, as well as transparent reports of where government money is flowing. Generally, illegitimate systems should work towards formalizing.

3. Uganda should focus its energy on enforcing or refining existent laws, as opposed to designing arbitrary and regressive ones. Uganda has been in the headlines recently for the Anti-Gay and Anti-Pornography laws, which also limit a woman’s wardrobe. Given already inconsistent enforcement, constituents are less likely to take these laws seriously, at least in urban areas.

4. Developing systems of increasing support for growing businesses. Whether through ties with universities, private firms, or NGOs, Uganda should design incubators for business growth. These would not require formalization beforehand, but would allow educated entrepreneurs to grow their business in a supported environment.

5. Dedicating more effort towards transparent government spending and maintaining clearer linkages between formalization and the benefits to the business sector. The government may consider earmarking a certain percentage of business tax revenues explicitly for business support, or addressing poor infrastructure or access to electricity.

**Scenario 2: Shifting Perceptions**
In this case, similar changes in enforcement, rule of law, corruption, costs, and incentives may exacerbate the sub-optimality of the sectoral distribution. We must first coordinate from the less optimal equilibrium to the socially optimal equilibrium. Given that a society might be at the worse-off equilibrium because of entrenched corruption or wholly informal systems, it might be best to design policies for institutions other than the government and bureaucratic offices in conjunction with or prior to the above policies. It may be that certain interactions between the variables – for example, increasing $g$ through providing explicit, targeted payoffs and support in conjunction with reducing cost of formalization – would bring the distribution closer to the optimal.

1. Building incubators might be one of the most promising policies in this situation. Funding from large organizations should perhaps go straight to institutions like MUBS that have all the theory, but lack in practice – as many respondents stated. Many of the students have to conduct a practical project their final year, in which they start a business in a small group. However, very few of these stay running because they lack the support to continue their ideas. These incubators should be available to all those who apply, as well as all those graduating from the entrepreneurship program.

2. Incubators should aim to create an alternate realm – one that is not strictly informal, but allows entrepreneurs to avoid the current fragmented formal sector. It should emphasize notions of growth, sustainability, and capacity building, while simultaneously preparing students to adhere to certain business standards.
3. Incubators and their supporting institutions should develop a dialogue with governmental institutions to refine the formalization process. They should act as the middle actor between emerging entrepreneurs and administrators, streamlining the registration process and serving as a party to put pressure on institutions to adhere to a certain rule of law.

Areas for Further Research

Certainly, the feasibility of these policies has yet to be determined, and opens an area for further research. Further research might explore the idea of two equilibria, and develop ways to pinpoint where a developing society might lie. With this, a conversation in the literature can consider more intricate entrepreneurship policy.

If education and training is a popular current policy, but results in a similar outcome as those without training, what can be done to address that? What can be done address the needs of this unique category of entrepreneurs? Testing the effects of incubators and interviewing students on their explicit reactions or ideas would certainly be a promising starting point. This may also provide those interested in development with tools that may circumvent a government that is ambivalent in its actions towards sustainable business. Conclusively, it is necessary to recognize the investment that these entrepreneurs put into entrepreneurial potential by allowing them to realize their social and personal growth. Addressing heterogeneity and unappealing formal systems is the only way to encourage this realization.
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Appendices

Appendix 1: Sample Interview Questions for Graduates

Guiding Questions

Beginning questions:
1. How many years ago did you complete the MUBS program?
2. Do you own an enterprise?
3. Can you describe it?
   a. Size?
   b. Sector?
   c. Years since opening?
   d. Future goals?
4. Did this enterprise develop from your original business plan that you developed as a student?
   a. Why or why not?
   b. How would you compare the implementation process to the theoretical design process?
5. Are things running as you would have expected? How?
6. If you are not currently running an enterprise, do you intend on establishing one in the future? Why or why not?

Education at MUBS:
1. What do you feel you gained from the Entrepreneurship program at MUBS?
2. Do you feel as though it prepared you to run an enterprise more efficiently than those that may not have had the opportunity to receive such an education?
   a. How so?
   b. What components (topics, lessons, courses) were unique or surprising to you?
   c. What would you have lacked without it?
3. Was there a certain type of enterprise that was emphasized during your time as a student?
4. How did the teaching style and curriculum at MUBS differ from the typical Ugandan classroom (perhaps, what you had experienced in secondary or primary schools)?
5. What are the strengths of the program? The weaknesses?

Traits/Characteristics:
1. What characteristics do you believe an entrepreneur has?
2. Do you feel as though you possessed these traits upon entering MUBS entrepreneurship program?
3. Do you feel as though you possessed these traits upon graduating from the MUBS entrepreneurship program?
   a. If so, how does the program facilitate the development of or strengthen these traits?

Personal Motivation (multiple choice):
1. What was your main reason for enrolling in the program? (select one)
   a. Truly passionate about being an entrepreneur, and intend making this
      their sole source of income
   b. Interested in learning how to start a business, but mostly to serve as
      additional income for a paying job
   c. Felt as though there is no room for them in the traditional wage-taking
      job market, and want a way to make money/ensure income

2. You chose your particular enterprise because: (select one)
   a. It had proven to be successful and popular
   b. I was inspired by a unique idea/gap in the economy
   c. I wanted to capitalize on a special skill
   d. It seemed easy and required little start-up capital
   e. I felt as though it would have the greatest returns

Institutional Framework:
1. What role does entrepreneurship play in Ugandan society?
   a. Are most entrepreneurs in the lower, middle, or upper class?
   b. Can you provide an example of a type of enterprise that someone in
      the lower class might start? Middle? Upper?

2. Why is entrepreneurship important for Uganda’s economy?
   a. Does it have potential to create more jobs?
   b. How effective is entrepreneurship in lowering poverty?

3. How does Ugandan culture respond to entrepreneurship?

4. Are there any aspects of Ugandan culture that make it difficult for enterprises
   to grow/mature?

5. What are the problems of entrepreneurship as it exists today?
   a. Why do you believe this problem exists?
   b. How difficult is it, infrastructurally, for a Ugandan to establish a
      formal enterprise?
      i. How easy is it to obtain permits, register property, get a
         license, etc.—to go through the process of formalizing an
         enterprise?
      ii. How does this shape enterprise?
      iii. Are there many informal enterprises as a result of this?
      iv. Do informal enterprises pay taxes?
      v. If not, do they still contribute to economic growth?
      vi. How so?
      vii. Did you experience such problems?
      viii. Did this influence how you view Ugandan politics at all, or
            affect concern with voting?

6. What government sectors could be refined to improve entrepreneurship?

7. Are there a lot of people who have the same businesses?

8. Do you think this is efficient?

9. Why do you think people keep opening the same enterprises?
   How do you think this can be fixed? What do you think would make it more
   efficient?
Appendix 2: Sample Interview Questions for Lecturers

Guiding Questions

Background:
1. How many years have you been teaching at MUBS?
2. What is your area of expertise?
3. Is there a particular area of research that you are pursuing?

Education at MUBS:
1. What types of enterprises are most often created by the graduates of the entrepreneurship program? Can you provide some examples?
2. Are these enterprises similar to the enterprises that Ugandan’s without this level of education start-up?
   a. How are they similar?
   b. How do they differ?
3. How does the education offered at MUBS differ from other levels of education in Uganda?
4. Does the University guide them toward a particular sector or type of enterprise?
   a. How does the University determine this enterprise?
   b. Why is this particular enterprise relevant to Uganda’s economy/society?
5. Are these enterprises often reflective of the business plan they develop in their final year?
   a. What is the greatest challenge these students face in putting the plan into practice?
6. What percentage or proportion of graduates would you guess have been able to grow their enterprises?
   a. Do students tend to hire employees or work alone?
   b. Do their first enterprises fail early on?
   c. Does enterprise remain their main focus?
7. What are the strengths of the program? The weaknesses?

Traits/Characteristics:
4. What characteristics do you believe an entrepreneur has?
5. Do you feel as though the majority of students possess these traits upon entering MUBS entrepreneurship program?
6. Do you feel as though the majority of students possess these traits upon graduating from the MUBS entrepreneurship program?
   a. If so, how does the program foster these traits?

Personal Motivation:
3. What would you say is the most common reason for enrolling in the program? (select one)
   a. Students are truly passionate about being an entrepreneur, and intend making this their sole source of income
   b. Students are interested in learning how to start a business, but mostly to serve as additional income for a paying job
c. Students come to the program because they feel as though there is no room for them in the traditional wage-taking job market, and want a way to make money/ensure income

4. Students tend to open particular enterprises (i.e. the examples you provided earlier on) because: (select one)
   a. They have proven to be successful and popular
   b. They are inspired by a unique idea/gap in the economy
   c. They want to capitalize on a special skill
   d. They are easy and require little start-up capital
   e. They feel as though it will have the greatest returns

Institutional Framework:
10. What role does entrepreneurship play in Ugandan society?
    a. Are most entrepreneurs in the lower, middle, or upper class?
    b. Can you provide an example of a type of enterprise that someone in the lower class would start? Middle? Upper?

11. Why is entrepreneurship important for Uganda’s economy?
    a. Does it have potential to create more jobs?
    b. How effective is entrepreneurship in lowering poverty?

12. How does Ugandan culture respond to entrepreneurship?
13. Are there any aspects of Ugandan culture that make it difficult for enterprises to grow/mature?

14. What are the problems of entrepreneurship as it exists today?
    a. How can it be refined?
    b. Why do you believe this problem exists?
    c. How difficult is it, infrastructurally, for a Ugandan to establish a formal enterprise?
       i. How easy is it to obtain permits, register property, obtain formal credit, etc.?
       ii. How does this influence enterprise?
       iii. Are there many informal enterprises as a result of this?
       iv. Do informal enterprises pay taxes?
       v. If not, do they still contribute to economic growth?
       vi. How so?

15. What government sectors could be refined to improve entrepreneurship?
16. Are there a lot of people who have the same businesses?
17. Is this efficient?
18. Why do you think people keep opening the same enterprises?
19. How do you think this can be fixed? What do you think would make it more efficient?
Appendix 3: Survey Questions for Current Students

1. How do you define entrepreneurship? Please, respond in your words.

2. Do you intend on hiring workers for your enterprise? (Circle one)
   Yes  No

3. If yes, do you intend to do so immediately at start-up or is this a later goal? Please, circle the time frame most appropriate. (You do not need to answer if you answered “no” before.)
   a. 0-1 year
   b. 1-5 years
   c. 6-10 years
   d. I’m not sure

4. If you do not intend on hiring employees, or if this is not an immediate goal, why not? (Circle one. If you feel as though more than one response applies, please rank them on a scale of 1-4, 1 being the most prominent reason and 4 being the least.)
   a. Resource constraints – I don’t have enough money or funding to support employees.
   b. The type of enterprise I wish to initiate does not require additional employees.
   c. I do not want to be responsible for others and the associated risk.
   d. Other (Explain):

5. How common is the type of enterprise that you intend to start? (Circle one)
   a. Very common
   b. Fairly common
   c. Not very common
   d. Rare
   e. Not sure of prevalence

6. Reason for choosing particular enterprise (Please, select the response that is most relevant):
   a. Proven to be successful or is popular
   b. No one else has an enterprise like it; it is unique
   c. Low start-up cost
   d. Easy; does not require much preparation or previous knowledge
   e. Passionate about this particular initiative; it is something I am interested in
   f. I have a particular skill that would allow me to thrive in this enterprise

7. On a scale of 1-10, how would you rank the start-up cost of your particular enterprise? (Circle the number you feel would be most appropriate; 1 being the lowest, 10 being the highest)
   1 2 3 4 5 6 7 8 9 10

8. Does anyone in your family run an enterprise? (Circle the most appropriate response)
   Yes, multiple members  Yes, one member  No  Not sure

9. If yes, is enterprise that family member’s sole source of income? Please, select the most appropriate response.
   a. Yes, for most members
b. For some

c. No, most tend to have additional jobs or sources of income

d. No, all have additional jobs or sources of income

e. Not sure

10. Do you run your own enterprise? (Circle one)

   Yes

   No

11. If yes, for how recently did you start the enterprise? (No need to answer if your response to #9 was “no.”)

   a. Very recently (within the past year)

   b. Fairly recently (within the past three years)

   c. I’ve had it for a while

12. If yes, how large is your enterprise? (No need to answer if your response to #9 was “no.”)

   a. Very small, I work alone, and intend to keep it that way

   b. Very small, I work alone, but intend on growing my business

   c. I have a few workers, and intend on keeping it small

   d. I have a few workers, but intend on growing my business

   e. Large, I have many workers

13. Will your enterprise be your sole source of income? (Circle one)

   Yes

   No

   Not sure

14. How important is your enterprise to you? Please, select one.

   a. Very important—my enterprise is the sole focus in my professional life

   b. Fairly important—my enterprise is important, but eventually, I hope to get another job and run my enterprise at the same time.

   c. Not that important—I am just using this enterprise to make money until a better paying job comes along.

15. Why did you choose to enroll in the entrepreneurship program? Please, respond in your own words.

16. Why do you believe that developing entrepreneurship is important for Uganda? What role does entrepreneurship play in Uganda’s economy or society? Please, respond in your own words.
Appendix 4: Solving for Equations in the Game Theory Section

Solving for $t(k)$ Equations and Derivatives

**Budget Balance Equation**
Already given by: $t = \frac{2g}{2-(1-pq)k}$
First partial derivative:
$$\frac{\partial t}{\partial k} = 2G \left( \frac{1 - pq}{2 + k(-1 + pq)^2} \right) \rightarrow \text{Positive, upward slope}$$
Second partial derivative:
$$t''(k) = \frac{2(pq - 1)^2}{(k(pq - 1) + 2)^3} \rightarrow \text{Positive, convex}$$

**Equation for Equilibrium Distribution**
Given by: $k_I = \frac{c-p(1-q)b}{(g-1)-(g-pq)t} \Rightarrow t(k) = \left[ \frac{g-1}{g-pq} - \frac{c-p(1-q)b}{(g-pq)k} \right]$
First partial derivative:
$$\frac{\partial t}{\partial k} = \left( \frac{c - bp - bpq}{(g - pq)k^2} \right) \rightarrow \text{Positive, upward slope}$$
Second partial derivative:
$$t''(k) = -\left( \frac{c - bp - bpq}{(g - pq)k^3} \right) \rightarrow \text{Negative, concave}$$

**Partial derivatives for effects of policy change:**

i. Derivative with respect to rule of law ($q$):
$$\frac{\partial t}{\partial q} = \frac{p(b(p - g) - c + (g - q)k)}{k(g - pq)^2} \rightarrow \text{Positive change}$$

ii. Derivative with respect to enforcement ($p$):
$$\frac{\partial t}{\partial p} = \frac{b(g - gp) - q(c - gk + k)}{k(g - pq)^2} \rightarrow \text{Positive change}$$

iii. Derivative with respect to multiplier ($g$):
$$\frac{\partial t}{\partial g} = \frac{bp(g - q) + c - kp g + k}{k(g - pq)^2} \rightarrow \text{Positive change}$$

iv. Derivative with respect to bribes/corruption ($b$):
$$\frac{\partial t}{\partial b} = \frac{p - pq}{gk - kp} \rightarrow \text{Positive change}$$

v. Derivative with respect to cost ($c$):
$$\frac{\partial t}{\partial c} = -\frac{1}{(g - pq)k} \rightarrow \text{Negative change}$$

**Equation for Optimum Distribution**
Given by: $k_I^* = \frac{c}{(g-1)-(1-t)} \Rightarrow t(k) = 1 - \left( \frac{c}{(g-1)k^2} \right)$.
First partial derivative:
$$\frac{\partial t}{\partial k} = \left( \frac{c}{(g - 1)k^2} \right) \rightarrow \text{Positive, upward slope}$$
Second partial derivative:
\[ t''(k) = -\frac{2c}{(g - 1)k^3} \rightarrow \text{Negative, concave} \]

Solving for \( k=2 \) (determining relevant equilibrium points of intersection)
Set the budget balance equation equal to the equilibrium distribution equation.
\[ \frac{2G}{2 - (1 - pq)k} = \frac{g - 1}{g - pq} - \frac{c - p(1 - q)b}{(g - pq)k} \]
If \( k=2 \):
\[ \frac{2G}{2 - (1 - pq)2} = \frac{g - 1}{g - pq} - \frac{c - p(1 - q)b}{(g - pq)2} \]
\[ \frac{2G}{1 - (1 - pq)} = \frac{2(g - 1) - [c - p(1 - q)b]}{(g - pq)} \]
Then point at which two equilibrium are relevant is when:
\[ \frac{2G}{pq} \geq \frac{2(g - q) - c - bp + bpg}{(g - pq)} \]

Solving for \( k \)-intercepts
In the optimum situation, \( t = 1 - \frac{c}{(g - 1)k} \).
Setting \( t=0 \), the optimum distribution curve crosses the \( k \)-axis at \( k = \frac{c}{g - 1} \).
In the equilibrium situation, \( t = \left[ \frac{g - 1}{g - pq} - \frac{\hat{c} - p(1 - q)b}{(g - pq)k} \right] \).
This simplifies to:
\[ t(g - pq) = (g - q) - \frac{\hat{c} - p(1 - q)b}{k} \]
\[ (g - 1) - (g - pq)t = \frac{\hat{c} - p(1 - q)b}{k} \]
If \( t=0 \):
\[ (g - 1) = \frac{\hat{c} - p(1 - q)b}{k} \rightarrow k = \frac{\hat{c} - p(1 - q)b}{g - 1} \]
Given by the argument in the text that the net costs of formalization in reality are higher than the true cost in the optimal situation:
\[ \frac{\hat{c} - p(1 - q)b}{g - 1} > \frac{c}{g - 1} \]
This means that the equilibrium distribution will always be to the right of the optimal distribution, moving towards a heavier proportion of informal entrepreneurs.
Solving for Equilibrium Points (identifying the large quadratic)
solve for $k$:

$$\frac{2G}{-(k(1-pq))+2} = \frac{g-1}{g-p} - \frac{c-b \ p (1-q)}{k(g-pq)}$$

Write the right hand side as a single fraction.

Bring $\frac{g-1}{g-p} - \frac{c-b \ p (1-q)}{k(g-pq)}$ together using the common denominator $k (g-pq)$:

$$\frac{2G}{-(k(1-pq))+2} = \frac{-k + gk - c + b \ p - b \ p q}{k(g-pq)}$$

Solve for $k$:

$$\frac{2G}{-(k(1-pq))+2} = \frac{g-1}{g-p} - \frac{c-b \ p (1-q)}{k(g-pq)}$$

Write the right hand side as a single fraction.

Bring $\frac{g-1}{g-p} - \frac{c-b \ p (1-q)}{k(g-pq)}$ together using the common denominator $k (g-pq)$:

$$\frac{2G}{-(k(1-pq))+2} = \frac{-k + gk - c + b \ p - b \ p q}{k(g-pq)}$$
Multiply both sides by a polynomial with respect to $k$ to clear fractions.

Cross multiply:

$$2Gk (g - pq) = (-k + g k - c + b p - b pq) (-k (1 - pq)) + 2$$

Write the linear polynomial on the left hand side in standard form.

Expand and collect in terms of $k$:

$$k (2g G - 2G pq) = (-k + g k - c + b p - b pq) (-k (1 - pq)) + 2$$

Write the quadratic polynomial on the right hand side in standard form.

Expand and collect in terms of $k$:

$$k (2g G - 2G pq) = k^2 (1 - g - pq + g pq) +$$
$$k (-2 + c + 2g - b p + b pq - c pq + b p^2 q - b p^2 q^2) -$$
$$2c + 2b p - 2b pq$$

Move everything to the left hand side.

Subtract $k (-2 + c + 2g - b p + b pq - c pq + b p^2 q - b p^2 q^2) - 2b pq + 2b p - 2c + k^2 (1 - g - pq + g pq)$ from both sides:

$$-(k^2 (1 - g - pq + g pq)) + k (2g G - 2G pq) -$$
$$k (-2 + c + 2g - b p + b pq - c pq + b p^2 q - b p^2 q^2) +$$
$$2c - 2b p + 2b pq = 0$$
Write the quadratic polynomial on the left hand side in standard form.

Expand and collect in terms of $k$:

$$
\begin{align*}
&k^2 (-1 + g + pq - gpq) + \\
&\quad k \left(2 - c - 2g + 2G + b p - b pq + c pq - 2G pq - b p^2 q + b p^2 q^2\right) + \\
&\quad 2c - 2bp + 2bpq = 0
\end{align*}
$$

Write the quadratic equation in standard form.

Divide both sides by $-1 + g + pq - gpq$:

$$
\begin{align*}
&k^2 + \frac{k \left(2 - c - 2g + 2G + b p - b pq + c pq - 2G pq - b p^2 q + b p^2 q^2\right)}{-1 + g + pq - gpq} + \\
&\quad \frac{2c - 2bp + 2bpq}{-1 + g + pq - gpq} = 0
\end{align*}
$$

Solve the quadratic equation by completing the square.

Subtract $\frac{2c - 2bp + 2bpq}{-1 + g + pq - gpq}$ from both sides:

$$
\begin{align*}
&k^2 + \frac{k \left(2 - c - 2g + 2G + b p - b pq + c pq - 2G pq - b p^2 q + b p^2 q^2\right)}{-1 + g + pq - gpq} = \\
&\quad -\frac{2c - 2bp + 2bpq}{-1 + g + pq - gpq}
\end{align*}
$$
Take one half of the coefficient of \( k \) and square it, then add it to both sides.

Add \( \frac{(2-c-2g+2gp-bpq+cqp-2gpq-bp^2q+b^2p^2q^2)^2}{4(-1+g+pq-gpq)^2} \) to both sides:

\[
k^2 + \frac{k(2-c-2g+2gp-bpq+cqp-2gpq-bp^2q+b^2p^2q^2)}{-1+g+pq-gpq} + \frac{(2-c-2g+2gp-bpq+cqp-2gpq-bp^2q+b^2p^2q^2)^2}{4(-1+g+pq-gpq)^2} = \frac{(2-c-2g+2gp-bpq+cqp-2gpq-bp^2q+b^2p^2q^2)^2}{4(-1+g+pq-gpq)^2} - \frac{2c-2bp+2bpq}{-1+g+pq-gpq}
\]

Eliminate the exponent on the left hand side.

Take the square root of both sides:

\[
k + \frac{2-c-2g+2gp-bpq+cqp-2gpq-bp^2q+b^2p^2q^2}{2(-1+g+pq-gpq)} = \sqrt{\left( \frac{(2-c-2g+2gp-bpq+cqp-2gpq-bp^2q+b^2p^2q^2)^2}{4(-1+g+pq-gpq)^2} - \frac{2c-2bp+2bpq}{-1+g+pq-gpq} \right) \text{ or }} \]

\[
k + \frac{2-c-2g+2gp-bpq+cqp-2gpq-bp^2q+b^2p^2q^2}{2(-1+g+pq-gpq)} = -\sqrt{\left( \frac{(2-c-2g+2gp-bpq+cqp-2gpq-bp^2q+b^2p^2q^2)^2}{4(-1+g+pq-gpq)^2} - \frac{2c-2bp+2bpq}{-1+g+pq-gpq} \right)}
\]
Factor the left hand side.

Write the left hand side as a square:

$$
\left(\frac{2 - c - 2 G + 2 g G + b p - b p q + c p q - 2 G p q - b p^2 q + b p^2 q^2}{2(-1 + g + p q - g p q)}\right)^2 = \\
\frac{(2 - c - 2 G + 2 g G + b p - b p q + c p q - 2 G p q - b p^2 q + b p^2 q^2)^2}{4(-1 + g + p q - g p q)^2} - \\
\frac{2 c - 2 b p + 2 b p q}{-1 + g + p q - g p q}
$$

Look at the first equation: Solve for \( k \).

Subtract \( \frac{2 - c - 2 G + 2 g G + b p - b p q + c p q - 2 G p q - b p^2 q + b p^2 q^2}{2(-1 + g + p q - g p q)} \) from both sides:

$$
k = \\
\sqrt{\left(\frac{(2 - c - 2 G + 2 g G + b p - b p q + c p q - 2 G p q - b p^2 q + b p^2 q^2)^2}{4(-1 + g + p q - g p q)^2} - \frac{2 c - 2 b p + 2 b p q}{-1 + g + p q - g p q}\right)} - \\
\frac{2 - c - 2 G + 2 g G + b p - b p q + c p q - 2 G p q - b p^2 q + b p^2 q^2}{2(-1 + g + p q - g p q)}
$$

or

$$
k + \frac{2 - c - 2 G + 2 g G + b p - b p q + c p q - 2 G p q - b p^2 q + b p^2 q^2}{2(-1 + g + p q - g p q)} = \\
- \sqrt{\left(\frac{(2 - c - 2 G + 2 g G + b p - b p q + c p q - 2 G p q - b p^2 q + b p^2 q^2)^2}{4(-1 + g + p q - g p q)^2} - \frac{2 c - 2 b p + 2 b p q}{-1 + g + p q - g p q}\right) - \\
\frac{2 - c - 2 G + 2 g G + b p - b p q + c p q - 2 G p q - b p^2 q + b p^2 q^2}{2(-1 + g + p q - g p q)}}
$$
Look at the second equation: Solve for $k$.

Subtract $\frac{2 - c - 2g + 2Gp - bp + cpq - 2Gpq - b^2q + bp^2q^2}{2(-1 + g + pq - gpq)}$ from both sides:

**Answer:**

$$k = \sqrt{\left[(2 - c - 2g + 2Gp + bp - bpq + cpq - 2Gpq - b^2q + bp^2q^2) / (4(-1 + g + pq - gpq)^2 - \frac{2c - 2bp + 2bpq}{-1 + g + pq - gpq})\right]} -$$

$$\frac{(2 - c - 2g + 2Gp + bp - bpq + cpq - 2Gpq - b^2q + bp^2q^2) / (2(-1 + g + pq - gpq))}{(2 - c - 2g + 2Gp + bp - bpq + cpq - 2Gpq - b^2q + bp^2q^2) / (2(-1 + g + pq - gpq))}\text{ or }$$

$$k = -\sqrt{\left[(2 - c - 2g + 2Gp + bp - bpq + cpq - 2Gpq - b^2q + bp^2q^2) / (4(-1 + g + pq - gpq)^2 - \frac{2c - 2bp + 2bpq}{-1 + g + pq - gpq})\right]} -$$

$$\frac{(2 - c - 2g + 2Gp + bp - bpq + cpq - 2Gpq - b^2q + bp^2q^2) / (2(-1 + g + pq - gpq))}{(2 - c - 2g + 2Gp + bp - bpq + cpq - 2Gpq - b^2q + bp^2q^2) / (2(-1 + g + pq - gpq))}$$
Appendix 5: Comparative Graphs

In this appendix, I include graphs from various surveys that may reflect how other countries in the East African Union fit in the game theoretic model. The graphs reflect the variables: tax rate \((t)\), formalization costs \((c)\), degree of corruption and petty bribery \((b)\), and rule of law \((q)\). Unfortunately, degree of enforcement \((p)\) is difficult to capture because it largely depends on the population in the informal sector, for which accurate data does not exist. Similarly, attitudes towards formalization and various incentives captured in \(g\) are equally challenging to quantify.

Formalization Costs and Ease of Starting a Business

These graphs from “Doing Business in the East African Community 2013” provide an idea of the barriers that emerging entrepreneurs face when wishing to register a business (Doing Business 2013, 26). Uganda ranks last in the region in terms of ease of business start-up. In terms of variable \(c\), other EAU countries are likely closer to the optimal \(k\)-distribution – overall more formal.
**Tax Rate**

The same regional Doing Business Report shows that Uganda tends to rank better in terms of tax compliance. In countries with lower tax rates, the equilibrium point is likely to be farther down the distribution curve. This implies a higher rate of formal entrepreneurs.

<table>
<thead>
<tr>
<th>TABLE 10.1 How do EAC economies rank on the ease of paying taxes?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economy</td>
</tr>
<tr>
<td>Rwanda</td>
</tr>
<tr>
<td>Uganda</td>
</tr>
<tr>
<td>Tanzania</td>
</tr>
<tr>
<td>Burundi</td>
</tr>
<tr>
<td>Kenya</td>
</tr>
</tbody>
</table>

*Note: Rankings are the average of the economy's rankings on the number of payments, time and total tax rate as measured for the Doing Business case study firm, with a threshold imposed on the total tax rate. See the data notes for details.*

*Source: Doing Business database.*

<table>
<thead>
<tr>
<th>TABLE 10.2 Who in the EAC makes paying taxes easy and who does not—and where is the total tax rate highest?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payments (number per year)</td>
</tr>
<tr>
<td>Rwanda</td>
</tr>
<tr>
<td>Burundi</td>
</tr>
<tr>
<td>Uganda</td>
</tr>
<tr>
<td>Kenya</td>
</tr>
<tr>
<td>Tanzania</td>
</tr>
</tbody>
</table>

| Time (hours per year)          |
| Rwanda                        | 134         |
| Tanzania                      | 172         |
| Uganda                        | 213         |
| Burundi                       | 274         |
| Kenya                         | 340         |

| Total tax rate (% of profit)   |
| Rwanda                        | 31.3        |
| Uganda                        | 37.1        |
| Kenya                         | 44.4        |
| Tanzania                      | 45.3        |
| Burundi                       | 53.0        |

*Note: The indicator on payments is adjusted for the possibility of electronic or joint filing and payment when used by the majority of firms in an economy. See the data notes for more details.*

*Source: Doing Business database.*
Degree of Corruption and Petty Bribery
The following graphic reflects the prevalence of bribes around the world. In a country with lower measure, bribes are either infrequent or less viable – they may be more expensive than formally set regulation costs. This would imply a point closer to the optimal distribution of entrepreneurs. As given by the results, Rwandese report paying far fewer bribes than constituents of other East African countries.

![Graph showing the percentage of respondents who report having paid bribes in the past year to any one of eight services by country/territory.](source)

Source: Transparency International Website, “Global Corruption Barometer 2013.”
Rule of Law
These images come from the World Justice Project’s online publications. As with the variables above, a country ranked higher in terms of rule of law is closer to an entrepreneurial distribution that is reflective of entrepreneurial ability.

Kenya:

<table>
<thead>
<tr>
<th>Overall Score</th>
<th>Global Rank</th>
<th>Regional Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.43</td>
<td>86/99</td>
<td>12/18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Factor</th>
<th>Factor Trend</th>
<th>Factor Score</th>
<th>Global Rank</th>
<th>Regional Rank</th>
<th>Income Rank</th>
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<tbody>
<tr>
<td>Constraints on Government Powers</td>
<td>▲</td>
<td>0.51</td>
<td>62/99</td>
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<td>7/16</td>
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<tr>
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<td>9/16</td>
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<tr>
<td>Order and Security</td>
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<td>9/18</td>
<td>10/16</td>
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<tr>
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<tr>
<td>Criminal Justice</td>
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Tanzania:

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<tr>
<th>Overall Score</th>
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<tbody>
<tr>
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<tr>
<td>Open Government</td>
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<td>0.43</td>
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<td>5/16</td>
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<td>44/99</td>
<td>3/18</td>
<td>2/16</td>
</tr>
</tbody>
</table>
**Uganda:**

Seemingly, Uganda ranks slightly better than Tanzania and Kenya in terms of global ranking. However, Tanzania and Kenya perform regionally superior.