



Rapid Urbanization

An Inquiry into the Nature and Causes of the
Urban Transition in Developing Countries

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Abstract

This thesis is concerned with the challenges posed by the contemporary urban narrative in developing countries. It is premised on the notion of the urban transition, which posits that as a country develops it undergoes a transformation from a predominantly rural society to a predominantly urban one. Throughout most of history, the urban transition was largely a phenomenon confined to what are considered today's developed countries; however, sometime around the middle of the 20th century, this began to change and the urban transition began to take off in developing countries. The contemporary urban narrative differentiates itself from historical accounts in that it is unfolding at an unprecedented pace and scale, placing significant pressure on urban areas. With the pressures of rapid urbanization and rapid urban growth already outstripping the capacities of local governments, planning and managing the urban transition is arguably one of the most important topics of the 21st century. In an attempt to identify approaches for managing the unprecedented pace and scale of the contemporary urban narrative, this thesis sets out to investigate the forces underpinning it. It has been organized into two parts: the first part comprises a comprehensive cover essay setting out the overarching research agenda and the second part comprises a series of five articles that make up the empirical analysis. Both sections can be read independently or constitute a single entity.

The main contribution of this thesis is the introduction of a multidisciplinary framework for conceptualizing the urban transition in developing countries and its application to several case studies. The so-called '*Rapid Urban Growth Triad*' situates the components of urban growth (*rural to urban migration*, *urban natural population increase* and *reclassification of rural areas as urban*) within their dominant theoretical discourses. As such, it views urban natural population increase as a demographic factor effected by changes in fertility and mortality patterns, rural to urban migration as an economic factor resulting from rural push and urban pull dynamics, and reclassification of rural areas as urban as a political/ administrative factor which occurs through the annexation of neighboring settlements, rural areas upgraded as urban, settlements crossing defined population thresholds and changes in urban definition. The framework offers explanatory power to the previously neglected components of urban growth and serves as a diagnostic for examining the urban transition under a range of circumstances.

Utilizing the new conceptual framework as the primary mode of analysis, this thesis employs several demographic accounting techniques to disaggregate urbanization into its individual components of urban growth and computes their individual contributions to the overall urban increment. China, Nigeria and India have been selected as notable case studies, as these three countries are expected to account for the largest increase in urban population over the coming decades. The findings indicate that rural to urban migration has been the dominant component of urban growth in China, while urban natural population increase has been the

dominant component in Nigeria and India; furthermore, in all three case studies, reclassification has made a more sizable contribution than initially understood. Moreover, it was found that in some instances the policies being prescribed to manage the urban transition did not match the identified sources of growth, suggesting a potential policy mismatch. This thesis also reveals several dynamics pertaining to the unprecedented pace and scale of the urban transition and the relationship between urbanization and economic growth. Collectively, these findings offer a more nuanced account of the urban transition in developing countries.

Despite the urban transition being a universal event that unfolds in nearly all countries of the world, this thesis finds that it does not necessarily unfold in a uniform manner, suggesting the notion of multiple urbanization trajectories. These findings have implications for existing policies, which tend to be based on a rather outmoded understanding of the urban transition. Ultimately, this thesis calls for more informed (evidenced-based) approaches for understanding and managing the urban transition in developing countries.

Keywords: urban transition; rapid urbanization; rapid urban growth; components of urban growth; economic development, developing countries; national urban systems; China; Nigeria; India

Sammanfattning på svenska

Denna avhandling behandlar de utmaningar den urbana utvecklingen ställer i utvecklingsländerna. Den baseras på begreppet urban transition, vilket innebär att när ett land utvecklas genomgår det en omvandling från ett övervägande ruralt samhälle till ett övervägande urbant. Historiskt sett har den urbana transitionen huvudsakligen varit ett fenomen i vad som betecknats som dagens utvecklade länder. Vid 1900-talets mitt började detta förändras och den urbana transitionen tog fart i utvecklingsländerna. Den nutida urbana utvecklingen skiljer sig från den historiska genom att den pågår i en oöverträffad takt och skala, vilket innebär ett betydande tryck på städerna. Med trycket från snabb urbanisering och snabb stadstillväxt, som redan överträffar de lokala myndigheternas kapacitet, är planering och hantering av den urbana transitionen förmodligen en av de viktigaste frågorna under 2000-talet. I ett försök att identifiera metoder för att hantera takten och omfattningen av den nutida urbana omvandlingen, fokuserar denna avhandling på att undersöka de krafter som ligger till grund för den. Den har organiserats i två delar: den första delen består av en större sammanfattande uppsats som anger den övergripande forskningsagendan och den andra delen består av fem artiklar i vilka den empiriska analysen genomförs. Båda dessa delar kan läsas oberoende av varandra eller som en enda enhet.

Avhandlingens centrala bidrag är införandet av ett tvärvetenskapligt ramverk för konceptualisering av den urbana transitionen i utvecklingsländerna och tillämpningen detta i flera fallstudier. Den så kallade "*Rapid Urban Growth Triad*" relaterar stadstillväxtens komponenter (*migration från landsbygd till städer, naturlig befolkningshöjning i städerna och omklassificering av landsbygd till städer*) till sina dominerande teoretiska diskurser. På detta sätt ses den urbana naturliga befolkningsökningen som en demografisk faktor som påverkas av förändringar i fertilitets- och dödlighetsmönster, migration från landsbygd till städer som en ekonomisk faktor som härrör från landsbygdens "push" och urban "pull" dynamik, samt omklassificering av landsbygd till stad som en politisk/administrativ faktor som uppstår genom att landsbygdsområden som överstiger definierade befolkningsgränser omdefinieras till urbana områden. Ramverket erbjuder förklaringar till de tidigare mindre uppmärksammade komponenterna bakom stadstillväxt och fungerar som en diagnostik för att undersöka stadsövergången under olika omständigheter.

Genom att använda det nya konceptuella ramverket som primär analysmetod använder denna avhandling flera demografiska redovisningstekniker för att dela upp urbaniseringen i dess enskilda komponenter och beräknar deras individuella bidrag till den totala urbana stadstillväxten. Kina, Nigeria och Indien har valts ut som lämpliga fallstudieländer, eftersom dessa tre länder förväntas stå för den största ökningen av stadsbefolkning under de kommande årtiondena. Resultaten visar att migration från landsbygd till stad har varit den dominerande komponenten i stadstillväxten i Kina, medan den naturliga befolkningsökningen i städer har varit den dominerande komponenten i Nigeria och Indien. Vidare har

omklassificering i samtliga tre fallstudier stått för ett mer betydande bidrag än vad som tidigare visats. Det konstateras också att i vissa fall överensstämmer den politik som föreskrivits för att hantera den urbana transitionen inte med de verkliga orsakerna till stadstillväxt, vilket tyder på en möjlig policy "mismatch". Denna avhandling visar också på dynamiken mellan den oöverträffade takten och omfattningen av den urbana transitionen och förhållandet mellan urbanisering och ekonomisk tillväxt. Sammantaget erbjuder dessa resultat en mer nyanserad beskrivning av den urbana transitionen i utvecklingsländerna.

Trots att den urbana transitionen är en global process som utspelar sig i nästan alla länder i världen, visar avhandlingen att den inte nödvändigtvis utvecklas på ett enhetligt sätt, vilket implicerar att urbaniseringen har olika förlopp. Dessa resultat har betydelse för befintlig politik, som tenderar att baseras på en relativt gammalmodig förståelse av den urbana transitionen. I slutändan visar denna avhandling på behovet av mer informerade (evidensbaserade) metoder för att förstå och hantera den urbana transitionen i utvecklingsländerna.

Nyckelord: urban transition; snabb urbanisering snabb stadstillväxt; komponenter i urban tillväxt; ekonomisk utveckling; U-länder; nationella stadssystem; Kina; Nigeria; Indien

Preface

*"Two roads diverged in a wood, and I—
I took the one less travelled by,
And that has made all the difference."*

The Road Not Taken, Robert Frost

Thinking back to the first time I came across Robert Frost's poem '*The Road Not Taken*', I was a teenager growing up in a small town in rural Canada. Despite having little association, there was something about Frost's words that remained with me. Now, as I read these words allowed, I can't help but reflect on how much my world has changed, and how such simple words have come to define me. I would like to think that the decisions I have made so far have been out of sheer interest and passion. But in reality, they seem to be more a result of a desire to do the unconventional or in Frost's words, to take the road "*less travelled*".

The origins of this thesis can be traced back to a hectic afternoon in August 2012. At the time, I found myself in the center of one of the most populous and most economically active settlements on the continent. I was exploring Kibera, Africa's largest slum. Kibera is located in Nairobi the capital of Kenya, and it is home to somewhere between 100 and 500 thousand inhabitants; with some estimates putting it upwards near 1 million. It is difficult to say since no reliable data exists.

As a Political Economist working for the United Nations Human Settlements Programme (UN-Habitat) at that time, I was given the task of hosting a group of foreign delegates interested in shaping the New Urban Agenda; a global policy document that would serve as a guiding framework for how cities would be planned and managed for the coming decades. The target was the Habitat III conference in Quito, Ecuador in 2016. The stakes were high given that this conference occurs once every 20 years. While exploring Kibera, we discussed many things: the promise of urbanization as a mechanism for lifting hundreds of millions of people out of poverty, the incredible pressures that accompany a rapidly urbanizing population, and how to build cities in a way that would offer improved quality of life for those who inhabit them. Of course, we had lots of ideas but no concrete answers. While accompanying our new partners in their taxi on the way to the airport, we continued to discuss the complexity of such issues and the inadequacies of the current model. Before getting out of the taxi, one of the delegates smiled at me and said, "*Seems like a good research topic, why don't you come do a PhD with us in Stockholm*". Two years later, in 2014, I moved to Stockholm to begin this journey.

This thesis is not about China, Nigeria or India per se, although these are the case studies that comprise this research. Instead, this thesis is about a phenomenon, the unprecedented pace and scale of the contemporary urban narrative. It is a

thesis about rapid urbanization and rapid urban growth and what this means for the planning and management of cities and for those who inhabit them. The case studies have been selected because these are the three countries that will experience the largest increase in urban population over the coming decades; accounting for approximately 37 percent of urban population growth globally. The events that unfold in these three countries will have relevance for the many other countries currently navigating the accelerated stage of the urban transition.

Acknowledgements

Since beginning my PhD nearly 4 years ago, I have been availed opportunities that I would have never imagined. I have engaged in policy dialogues at the global level, the pinnacle of which was Habitat III and the adoption of the New Urban Agenda in 2016. Some of the text I had crafted alongside a team of experts had even found its way into the final policy document. I was also invited to spend a year as an Associate of the Department of Economics at Harvard University, having been invited by Professor Edward Glaeser. During this time, I also managed to travel to more than 30 countries as part of both my PhD research and simply for the sheer sense of adventure. All of these experiences have helped to shape my world view and further my understanding of urban transformation.

Though this research is written in my voice, it is not the outcome of one person's work, but instead the culmination of many engaging conversations and heated debates over the years. There are so many whom I would like to thank, but given the shortage of space, I will have to confine it to those that have been most impactful during this particular chapter in my life. I would like to begin by thanking Peter Elmlund, the man in the taxi, for asking the difficult questions and for taking the risk to bring me to Stockholm and support me both intellectually and financially through the Urban City Research Program at the Ax:son Johnson Foundation. Additionally, I would like to thank my supervisors. To Professor Hans Westlund, thank you for keeping this PhD on a steady track and always reminding me of how urbanization is not a new phenomenon and that we have lots to learn from the past. Thank you to Professor Peter Nijkamp for your thoughtful insights and for challenging me to go beyond the typical aspirations of a doctoral student. And a very special thank you to Professor Tigran Haas who provided the much-needed advice and emotional support, while I was so far from home. I would also like to thank a few of the heavy hitters that inspired me during my academic and professional career and whom I got to come to know throughout my doctoral studies. These include Professors Edward Glaeser, Amartya Sen, Hans Rosling, Saskia Sassen, Chaolin Gu, Rahul Mehrotra and many more. I would also like to thank the friends and great hosts who helped me understand the history, culture and politics of each of the countries I was working in – Huan 'Nelson' Wang (China), Mohammed Abdul-Rahman (Nigeria) and Celine d'Cruz (India). Though I am sure my research has fallen short of the contextual understanding needed to do each of these stories justice, without your willingness and patience, I would have never been able to capture even a glimpse of the rich diversity within your countries. I have also had the privilege of discussing my research alongside many colleagues, all of whom have contributed new insights into my research topic – Elahe Karimnia, Helene Littke, Rosa Danenberg, Jing Jing, Morgane Schwab, Asifa Iqbal, Herman Donner, Lena Borg, Carl Caesar, Fredrik Kopsch, Magnus Bonde and the many other friendly faces in the corridor. And to my Stockholm family for making this place feel like home over the past few years, I am forever grateful – Thomas Melin, Iain Main, Frida Thorsell, David Thorsell, Jenny Lundie and James Thomas.

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My sincerest gratitude has been reserved for my family, whom through thick and thin have always been there to support me. To my parents, thank you for always encouraging me to follow the road less travelled. To my sisters and their husbands for the much-needed escapes from everyday life. And to my niece and nephew, Noah and River, for their never subtle but always animated way with words. And to Jihyun Kim you have been the most reliable shoulder to lean on throughout this journey. I couldn't have done this without you.

Kyle Richard Farrell
October 2018, Stockholm

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Chapter 1. Introduction

“Sometime in the next year or two, a woman will give birth in the Lagos slum of Ajengule, a young man will flee his village in West Java for the bright lights of Jakarta, or a farmer will move his impoverished family into one of Lima’s innumerable pueblos jovenes. The exact event is unimportant and it will pass entirely unnoticed. Nonetheless, it will constitute a watershed in human history, comparable to the Neolithic or Industrial revolutions. For the first time, the urban population of the earth will outnumber the rural.”

(Davis, 2006, 1)

It was in 2008 that the United Nations made the historic announcement that for the first time in history we lived in a majority urban world. Less than a decade later, Member States would go on to adopt a *Sustainable Development Goal* on Sustainable Cities and Communities and a *New Urban Agenda* designed to serve as a guiding framework for how cities would organize and be managed over the coming decades. In one sense this growing attention underscores the importance of urbanization as a defining feature of the 21st century, in another it illustrates the urgency engendering the challenges ahead. Will cities of the 21st century be able to overcome the challenges posed by the unprecedented pace and scale of the contemporary urban narrative or will they manifest themselves in the form of the so-called demons of density – crime, congestion and pollution?

This thesis is concerned with the challenges posed by the contemporary urban narrative in developing countries. It is premised on the idea of the urban transition, which posits that as a country develops, it undergoes a transformation from a predominantly rural population to a predominantly urban one (Davis, 1965; Skeldon, 1990). Throughout most of history, the urban transition was largely a phenomenon confined to what are considered today's developed countries; however, by the middle of the 20th century, things began to change, and the urban transition began to take off in developing countries. With nearly all population growth set to occur in cities of the developing world over the next 30 years, establishing strategies to support the transition from a predominantly rural society to a predominantly urban one should be viewed as one of the most important topics of the 21st century.

Arguably the most distinct feature of the contemporary urban narrative is its unprecedented pace and scale. While historically the growth of cities was primarily a result of rural to urban migration, changing demographic circumstances experienced during the second half of the 20th century secured that urban natural population increase would take on a growing role (Davis, 1965; Montgomery, Stren, Cohen and Reed, 2004). This coupled with a tendency among national governments and international organizations to pursue anti-urban policies created greater insecurity for rural to urban migrants and ensured that cities were not adequately equipped to handle the additional pressures imposed by the contemporary urban transition (Fox & Goodfellow, 2016). This manifested itself in the form of unplanned growth, characterized by environmental degradation, the rise of slums and a vast urbanization of poverty. In most developing countries, the pressures of rapid urbanization and rapid urban growth have been outstripping the capacity of local governments to provide the necessary housing, infrastructure and basic services required to keep up with the growing population (Rogers, 1978; Richardson, 1987; Cohen, 2006). Such pressures mean that scarce resources are often channeled away from their more productive uses and instead used to satisfy immediate demands. Whereas cities throughout history have played a critical role in social, economic and human development, the pressures of the contemporary urban narrative are leading many to wonder if similar outcomes are still achievable.

With the aim of identifying effective approaches for managing the unprecedented pace and scale of the contemporary urban narrative in developing countries, this thesis sets out to investigate the forces underpinning it. It does so by introducing a multidisciplinary framework for conceptualizing the components of urban growth grounded within their dominant theoretical discourses and applies it to several developing countries. As such, it views urban natural population increase as a demographic factor effected by changes in fertility and mortality, rural to urban migration as an economic factor resulting from rural push and urban pull dynamics, and reclassification of rural areas as urban as a political/ administrative

factor which occurs through the annexation of neighboring settlements, rural areas upgraded as urban, settlements crossing defined population thresholds and changes in urban definition.¹ The framework contributes by putting forward a more nuanced account of the urban transition, offering explanatory power to previously neglected components of urban growth. Ultimately, it serves as a diagnostic for examining the urban transition in developing countries.

As the three countries expected to experience the largest increase in urban population by 2050, China, Nigeria and India have been selected as suitable case studies. Based on empirical analysis of each, this thesis finds that despite the urban transition being a universal event that unfolds in nearly all countries of the world, it does not necessarily follow a uniform pattern, suggesting the notion of multiple urbanization trajectories. This has implications for existing policies, which tend to be based on a rather outmoded understanding of the urban transition. This thesis calls for more informed (evidenced-based) approaches for understanding and managing the urban transition.

1.1 Key Concepts – Definitions and Notes of Caution

The following is a list of key concepts that are critical to this study. Each provides a common definition of the term being mentioned, details related to how they are used within the scope of this research, and where necessary, notes of caution related to common misconceptions. The list is by no means exhaustive.

Urban Areas

To date, there is no commonly accepted global definition of an urban area. Instead criteria ranges from administrative designations, population thresholds, population densities, proportion employed in non-agricultural sectors, availability of infrastructure, the presence of urban amenities, and in many cases a combination of these (United Nations, 2014). For the purpose of this research, the definition of an urban area has been defined based on country specific criteria pertaining to each country in question. In China, an urban area is defined by administrative criteria, in Nigeria it is defined by demographic criteria, and in the case of India it is based on a combination of both administrative and demographic criteria. Details for each can be found in the 'Methods and Materials' sections of each of the appended articles. Data for urban areas comes from three primary sources: *United Nations World Urbanization Prospects Database* (2014), *National Census Records for each specific country*, and the *Géographie-cités Lab*

¹ Although there are a number of reasons behind the decision to migrate, most theories and models view it as a result of rural to urban wage disparities. Stemming from this, this thesis situates rural to urban migration as an economic factor as opposed to a demographic factor which is sometimes preferred.

Database (2018). The *Géographie-cités Lab Database* belongs to an ongoing movement aimed at modernizing and harmonizing urban databases. Definitions are based on functional urban areas and data is attained through satellite imagery and remote sensing. Other notable examples that belong to these ongoing efforts include the *Atlas of Urban Expansion* (2016) and the *OECD-EuroStat Database* (2018). The methods applied in this thesis affirm the relevance of such novel datasets in further advancing our understanding of the urban transition in developing countries.

Urbanization and Urban Growth

Urbanization refers to an increase in the proportion or share of the population residing in urban areas as opposed to rural areas; whereas urban growth refers to an increase in the absolute number of people inhabiting urban areas (Davis, 1965; Brockerhoff, 2000; Montgomery, Stren, Cohen & Reed, 2004). It is worth noting that although urbanization and urban growth most often occur simultaneously, it is possible for urban growth to occur without urbanization (Fox & Goodfellow, 2016). This transpires when the growth of the total population of a country outpaces that of the urban population. A cognizant effort to distinguish between these terms has been made throughout this thesis.

Urban Transition

The urban transition refers to the structural transformation of society from a predominantly rural one to a predominantly urban one (Davis, 1965; Skeldon, 1990). It is best illustrated through the urbanization curve, which navigates three stages: an initial stage, characterized by a slow and gradual increase in the urban population, an accelerated stage, which reflects the intensification of the urbanization experience due to a large share of the population moving to urban areas, and a terminal stage, in which the urban population approaches an upper limit and urbanization begins to slow (Northam, 1975; Mulligan, 2013). Following this trend, the urbanization curve forms an attenuated S-shaped pattern. Such a pattern is noticeably present across all countries of the world. For the purpose of convenience, the use of the term urban transition throughout this study refers to both urbanization and urban growth.

Components of Urban Growth

The components of urban growth refer to the three processes contributing to the growth of the overall urban increment: rural to urban migration, urban natural population increase and reclassification of rural areas as urban (Rogers, 1982; Kasarda & Crenshaw, 1991; Oberai, 1993; Chen, Valente & Zlotnik, 1998; United Nations, 2001; Cohen, 2004). Rural to urban migration contributes to both urban growth and urbanization if in-migration exceeds out-migration; natural

population increase contributes to both when the rate of urban natural increase (births minus deaths) exceeds rural natural increase; and reclassification contributes to both when urban reclassification exceeds declassification. Collectively these are referred to as the components of urban growth; however, when a distinction is necessary, each component is listed individually.

Developed and Developing Countries

Although there is large variation among the terminology used to distinguish between countries at different stages in their developmental cycle, this thesis has opted to use the terms developed and developing countries. Development can be defined as a transformative process by which a nation improves the economic, political and social wellbeing of its people (Fox & Goodfellow, 2016). Although theoretically contested, this implies that developed countries are at a later stage of this process compared to developing countries. The emphasis however is on the 'process', which implies that progress can be achieved (Friedmann, 1969). From a data perspective, data for developing countries corresponds to those countries in the low and middle-income categories; whereas data for developed countries corresponds to those countries in high-income categories as defined by the United Nations. Other popular terminology may refer to geographic differentiation (global south and global north), economic differentiation (high income and low-income countries), or geopolitical differentiation (first world, second world and third world). Aside from referring to other research that opts to use these terms, they have largely been avoided throughout this study.

1.2 Identifying the Research Problem

Forecasts suggest that by 2050, an additional 2.5 billion people will be added to the world's urban population; of which, 90 percent is expected to occur in Asia and Africa alone (United Nations, 2014). From this, it appears that the urban transition is being redefined by the contemporary conditions of developing countries. Yet at the same time, there is still a tendency among the urban studies discourse to assume that since the urban transition is a universal process occurring in nearly all countries of the world, that its determinants, patterns and outcomes are the same. This has perpetuated the idea that the urban transition in developing countries is following a similar path as those before it. Evidence of this can be found in landmark policy reports, such as the World Bank's *'Reshaping Economic Geography'*, which asserts that "today's developing countries are sailing in waters charted by developed nations, which experienced a similar rush to towns and cities" (2009, 49). Other examples can be found in prominent theories of development, such as *modernization theory*, which emphasize structural transformation of the economy underpinned by rural to urban migration (Rostow, 1959). It appears that much of our conceptual understanding of the urban transition has been derived from the experiences of developed countries, with theories and models rooted in a historical context. Subsequently, the contemporary conditions of the urban transition unfolding in today's developing

countries have not been adequately reflected in mainstream theory or policy; this has produced a knowledge deficit that hinders our ability to understand the complexities of today's most pertinent urban issues.

1.3 Aim and Objective

Based on the research problem formulated above, the *objective* of this thesis is to critically examine the urban transition in a selection of developing countries with the *aim* of identifying the conditions that give rise to rapid urbanization and rapid urban growth, and furthermore, to suggest recommendations for managing it in a more viable way. Ultimately, the *goal* of this thesis is to contribute to a more nuanced understanding of the urban transition in developing countries.

1.4 Research Questions

This thesis is guided by four main research questions:

1. How should the contemporary urban narrative be understood in light of changing macro level trends and what does this tell us about the differences in urban transitions among developed and developing countries?
2. What dynamics underpin the unprecedented pace and scale of the urban transition unfolding in developing countries?
3. How have emerging urbanization patterns affected the evolution of national urban systems?
4. What can be done to lessen the challenges posed by rapid urbanization and rapid urban growth in developing countries?

To answer the aforementioned research questions, this thesis launches an inquiry into the nature and causes of the rapid urban transition in a selection of developing countries between 1950 and 2010 – China, Nigeria and India. It examines the changes in magnitude (pace and scale) as a country navigates the various stages of the urban transition, it decomposes the components of urban growth (rural to urban migration, urban natural population increase and reclassification of rural areas as urban) and computes their contributions to the overall urban increment, and it explores their subsequent impacts on the changing spatial configuration of the population (size and spatial distribution).

1.5 Case Selection – China, Nigeria and India

According to Johansson (2003), case studies are selected based on either a specific interest in the case or to illustrate a specific purpose. They can be distinguished between critical cases, extreme/unique cases, representative/typical cases, revelatory cases and longitudinal cases (Yin, 2009). Due to the unprecedented pace and scale of their urban transitions, China, Nigeria and India have been selected as extreme/unique case studies (Figure 1). Such cases contribute in that they tend to highlight the unusual variation in a phenomenon (Jahnukainen, 2010). The following statistics from the United Nations (2014) helps to illustrate this.

In the case of China, which is often described as the world's most rapidly urbanizing country, 605 million inhabitants were added to the urban population between 1950 and 2010. During this process its level of urbanization experienced a fourfold increase from 11.8 to 49.2 percent. With urbanization and industrialization unfolding hand in hand, China is being heralded by many transitional countries as an urban success story and a model to be replicated. Nigeria, on the other hand, is experiencing characteristics of 'urbanization without growth', juxtaposing it to the China scenario. Between 1950 and 2010, it added 66 million inhabitants to its urban population. Though, in absolute terms this is not nearly as much as China, its level of urbanization experienced a comparable increase from 7.8 to 43.5 percent. That being said, Nigeria's urban transition is expected to add an additional 226 million to its urban population by 2050, with its level of urbanization expected to increase to 67.1 percent. As for India, which is currently in the early stages of its urban transition, it has been described as a rather reluctant urbanizer; though this can be slightly misleading. Although its level of urbanization only experienced a subtle increase from 17 to 30.9 percent between 1950 and 2010, due to the sheer scale of its population it managed to add 309 million inhabitants to its urban areas in the process. As it forges ahead, its level of urbanization is expected to rise to 50.3 percent by 2050. During this period, it will have added an additional 441 million to its urban areas, surpassing China's 381 million. Understanding the changing nature of the urban transition in these countries can provide useful insights for designing policies and allocating resources to optimize the urbanization process while at the same time avoiding its pitfalls.

Collectively, these three countries are expected to account for approximately 37 percent of urban population growth globally between 2014 and 2050 (United Nations, 2014). New insights into how rapid urbanization and rapid urban growth unfold in these countries can contribute a great deal in the pursuit towards understanding the nature and causes of the urban transition in developing countries.

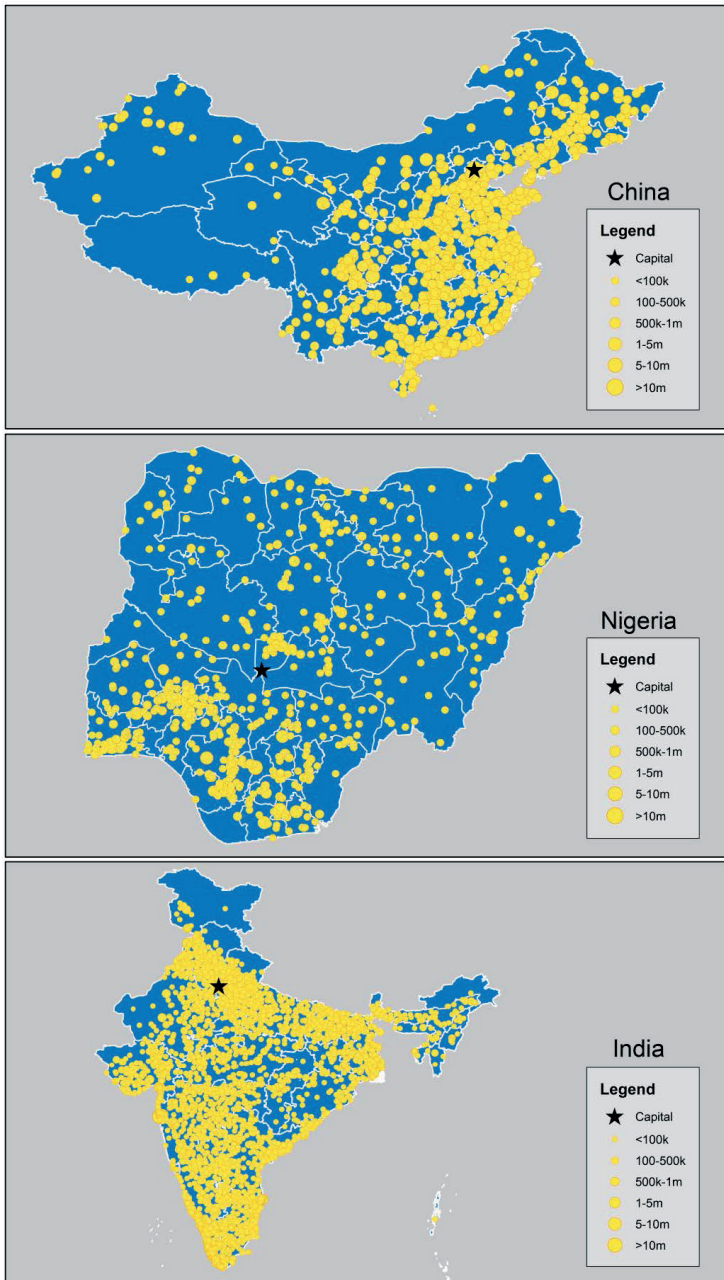


Figure 1. National Urban Systems for China, Nigeria and India, 2010. *Note.* Points refer to official cities for China and cities over 20,000 for Nigeria and India. *Source.* Data is from China Data Center (2017), OECD (2017) & the Géographie-cités Lab (2018). Maps created by author.

1.6 Limitations and Delimitations

Like most research, this study required a number of difficult decisions in regards to what was feasible within the constraints of this doctoral thesis. Delimitations refer to those limitations that were specifically imposed on the research by the researcher, whereas limitations refer to restrictions beyond the control of the researcher (Rudestam & Newton, 2001).

Despite having wanted to take a global scope to this research, a cognizant decision was instead made to select three distinctive case studies in which to investigate the contemporary urban transition. The benefit of this was that it allowed the research to go beyond a strict numeric understanding of the urban transition and instead bring in a number of additional details to capture the true complexity of the phenomenon in question – social, cultural, political and economic dynamics. The tradeoff of this decision, however, has obvious ramifications for the wider generalizability of the findings. Though such constraints are ever present in any approach to research involving case study analysis, according to Williams (2000) there is still value in drawing parallels and transferring knowledge to similar contexts elsewhere. Of course, one still has to be cautious and questions the appropriateness and transferability of the findings; especially when it comes to policy implications. The issue of generalizability will be further discussed in Chapter 6.

Another notable delimitation was the decision to use the *National Growth Rate Method* and the *Vital Statistics Method* as the preferred methods for decomposing the components of urban growth. Though more accurate measures exist (ie. *Direct Census Questions* and the *Census Survival Ratio Method*), availability of data severely constrains the time horizon.² For example, births and deaths by cohort are now becoming widely available in *Demographic Health Surveys*; however, these have only become popular in the last 20 years. Turning to these more credible datasets would have severely restricted the time horizon. In one sense the *National Growth Rate Method* and the *Vital Statistics Method* diminishes the accuracy of the population estimates over other approaches; yet in another, it increases the time horizon to cover the span of approximately 50-60 years in all three case studies, providing a more detailed account of long run trends. It is believed that the dearth of research examining the components of urban growth over this longer time horizon justifies the decision to use the chosen methodologies.

² The Direct Census Question approach requires information on each resident's place of birth, last residence, current residence and duration of stay. The Census Survival Ratio Method requires details of the age and sex for the entire population at two consecutive points in time as well as the population living in urban areas for the same dates (United Nations, 2001).

Accessibility and quality of data was an inevitable limitation to this research. Although efforts were made to utilize standardized datasets and to reduce noise caused by poorly constructed spreadsheets, the data continues to suffer from a number of setbacks. The most unavoidable of which is that caused by human error. Given that the datasets used in this research all have their origin in national census counts, which are collected at the local level and eventually undergo multiple stages of aggregation, human error and political manipulation must be factored in. One must also assume that remote or inaccessible locations may be based on estimations instead of rigorous surveys. Other factors such as the movement of people, dual residencies and unreported births and deaths also add a varying degree of uncertainty. Although data quality is a concern in all countries around the world, these apprehensions increase in developing countries, which are more likely to have limited resources and capacity to dedicate to the difficult task of surveying and census counts. Furthermore, these countries are also more likely to be prone to conflict and political strife, which may disrupt census collection patterns; as was the case in India. That being said, this study has made its best effort to minimize or eliminate areas of discrepancy; most often through the support of auxiliary data and by comparing findings to alternative studies.

Another concern when it comes to data is the potential error caused by data standardization. This study is primarily supported by data provided by the *United Nations World Urbanization Prospects Database* (2014). This is believed to be the most comprehensive database of its kind, comprising national accounts of all urban and rural populations and detailed records for urban agglomerations greater than 300,000 inhabitants. The benefit of utilizing this database is that data has been standardized across consecutive 10 year intervals, comprising retroactively adjusted census records dating back to 1950 and furthermore offering future projections to 2050. This consistency makes it easier for comparison. However, given that census counts for different countries are not all conducted at the beginning of each decade (as was the case for the United Nations data), the data at times may be subject to interpolation, undermining its overall accuracy.

In sum, the limited number of case studies, the chosen methodologies and the quality of data collectively introduce a level of uncertainty that needs to be considered when interpreting the findings.

1.7 Organization of the Study

The abovementioned research questions are answered over the course of five independent journal articles and a comprehensive cover essay uniting them. Each journal makes an individual academic contribution; however, when read collectively, they have been designed to provide a more comprehensive understanding of the urban transition unfolding in developing countries. Collectively, this thesis has been designed to address elements of theory, empirics and policy.

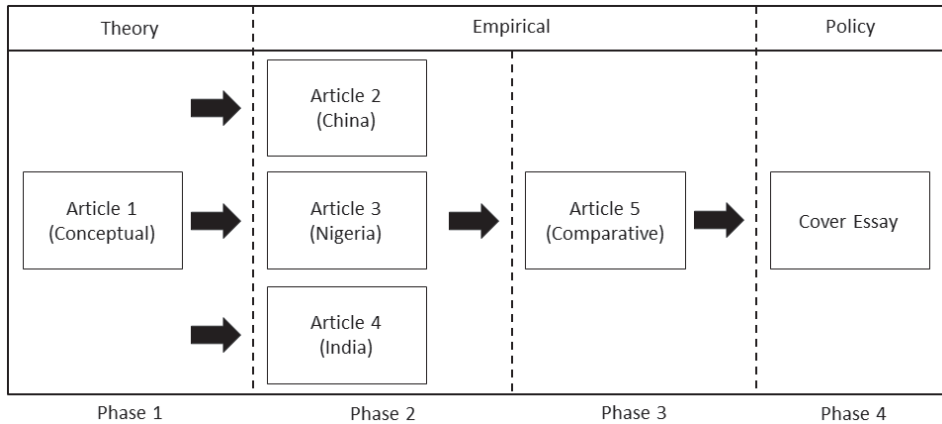


Figure 2. Overall Structure of the Thesis. Figure created by author.

Figure 2 illustrates the overall structure of this thesis, comprising four phases. In the first phase a new conceptual framework for examining the urban transition in developing countries is developed (Article 1). In the second phase, the framework is applied to the three case studies described above (China, Nigeria and India) to empirically examine the nature and causes of the urban transition (Articles 2, 3 and 4). In doing so, a range of urbanization trajectories are explored. Building on these inquiries, the third phase looks into the spatial implications of the urban transition in the countries in question; namely, the evolution of the national urban systems for each case study (Article 5). Finally, in the fourth phase, the cover essay discusses the findings in a more holistic manner, ultimately bringing policy recommendations into the picture. Although each case study represents a rather distinct example of the urban transition on its own, once united, lessons can be extracted for wider generalization.

Table 1 provides a summary of the sub-aims, sub-objectives and sub-research questions pertaining to each article.

Table 1. Aims, Objectives and Research Questions pertaining to each Article

Article 1	Article 2	Article 3	Article 4	Article 5
Article Specific Aims				
Aim: To propose an integrated framework for acknowledging the complexity of rapid urban growth in developing countries.	Aim: To uncover the dynamics underpinning the unprecedented pace and scale of China's urban transition between 1950 and 2010.	Aim: To provide a more nuanced account of Nigeria's rapid urban ascent between 1960 and 2010 and suggest insights into managing the impending growth.	Aim: To identify the factors that have inhibited India's urban transition and to explore approaches for leveraging urbanization as a development strategy.	Aim: To examine how national urban systems have evolved under conditions of rapid urban transformation.
Article Specific Objectives				
Objective: Review existing theories, identify lacunas in our contemporary conceptualization and propose a multidisciplinary framework for understanding the urban transition in developing countries.	Objective: Map out the urban transition, disaggregate the components of urban growth, and scrutinize the dynamics that give rise to its unprecedented pace and scale.	Objective: Explore the nature and causes of the urban transition, disaggregate the components of urban growth, and evaluate existing approaches for managing the urban transition.	Objective: Explore the pace and scale of the urban transition, disaggregate the components of urban growth and examine the relationship between urbanization and economic growth.	Objective: Scrutinize the spatial distribution of cities, the rate of growth by city size class and the size hierarchy of cities in China, Nigeria and India.
Article Specific Research Questions				
What has hindered our understanding of the contemporary urban narrative, and how can this be addressed?	What are the dynamics underpinning the unprecedented pace and scale of China's urban transition?	What is the nature and causes of Nigeria's rapid urban ascent and what can be done to manage it more effectively?	Why has India's urbanization failed to take-off, and should India be pursuing an accelerated urbanization strategy?	Do national urban systems under conditions of rapid urban transformation exhibit tendencies towards spatial uniformity or spatial heterogeneity?

Chapter 2. Summary of Articles

Collectively, the 5 articles have been designed to contribute to a greater understanding of the complexity of the urban transition in developing countries. The first three have been published in peer reviewed journals, while the fourth and fifth have been submitted to journals and are currently under review. What follows is a brief summary of each article.

2.1 Article 1

Farrell, K. (2017). The Rapid Urban Growth Triad: A New Conceptual Framework for Examining the Urban Transition in Developing Countries. Sustainability 9(8), 1407-1426.

Article 1 provides a historical account of the urban transition in both developed and developing countries. In doing so, it offers an overview of existing theories, clarifies key concepts and identifies lacunas in the overarching research agenda. It contributes by proposing an integrated framework for acknowledging the complexity of the urban transition in developing countries.

The article identifies three vital shortfalls that have prevented us from developing an integrated theory for understanding the rapid urban transition in developing countries. Firstly, it notes that many theories and policies that are commonplace

in the development and urban studies discourse have been based on a historical understanding of the urban transition, failing to accurately capture the contemporary conditions of developing countries. Secondly, analyzing the components of urban growth in isolation has prevented us from understanding the cumulative effects of urban growth in complex environments. Thirdly, a failure to clarify among terminology has led to confusion around the ‘unprecedented’ nature of the urban transition unfolding in developing countries. Such shortfalls have resulted in common misconceptions, such as a tendency to view the growth of cities primarily as an outcome of rural to urban migration; neglecting the growing contributions of the other components of urban growth, namely urban natural population increase and reclassification of rural areas as urban.

Data for this article came in the form of expert interviews as well as a multidisciplinary literature review and document analysis. Grounded theory and a systems thinking approach were applied to identify and organize emerging concepts. The so-called ‘*Rapid Urban Growth Triad*’ views rural to urban migration as an economic process resulting from urban pull and rural push dynamics, urban natural population increase as a demographic process understood through changes in fertility and mortality patterns, and reclassification of rural areas as urban as a political/ administrative process occurring through the annexation of small settlements by larger ones, rural areas upgraded as urban, changes in urban definitions, and settlements crossing urban population thresholds. The framework offers explanatory power to the previously neglected components of urban growth and serves as a diagnostic for examining the urban transition in developing countries. Furthermore, it reveals new policy levers for managing the urban transition in a more sustainable way.

2.2 Article 2

Farrell, K. & Westlund, H. (2018). China’s Rapid Urban Ascent: An Examination into the Components of Urban Growth. Asian Geographer 35(1), 85-106.

Utilizing the conceptual framework developed in article 1, this article examines the urban transition in China between 1950 and 2010. In doing so, it maps out the different stages of the urban transition and disaggregates the components of urban growth into their individual contributions – rural to urban migration, urban natural population increase, and reclassification of rural areas as urban.

The article is primarily quantitative in nature, utilizing data from the World Urbanization Prospects database and the National Bureau of Statistics database. The national growth rate method was chosen as the preferred approach for computing the individual contributions of the components of urban growth. The article arrived at several notable findings. Rural to urban migration has been the dominant component of urban growth, averaging approximately 50 percent between 1950 and 2010; this was followed by urban natural population increase

averaging approximately 26 percent of the overall urban increment, while the reclassification of rural areas as urban averaged 24 percent. It also found that although China's urban growth rates were high, it was actually the reduction in rural growth rates that underpinned China's particularly rapid urbanization rates. This suggests that in the case of China the onset of rapid urbanization may be more a reflection of rural dynamics than urban dynamics. Furthermore, it found that China is currently in the latter part of the accelerated stage of its urban transition, with it projected to enter the terminal stage by 2030. At this point it is expected that China will be undergoing a more gradual urban transformation.

In light of all this, this article concludes with reflections on China's *New Type Urbanization Plan 2014-2020*. Most notably, it points to the need to view the urban transition as a dichotomy – comprised of both urban and rural dynamics. This means that efforts to manage the urban transition should not only be directed towards mitigating the risks posed by urban growth, but also those posed by rural decline.

2.3 Article 3

Farrell, K. (2018). An Inquiry into the Nature and Causes of Nigeria's Rapid Urban Transition. Urban Forum 29(3), 277-298.

Similar to article 2, this article applies the conceptual framework developed in article 1 to see what it can reveal about the urban transition in Nigeria between 1960 and 2010. In doing so, it takes stock of past experiences, identifies trends and speculates on future growth trajectories.

Data comes from the World Urbanization Prospects database as well as a recently available dataset from the OECD Africapolis Project. Again, the national growth rate method was applied as the preferred method for disaggregating urbanization into its individual components and calculating their contributions to the overall urban increment. In the case of Nigeria, urban natural population increase has been the dominant component of urban growth, comprising approximately 50 percent of the overall urban increment between 1960 and 2010. This was followed by rural to urban migration averaging 32 percent and reclassification of rural areas as urban averaging 18 percent. Despite urban natural population increase being the dominant component of urban growth, this article found that policies aimed at stemming rural to urban migration appear to have been the preferred mechanism for lessening the pressures posed by the contemporary urban narrative; suggesting a potential policy mismatch. The article concludes by noting that in light of this policy mismatch the government is unlikely to achieve its intended goal of alleviating the pressures of rapid urban growth. The article also cautions against such approaches to managing the urban transition, as they are believed to be working against the forces of economic development as well as causing unnecessary harm to those who rely on migration as a livelihood strategy.

From a theoretical perspective, this article contributed by advocating for the need to go beyond a uniform understanding of the urban transition to a more nuanced one, accounting for the different stages of the urban transition and the varying combination of the components of urban growth. Furthermore, from a policy perspective, it contributed by highlighting the need to evaluate existing policies against the backdrop of the contemporary urban narrative.

2.4 Article 4

Farrell, K. (under review). A Reluctant Urban Transition: Should India pursue an accelerated urbanization strategy?

Following a similar approach as article 2 and 3, this article also utilizes the conceptual framework developed in article 1. However, it differs in that it seeks to explore the questions, why has India's urbanization failed to take-off? And, should India be pursuing an accelerated urbanization strategy? In doing so, it computes the individual contributions of the components of urban growth and statistically tests the relationship between the speed of urbanization and the speed of economic growth.

Data comes from the World Urbanization Prospects database and the Office of the Registrar General and Census Commissioner, India. Given that in the case of India data on births and deaths are separated by location (urban and rural), the vital statistics method was chosen as the preferred method for disaggregating the components of urban growth. The findings suggest that urban natural population increase has been the dominant component of urban growth, averaging 55 percent between 1960 and 2010, followed by rural to urban migration averaging 26 percent and reclassification of rural areas as urban averaging 19 percent. India's rather slow urbanization can thus be explained by processes of demographic change that have led to dramatic increases in both urban and rural populations. Additionally, linear regression was applied to examine the relationship between urbanization and economic growth. The findings indicates that despite there being a strong relationship between the level of urbanization and the level of economic growth, no compelling relationship between the speed of urbanization and the speed of economic growth was found. This suggests that pursuing an accelerated urbanization strategy may not lead to the intended economic outcomes.

This article contributes by illustrating that the relationship between urbanization and economic growth is complex, and that urbanization on its own is not a panacea for development. It recommends that urbanization strategies be complimented and reinforced by a range of other development policies.

2.5 Article 5

Farrell, K. & Nijkamp, P. (under review). The Evolution of National Urban Systems in China, Nigeria and India.

This article examines the evolution of national urban systems under conditions of rapid urban transformation. As the three countries projected to experience the largest increase in urban population – and in effect the most dramatic transformations to their urban systems – over the coming decades, China, Nigeria and India have been selected as notable case studies. The results are then compared to see if national urban systems exhibit tendencies towards spatial uniformity or spatial heterogeneity.

Utilizing comparable datasets from the Géographie-cités Lab, this article employs a number of quantitative techniques commonplace in urban economics. The spatial Lorenz curve is used to observe the changing nature of the spatial distribution of cities, the growth rate of city size classes is computed to determine which class of cities are growing the fastest, and finally the rank size distribution is turned to in order to inspect the size hierarchy among all three countries. The results are compared to see if uniform patterns emerge. The findings suggest that, while some national urban systems have become more evenly distributed over time (Nigeria), others have become uneven (China). Despite adding a significant amount of cities to its urban system, the balance of India's distribution has remained unchanged. Furthermore, the findings indicate that smaller city size classes tend to predominate in all three countries, however, when it comes to the fastest growing cities, the results vary. In China, the fastest growing cities are megacities (>10 million), while in Nigeria it is large cities (1-5 million) and in India it is intermediate cities (500 thousand-1 million). It also finds that in the case of China and Nigeria, both urban systems have begun to conform to a distribution similar to that which is predicted by Zipf's law, suggesting a more integrated city-size hierarchy. Meanwhile, in the case of India, the distribution has become more uneven over time.

Despite general uniformly valid urbanization processes, the findings of this article suggest a certain degree of heterogeneity among national urban systems in the countries of interest; and in some instances contrasting patterns can be observed. One thing that is clear, however, is that contemporary patterns of urbanization are characterized by much larger cities and an overall increase in the number of cities comprising an urban system. The findings of this article have implications for both theory and policy. It cautions against a uniform understanding of the urban transition in developing countries.

Chapter 3. Setting the Scene – Historical Accounts & Stylistic

Trends

In an effort to situate this research, this chapter provides a brief overview of the urban transition, historical accounts in both developed and developing countries and some stylistic trends.

3.1 Conceptualizing the Urban Transition

As noted above, the urban transition refers to a shift from a predominantly rural society to a predominantly urban one. This is best portrayed through the urbanization curve, which illustrates a country as it navigates the three stages of the urban transition: the *initial stage*, the *accelerated stage* and the *terminal stage* (Northam, 1975; Rogers, 1978; Mulligan, 2013). Following this trend, the urban transition forms an attenuated S-shaped curve; as depicted in Figure 3. This pattern is noticeably present across all countries of the world.

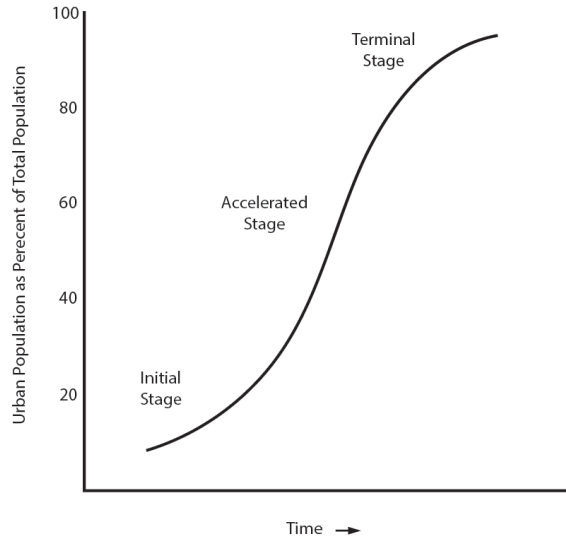


Figure 3. The Urbanization Curve. *Source.* Reproduced from Mulligan (2013).

The initial stage refers to a point of early onset, depicting a low level of urbanization. This stage is characterized by a traditionally agricultural based society reflecting a population dispersed throughout the countryside, with only a small share of the population concentrated in dense settlements. In most instances, this is a period that precedes industrialization, in which less than 20 percent of the population is located in urban areas (Northam, 1975). The accelerated stage of the urbanization curve represents a more dramatic increase in the level of urbanization resulting from an economic tendency towards concentration. This stage is characterized by a period of change, representing a structural transformation from an agrarian society to an industrial one. Northam (1975) noted that the accelerated stage was most often experienced between the levels of 25 and 70 percent of the population inhabiting urban areas. Finally, the terminal stage of the urbanization curve reflects a point of nearly complete urbanization. This stage occurs when the majority of the population is residing in urban areas and participating in secondary and tertiary activity; with the remainder of the population residing in rural areas involved in both agrarian and non-agrarian activity. This is believed to be a point of equilibrium, in which the urban population is able to sustain as a result of the remaining rural population providing necessary agricultural products and other non-urban services. In most countries, the terminal stage is achieved when a country approaches a level in which approximately 70 to 80 percent of its population is living in urban areas (ibid). Aside from a few small island states and territories (i.e. Singapore and Bermuda), it is unlikely that any country will ever reach a level in which they are 100 percent urbanized. In rare circumstances, there have been some countries resembling patterns of de-urbanization; this is characterized by instances of urban

decline concomitant with rural growth (i.e. Kazakhstan, Poland and Slovakia) (United Nations, 2014).

3.2 Historical Accounts of the Urban Transition

Although the formation of human settlements predates that of modern nation-states, it was not until the onset of the industrial revolution at the end of the 18th century that the urban transition really began to takeoff. Since then, the world has gone from a mere 5 percent of its population occupying urban areas in 1800 to approximately 54 percent today (United Nations, 2014).

Although the majority of the world's population now lives in urban areas, these statistics can be slightly misleading. This is because the urban transition has unfolded in a rather geographically imbalanced manner. According to Figure 4, which depicts the urbanization curve for developed and developing countries, developed countries reached the accelerated stage of their urban transition around 1900, eventually crossing into the terminal stage around 1975. As of 2010, these countries had on average more than 75 percent of their populations residing in urban areas. This is a stark contrast to developing countries, which only entered the accelerated stage of their urban transition around 1970 and as of 2010 still had less than 45 percent of their populations residing in urban areas. Figure 5, provides a more detailed account, depicting the stages of the urban transition for each country in 2010. Geographically speaking, the majority of countries in North America, South America and Europe are in the terminal stages of their urban transitions, while the majority of countries in Asia and Africa are currently in their accelerated stages.

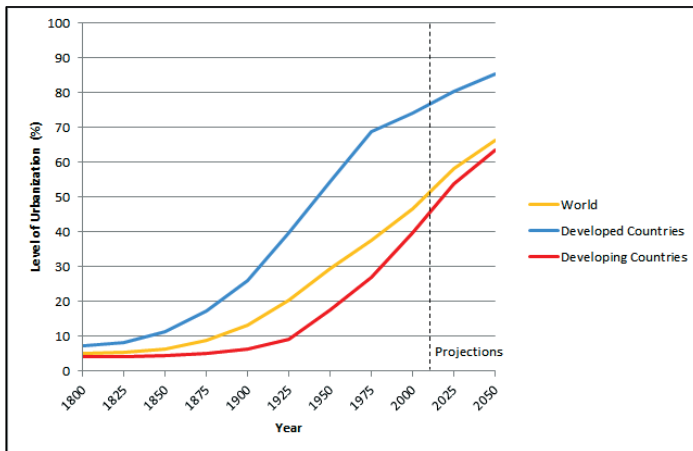


Figure 4. Urbanization Curve for Developed and Developing Countries, 1800-2050. *Source.* Data from 1800-1950 is from United Nations (1976), and data from 1950-2050 is from United Nations (2014). Figure created by author.

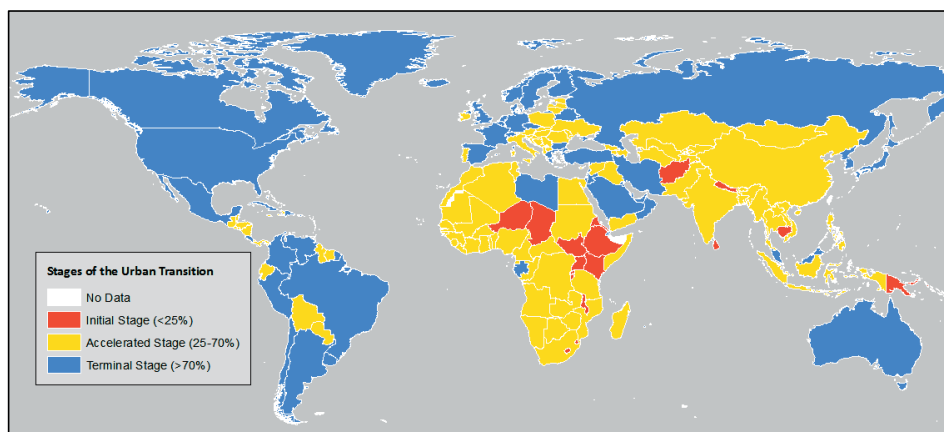


Figure 5. Stages of the Urban Transition by Country, 2010. *Source.* Data is from the World Bank (2018). Figure created by author.

The onset of the urban transition in developed countries dates back to the beginning of the 19th century. According to historical accounts from Weber (1899), breakthroughs in technology kick started an agricultural revolution, which created a surplus labour force in the countryside that migrated to cities in hopes of improving their economic situation. The simultaneous onset of an industrial revolution produced a growing labour market in urban areas that was able to absorb the incoming population into gainful employment opportunities (Hope,

1986). Due to poor health conditions and international out-migration resulting from ongoing crises, cities during this time were described as ‘demographic sinks’ (Davis, 1965; Kasarda & Crenshaw, 1991). This placed a natural ceiling on cities, preventing them from growing too large. Accordingly, the growth of cities during this time relied on continuous rural to urban migration to replace the declining labour force in urban areas (Rogers, 1978; Fox, 2011). Poor living conditions in urban areas secured that rural population growth outpaced urban population growth, creating a continuous population stock for cities to draw upon. The shift from the initial stage of the urbanization curve to the accelerated stage can thus be explained by rural to urban migration underpinned by economic determinants (ie. the presence of employment opportunities in urban areas). The eventual depletion of the rural population stock, followed by a wage convergence in the second half of the 20th century, began to slow migration patterns.

The urban transition in developing countries, which began around the middle of the 20th century, followed a different trajectory than that of its predecessors. Due to their inability to achieve ‘take-off’, as set out in Rostow’s modernization theory, most countries in Africa, Asia and Latin America were considered ‘underdeveloped’ and ‘backwards’ (Rostow, 1959). Observing the growth of cities in these regions, Davis (1965) noted that unlike the urban transition in developed countries, urbanization in developing countries had detached itself from economic development and was more a result of overall population growth. Much of this has been explained through the significant reductions in urban mortality resulting from improvements in the availability and access to modern drugs and medical practices throughout the developing world (Montgomery et al., 2004). Fox (2011) noted that during this time a particularly large window between drops in mortality and drops in fertility resulted in an excessive ‘youth bulge’. Whereas progress in life expectancy took 50-100 years in early urbanizing countries, the same progress was being achieved in 1 to 2 decades in late urbanizing countries (National Research Council, 2000). Increases in urban population incommensurate with economic growth resulted in what Fay & Opal (2000) referred to as ‘urbanization without growth’. Subsequently, economic factors alone cannot explain the shift from the initial stage to the accelerated stage of the urban transition in developing countries, instead changing demographic circumstances must also be considered.

3.3 A Rapidly Urbanizing World – Some Stylistic Trends

A defining feature that distinguishes the urban transition in developed and developing countries is the magnitude at which it has unfolded. In this case, magnitude refers to both the pace and scale of the urban transition; which in developing countries is unfolding at a rather alarming rate. Evidence of this can be seen in Figures 6 and 7.

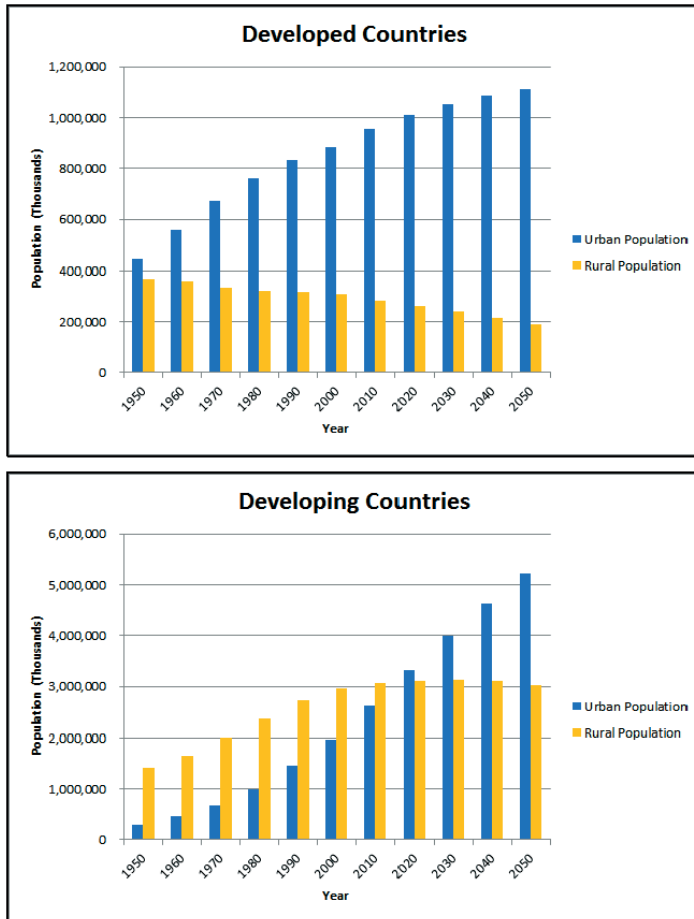


Figure 6. Urban and Rural Populations in Developed and Developing Countries, 1950-2050.
Source. Data is from the United Nations (2014). Figure created by author.

Figure 6 depicts the absolute size of urban and rural populations in both developed and developing countries for the period 1950-2050. According to this, the rural population of developed countries has been on the decline since the 1950s, whereas in developing countries it has continued to grow. For developing countries, this figure was approximately 1.4 billion in 1950; by 2010 it had more than doubled to just over 3 billion. Forecasts suggest that it will peak by 2030, after which it will begin to decline. Similar to developed countries, the urban population of developing countries has also followed an upward trend since the 1950s. The difference, however, is that developed countries added approximately 512 million to their urban populations between 1950 and 2010, while developing countries added approximately 2.3 billion. This represents more than a fourfold increase over its counterparts. Forecasts suggest that by 2050, developing

countries will add an additional 2 billion inhabitants to its urban areas, while developed countries are expected to add an additional 156 million.

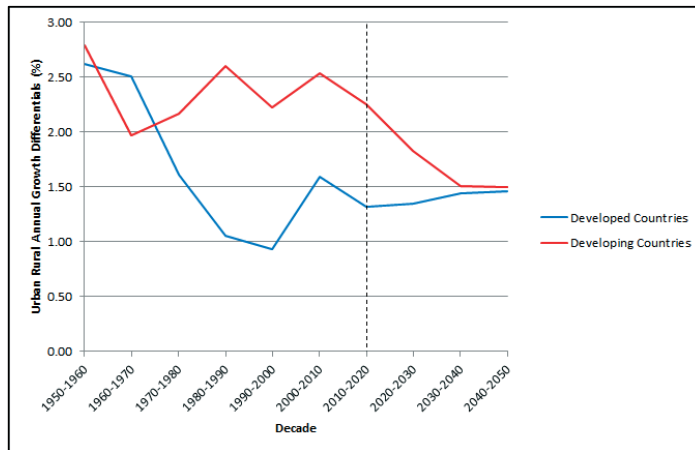


Figure 7. Speed of Urbanization as measured by Urban-Rural Growth Differentials, 1950-2050.
Source. Data is from United Nations (2014), authors calculations. Figure created by author.

Figure 7 depicts the speed of urbanization, as denoted by urban-rural annual growth differentials, in both developed and developing countries. While the speed of urbanization in developed countries was considerably high in the 1950s, registering a growth rate of 2.6 percent, it had fallen drastically to less than 1 percent by the turn of the millennium. After which it experienced a slight increase to 1.6 percent in 2010. Forecasts suggest that it will begin to level off to an average of around 1.4 percent over the coming decades. As for developing countries, the speed of urbanization was as high as 2.8 percent during the 1950s. Driven by regional surges in Africa, Asia and South America, it then fluctuated between 2 and 2.6 percent up until the most recent decade. The speed of urbanization has since begun to decline, and is currently around 2.3 percent. Forecasts suggest that it will eventually stabilize at around 1.5 percent by the middle of the century. By that time, the speed of urbanization in both developed and developing countries is expected to be similar.

Although the aforementioned trends distinguish the urban transition among blocks of developed and developing countries, it is worthwhile to note the variation within each, and also among geographic regions. This can be seen in Figure 8 which depicts the level of urbanization by country in 2010. According to this, North America and South America appear to be home to the most urbanized countries in the world; with the majority of countries having more than 80 percent of their populations residing in urban areas. This is followed by European countries, showing a wider degree of variation, with most countries between 60

and 80 percent urban; albeit with some around 50 percent urban. However, it is Africa and Asia that remain predominantly rural. Aside from a few countries in North Africa, East Asia and Oceania, the vast majority of countries still have less than 40 percent of their populations residing in urban areas.

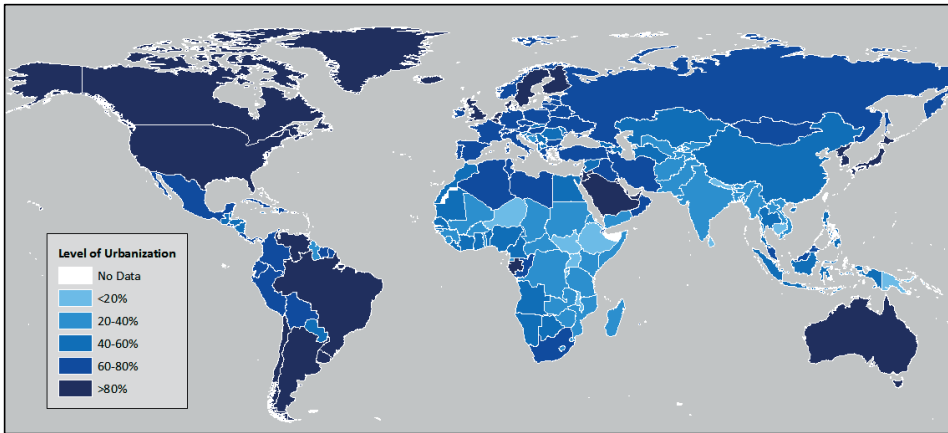


Figure 8. Level of Urbanization by Country, 2010. *Source.* Data is from World Bank (2018).
Figure created by author.

According to forecasts by the United Nations (2014), the global urban population is expected to grow by approximately 2.5 billion people by 2050; with approximately 90 percent of this growth occurring in Africa and Asia alone. Of that, China, Nigeria and India are expected to account for approximately 37 percent. Not only will these countries be tasked with the formidable challenge of settling more people than ever before into growing urban areas, they will also be required to do so over a shorter period of time. Needless to say, making sense of the urban transition in this part of the world will be critical to achieving sustainable urban development.

Chapter 4. Theoretical Framework

The previous section illustrated how urbanization is considered a transitional process. This occurs through the components of urban growth – rural to urban migration, urban natural population increase and reclassification of rural areas as urban. This section explores each of these components in further detail, grounding them within their dominant theoretical discourse. Since these theories have been covered in detail in article 1, the following is intended to serve as a brief recap.

4.1 Migration – An Economic Transformation

The determinants of rural to urban migration can largely be divided among urban pull and rural push factors. Whereas urban pull factors focus on urban areas and refer to those dynamics that attract inhabitants, rural push factors focus on rural areas, and refer to those dynamics that dispel them (Dorigo & Tobler, 1983; Hope, 1986). In terms of urban pull factors, there are a number of explanations as to why an individual might choose to migrate. Most economists tend to associate the decision to migrate with benefits that accrue from agglomeration economies, namely, cost advantages and employment opportunities (Davis & Henderson, 2002). While those seeking to understand the informal economy, also note that the informal sector can act as a safety net, providing access to employment and housing for untrained, unskilled and irregular workers (Neuwirth, 2006; Todaro & Smith, 2012). Social capital theorists, on the other hand, tend to associate the decision to migrate with access to information, knowledge and opportunities that

accrue through extended social networks (Tornqvist, 1968; Westlund, 2009). Bright light theorists, cite elements of city life – education, recreation and access to services and amenities (Bienen, 1984). In his ‘urban bias thesis’ Michael Lipton famously claimed that heavy public investment in dominant urban areas has disproportionately attracted rural migrants, resulting in instances of overurbanization (Lipton, 1977). The rural push literature, on the other hand, poses several alternative explanations. Accordingly, rural poverty, politics of land inheritance and the green revolution are often cited as factors that contribute to surplus labour migrating to urban areas in search of employment opportunities (Oberai, 1993; Holden & Otsuka, 2014; Schultz, 1953; Brauw, Mueller & Lee, 2014). Additionally, Malthusian prophecy, natural or man-made disaster and war and conflict have also been noted as factors that have caused populations to flee to urban areas in search of refuge (Preston, 1979; Bienen, 1984; Bairoch, 1988; Fay & Opal, 2000). For the most part, however, rural push factors have largely been overlooked among the literature.

While countries around the world demonstrate a preference towards concentration over dispersion, economic factors in the form of agglomeration and economies of scale have become the favoured explanations for rural to urban migration. Accordingly, economists tend to associate the rise of cities with changing labour markets and higher wages in urban areas (Todaro, 1969; Rogers, 1982; Harris, 1990). Two models have come to dominate the economic landscape of migration. The dual sector model, developed by Arthur Lewis, depicts the mechanisms in which surplus labour migrates to urban areas and contributes to industrial development. In this model, Lewis noted that rural populations choose to migrate as a response to higher wages, and will continue to do so until a wage equilibrium is eventually achieved (Lewis, 1954). As surplus labour shifts to urban areas the wage gap immediately intensifies and inequality grows triggering more rural to urban migration; over time, this wage gap diminishes and the tendency to migrate subsides (Kuznets, 1955). Although the dual sector model served as the foundation of rural to urban migration theory in developed countries, it eventually came under heavy criticism for its inability to account for migration under conditions of growing unemployment and economic decline; features that are more noticeably present among today’s developing countries.

Unlike the dual sector model, the Harris-Todaro model claims that one’s decision to migrate is based on ‘expected’ rather than ‘actual’ earnings (Harris & Todaro, 1970). In this model, urban wages are institutionally determined and are thus set above market clearing rates (Todaro & Smith, 2012). Assuming zero unemployment, this would result in a small portion of the population employed in urban areas at higher wages, with the remainder of the population in rural areas at lower wages. However, in reality, Harris & Todaro (1970) argue that migration would occur until differentials between ‘actual’ rural wages and ‘expected’ urban wages are equalized; the outcome reflecting an urban labour force, a rural labour force and a portion of the population either unemployed or engaged in the informal sector. Under this model, full equilibrium is considered unachievable. According to Todaro & Smith (2012), there are also a number of other

considerations that are thought to further exacerbate migration under high levels of unemployment, these include the willingness to work in conditions of underemployment, lowered costs of migration due to social networks, and the likelihood of gaining employment on a longer time horizon.

Though these models depict rural to urban migration as a linear process, it is important to recognize that migration can present itself in varying forms. Aside from internal and international, migration flows also include rural to rural, rural to urban, urban to rural and urban to urban. Other studies have noted that migration patterns include one-way, return, seasonal and stepped migration flows (Rogers, 1991; Plane, Henrie & Perry, 2005). Age, sex, occupation and level of education are also considered differentiating factors influencing migration patterns (Dorigo & Tobler, 1983). Though such nuances make for a richer analysis, unfortunately data pertaining to these indicators varies significantly across time and country, making comparison difficult.

4.2 Natural Population Increase – A Demographic Transformation

Natural population increase can be explained through the demographic transition theory, first observed by Thompson (1929) and later theorized by Notestein (1945). The demographic transition depicts three stages: a point of population stagnation involving high birth and death rates, followed by an initial upsurge in population growth which is experienced as a result of death rates falling before birth rates, after which birth rates begin to decline and eventually catch up with death rates allowing the population to stabilize (De Janvry & Sadoulet, 2016).

In theory, the process of the demographic transition unfolds similarly in all countries of the world; however in reality this is not the case. In the case of developed countries, the demographic transition was completed by the second half of the 20th century. According to Todaro & Smith (2012), the practice of late marriage and celibacy resulted in low birth rates causing population growth to stagnate. While in the case of developing countries multiple scenarios played out. In certain circumstances, countries followed a similar path as their predecessors entering the third stage of the demographic transition characterized by low births and low deaths (South Korea, China and Chile); however, in other countries birth rates remained high, leaving them trapped in the second stage of the demographic transition (much of sub-Saharan Africa and the Middle East) (ibid). According to De Janvry & Sadoulet (2016), a reduction in fertility rates is associated with economic advantages that accrue from having children; namely, children as sources of income, insurance and satisfaction. As parents incomes begin to increase, the economic function of children as a source of income and insurance begins to diminish, while the satisfaction benefit shifts from that of quantity to that of quality (ibid). Other plausible explanations associate changes in fertility and mortality patterns with the benefits that accrue from education (Lutz & KC, 2010).

de Vries (1990) further advanced the demographic transition theory by introducing a stylized sector specific model. This model divides the demographic transition into urban and rural areas, suggesting that although fertility rates are lower in urban areas, it is actually the significant progress in mortality decline that has contributed to the unprecedented population growth in urban areas in recent times (ibid). This can be attributed to the wider availability of health services, access to vaccinations and medicines and the provision of infrastructure (water and sanitation) in urban areas (Montgomery et al., 2004). Dyson (2011) contributes further by suggesting a theoretical scenario in which urban death rates eventually fall below rural death rates during the final stage of the demographic transition, presenting a situation in which urbanization potentially occurs without migration.

4.3 Reclassification – A Political/ Administrative Transformation

Reclassification, on the other hand, is largely a political/ administrative process. It occurs through the expansion (or contraction) of existing urban boundaries, the annexation (or surrender) of adjacent settlements, the addition (or subtraction) of new settlements that grow beyond existing thresholds and adjustments in the definition of urban areas (United Nations, 1980; United Nations, 2001; Montgomery et al., 2004). Reclassification differentiates itself from more organic forms of urban transformation (such as urban sprawl or urban integration) in that it typically involves administrative authorization and deliberate adjustments. Due to its instantaneous contribution, reclassification is known for its ability to provide an immediate boost to the urban population (Yew, 2012).

The mechanisms of reclassification have become popular in recent times. Local governments see the pursuit of urban status as a sign of progress providing them with an ability to attract investment and infrastructure, while national governments view it as a useful tool for political capital (Kulcsar & Brown, 2011). By providing much needed economic stimulus to previously neglected regions, reclassification is thought to have a positive impact on the social and economic landscape of a country (ibid); albeit, this is not always the case. In the case of China during the 1980s, the country underwent a series of political and economic reforms. At the center of this were three spatial policies: city administering county, converting county to city and large cities annexing surrounding counties as districts (Ma, 2002). Instead of the intended effects of positive urban transformation, reclassification manifested itself in the form of pseudo-urbanization, characterized by excessive urban sprawl, urban areas with predominantly rural qualities, and in some instances, destroyed livelihoods in the form of 'landless farmers' (Yew, 2012; Li, Wei & Ning, 2016).

Although reclassification has largely been neglected among the urban studies discourse, the increase in the number of countries actively pursuing reclassification strategies in recent years has lifted its prominence as a notable contributor. However, due to the difficulty of measurement, most of the existing

methodologies tend to group reclassification with rural to urban migration as a residual (Chen, Valente and Zlotnik, 1998; United Nations, 2001). Subsequently there has been little empirical research to evaluate the overall effectiveness of reclassification as a tool for urban transformation.

Chapter 5. Research Design and Methodology

The aim of this research is to identify the conditions that give rise to rapid urbanization and rapid urban growth, and furthermore, to suggest recommendations for managing it in a more viable way. Following Yin (2003), who noted that quality social science research should always be problem-oriented as opposed to methods-oriented, the subsequent research design and methods have been formulated with specific research questions in mind.

This chapter provides a comprehensive overview of the research design, strategy and methods used to answer the research questions formulated in this thesis. It is followed by several important details pertaining to the specifics of each article.

5.1 Research Design – Exploratory and Historical Approaches

The purpose of a research design is to provide a framework by which to collect and analyze data (Bryman, 2012). In doing so, it offers a logical basis for the composition, aim and execution of an overall research project; ultimately ensuring that the empirical data is linked with the research questions and conclusions (Gillham, 2000). This thesis takes a combined approach, utilizing both exploratory and historical approaches as its primary mode of analysis.

Exploratory research design is considered a useful starting point when determining one's research area, methods of data collection, and subjects of interest (Bryman, 2012). Historical research design, on the other hand, provides an opportunity to gain insights about present circumstances by critically examining past events (Given, 2008). Through trend analysis, it also avails an opportunity to gain useful insights into future outcomes. For the purpose of this thesis, an exploratory approach was applied to explore and organize different research themes, while a historical approach was used to collect and examine data from past accounts. These two approaches should be viewed as complimentary.

Exploratory research design served as the starting point for this research. This availed an opportunity to extensively survey the field, clarify existing concepts, identify lacunas and generate new ideas about the urban transition. This was primarily confined to article 1. This led to the establishment of a conceptual framework for understanding the urban transition in developing countries. Utilizing this conceptual framework as the primary mode of analysis, historical research design was then utilized for articles 2, 3 and 4. This involved examining past trends and speculating on future trajectories. In doing so, it also availed an opportunity to reflect on the conceptual framework and verify whether or not it could tell us something new about the urban transition in the countries of interest. Historical research design was also applied in the case of article 5, providing an account of the evolutionary nature of the urban transition.

5.2 Strategy of Inquiry – A Mixed-Methods Approach

Methods and data for this study came in varying forms. Qualitative data came in the form of semi-structured interviews involving experts in a variety of fields and among international contexts. While, quantitative data came in the form of longitudinal datasets pertaining to the urban transition in the countries of interest. The general orientation of this research can thus be described as a mixed-methods approach. According to Bryman (2012) qualitative approaches embody an inductive approach to scientific inquiry which strives for theory generation (constructivist worldview), while quantitative approaches are deductive in nature and are concerned with theory testing and validation (positivist worldview). According to Creswell (2009), attempts to incorporate both approaches avoids situating one's research within either constructivist or positivist knowledge claims, but instead takes on what is referred to as a more 'pragmatic worldview'. Such a combination, according to Yin (2009), avails an opportunity to achieve more comprehensive and insightful findings than either could achieve on its own. Though one might assume that a mixed-methods approach would always be superior to a strictly qualitative or strictly quantitative approach, there are some reasons to remain cautious. The primary reason being that these approaches find their origins in two completely different epistemological backgrounds; which according to some, renders them incompatible (Bryman, 2012). This study, however, incorporates a mixed-methods approach from a methodological

standpoint as opposed to an epistemological one, thus utilizing this research strategy to add technical rigor to data collection and analysis.

Mixed-methods were used both holistically across the thesis, as well as in individual articles. While article 1, which was primarily qualitative in nature, served as a sampling exercise in order to organize theories, concepts and models into a conceptual framework, articles 2, 3 and 4 operationalized the framework relying on more quantitative approaches; as was also the case for article 5. Additionally, in each of the case studies, qualitative narratives from interviews and literature provided explanations for quantitative changes in the data. This combination of approaches availed an opportunity to crosscheck ones findings from both qualitative and quantitative perspectives, serving as a mode of triangulation. Berg (1995) notes that the process of triangulation helps to enhance validity and reduce biases that might otherwise arise as a result of reliance on a single method.

5.3 Methods for Data Collection

The material and methods are described in detail in each article; however, some important points are elaborated on in this subsection. A summary of methods employed in each article can be found in Table 2. A detailed literature review and document analysis served as the starting point for each of the individual articles, supported by at least one other method of extraction; and in most instances more.

Table 2. Methods of Extraction

Articles	Literature Review/ Document Analysis	Interviews	Demographic Accounting	Statistical Analysis	Spatial Analysis
Article 1	X	X			
Article 2	X	X	X		
Article 3	X	X	X		X
Article 4	X	X	X	X	
Article 5	X			X	X

Following Hart (1998), the literature review was used to ground this research in the existing knowledge and to establish a link with ongoing research and other related works. A literature review is a useful starting point for identifying what is already known, familiarizing oneself with the concepts and theories applied to the

topic, surveying the available methodologies, identifying the controversies and clashes of evidence that exist, and knowing who the key contributors are (Bryman, 2012). Document analysis served a similar function; however, in this case, it refers to institutional reports and policy papers. For this research, the literature review and document analyses were multidisciplinary in nature, forming additive research agendas by approaching a problem from the perspectives of multiple disciplines (Lawrence, 2010). This included the fields of urban studies, development studies, economics, demography and public policy. Article 1 involved mapping out the research terrain and exploring the mainstream theories and policies related to urbanization and urban growth. Based on this, a number of lacunas were identified – this consisted of inaccurate terminology, outdated theories, lack of a comprehensive understanding of the urban transition, and policy mismatches. This served as the starting point for this research.

Interviews were another method incorporated into this research. Semi-structured interviews were conducted among experts at the crossroads of the fields of urban studies and the fields of economics, demography and policy. Similar to that of unstructured interviews, semi-structured interviews had the benefit of allowing the interviewee to respond freely while also availing the use of prompts to ensure the timely advancement of the discussion; as is often found in structured interviews (Bryman, 2012). Experts came in two forms: one category came from international entities such as multilateral development agencies and international research institutions, offering a global understanding of the issues in question; while the other category came from national entities such as government agencies or local research institutions providing a country specific understanding. Experts were selected over other stakeholders, as they were able to further clarify the research problem, while also offering an opportunity to access factual knowledge in a specific subject area (Kolb, 2008). In article 1, interviews involving a range of international and thematic experts were used to fill the identified lacunas, as well as to further develop the interplay among the aforementioned disciplines. Grounded theory, which involves an iterative process of coding, comparative analysis and theoretical sampling, was then employed to identify relevant concepts, categories, properties and dimensions (Strauss & Corbin, 1998). Given that the material was multidisciplinary in nature, a systems thinking approach was used to systematically organize the subsequent concepts across a range of circumstances (Reynolds & Holwell, 2010). This process revealed underlying features and hidden relationships, resulting in the development of the conceptual framework. Interviews continued to be used throughout the three case studies; however, these served more as a source of contextualization and verification as opposed to generating new data. In total, 28 interviews were conducted throughout this research.

Quantitative methods were selected for the empirical case studies – Articles 2, 3, 4 and 5. This included demographic accounting techniques and statistical and spatial analysis. For articles 2 and 3, the national growth rate method which is considered a crude but common method under circumstances of limited data, was employed to disaggregate urbanization into its individual components of urban

growth (Shryock, Siegel & Larmon, 1971; Siegel & Swanson, 2004; Rahman, 2013). While the vital statistics method (Morrison, Bryan & Swanson, 2004), was applied to article 4. Both methods produce an estimate of the urban increment that is contributed to by internal migration and reclassification, with the remainder contributed to by urban natural population increase. Where estimates of reclassification exist, as was the case for the countries that comprise this study, one is able to deduct this from the migration residual to achieve individual contributions of each component of urban growth; namely, rural to urban migration, urban natural population increase and reclassification of urban areas as rural. The difference between the national growth rate method and the vital statistics method is that the vital statistics method can be applied to countries where data on births and deaths are separated by location; in this case urban and rural. This leads to a more accurate estimation. Given that this data was available for India, a cognizant decision was made to apply the vital statistics method in article 4. It should be noted, however, that both methods fail to account for international migration (Rahman, 2013). In the case of China, India and Nigeria, the international net migration rates were -0.22, -0.37 and -0.35 per thousand in 2013 (United Nations, 2013). These figures are substantially lower than internal migration in all three cases, suggesting that this would have unlikely impacted the findings.

Although elements of statistical and spatial analysis can be found in the other empirical studies throughout this thesis, they most prominently feature in articles 4 and 5. In article 4, linear regression is applied to a panel dataset to estimate the relationships between the level of urbanization and the level of economic growth, and the speed of urbanization and the speed of economic growth. In the case of article 5, several techniques that are commonplace in the field of urban economics were applied. The spatial Lorenz curve was employed to examine the spatial distribution of cities (Lorenz, 1905; Song et al., 2010); growth rates were computed to identify the rate of growth of city size classes; while, the rank size distribution was applied to examine the size hierarchy of cities (Zipf, 1949; O'Sullivan, 2012). This provided an indication as to how national urban systems have evolved over time.

Chapter 6. Results and Discussion

With the aim of identifying the conditions that give rise to rapid urbanization and rapid urban growth, this thesis has set out to critically examine the urban transition in a selection of developing countries. It furthermore attempts to suggest recommendations for managing it in a more viable way. In doing so, it addresses four primary research questions: How should the contemporary urban narrative be understood in light of changing macro level trends and what does this tell us about the differences in urban transitions among developed and developing countries? What dynamics underpin the unprecedented pace and scale of the urban transition unfolding in developing countries? How have emerging urbanization patterns affected the evolution of national urban systems? And, what can be done to lessen the challenges posed by rapid urbanization and rapid urban growth in developing countries? The findings of each research question are discussed below, followed by some notes on generalization.

6.1 Results and Discussion

How should the contemporary urban narrative be understood in light of changing macro level trends and what does this tell us about the differences in urban transitions among developed and developing countries?

The world of today is very different than that of the past. Aside from obvious advancements predicted by the leading political economists of the time – division

of labour, specialization, mass production and transportation of goods to name a few – we have also experienced less predictable changes, in terms of globalization, the vast accumulation of wealth (accompanied by growing inequality), improvements in life expectancy and the decentralization of political and administrative power. Many of which have left their mark on patterns of urbanization and economic development alike.

While the contemporary urban narrative in developing countries is presenting itself in more complex ways, there is a need for renewed approaches to understanding it. Building on the aforementioned theoretical underpinnings as well as interviews among regional and thematic experts, article 1 presented a new conceptual framework for examining the contemporary urban narrative in developing countries. The *Rapid Urban Growth Triad*, depicted in Figure 9, conceptualizes the urban transition as a multidisciplinary process influenced by the cumulative contributions of the components of urban growth and the dynamic interplay among them (Farrell, 2017).

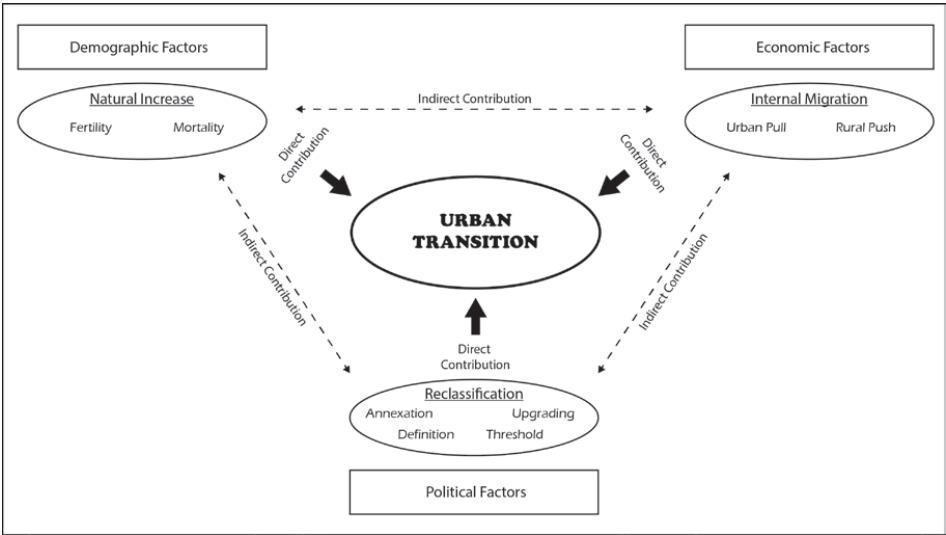


Figure 9. Rapid Urban Growth Triad. *Source.* Farrell (2017).

The framework views *rural to urban migration* as an economic process resulting from urban pull and rural push dynamics, *urban natural population increase* as a demographic process understood through changes in fertility and mortality patterns, and *reclassification of rural areas as urban* as a political/administrative process occurring through the annexation of small settlements by larger ones, rural areas upgraded as urban, changes in urban definitions, and settlements crossing urban population thresholds. In addition to the direct

contributions of the individual components of urban growth, this framework also accounts for their indirect contributions, stemming from the mutual interaction among them.³ Though, due to data limitations, this is largely outside the purview of this research. While the urban studies discourse tends to place a premium on the economic factors that contribute to the rise of cities, this research demonstrates that demographic and political/ administrative factors also need to be considered in order to account for the true complexity of the contemporary urban narrative. In doing so, it accounts for the pluralistic relationship among the components of urban growth.

While the urban transition in developed countries was largely a result of economic factors in the form of rural to urban migration, the urban transition in developing countries seems to be presenting itself in more complex ways. Despite the previously noted claims by international organizations (World Bank, 2009) and prominent theories set out in the literature (Rostow, 1959), it appears that developing countries are not charting a similar urbanization path as their predecessors. To understand how the contemporary urban narrative differs from that of historical accounts, the *Rapid Urban Growth Triad* was applied to China, Nigeria and India in articles 2, 3 and 4. In doing so, it served as a diagnostic for examining the urban transition, offering explanatory power to the previously neglected components of urban growth.

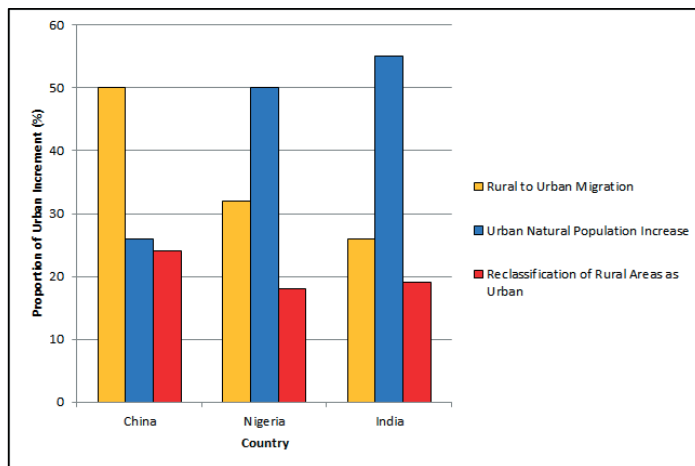


Figure 10. Comparison of the Components of Urban Growth – China, Nigeria and India. *Source.* Farrell (2018), Farrell and Westlund (2018) and Farrell (unpublished). Figure created by author.

³ An example of this is seen in young female migrants, who directly contribute to the overall urban increment through rural to urban migration and indirectly through future natural population increase. Other examples exist and can be found in article 1.

While there is a tendency to assume that since the urban transition is a universal process unfolding in all countries of the world, that it is unfolding in a uniform way. However, according to Figure 10, which summarizes the main findings from articles 2, 3 and 4, the findings of the case studies do not support this idea. In the case of China rural to urban migration represented approximately 50 percent of the overall urban increment between 1950 and 2010, while urban natural population increase and reclassification of rural areas as urban represented 26 and 24 percent respectively. In Nigeria, urban natural population increase took on the dominant share of the overall urban increment, averaging approximately 50 percent between 1960 and 2010. This was followed by rural to urban migration, averaging 32 percent and reclassification of rural areas as urban averaging 18 percent. As for India, urban natural population increase was also the dominant component of urban growth, contributing approximately 55 percent between 1960 and 2010, while rural to urban migration contributed approximately 26 percent and reclassification the remaining 19 percent.

The findings of Nigeria and India seem to suggest that improved life expectancy and comparatively high birth rates are the primary determinants underpinning the growth of cities. Mortality and fertility patterns are a reflection of the changing demographic circumstances and improved public health conditions in developing countries. China, however, deviates from these findings in that economic determinants in the form of urban pull factors have been attracting migrants to urban areas in search of employment opportunities. This is more a reflection of changing economic circumstances in the form of liberalization and globalization during the post-reform era. Although China's urban transition appears to reflect similar patterns as historical accounts, one must bear in mind that it is also a reflection of China's unique political circumstances. To a large degree, the components of urban growth have been subject to political engineering in the form of policy mechanisms such as the one-child policy and the hukou system. This can also be seen in the higher share of reclassification, in which government led initiatives such as *city administering county, converting county to city and large cities annexing surrounding counties*, gave the urban population an immediate boost. Aside from some similarities in the case of China, the urban transition in the countries in question does not appear to be following a similar pattern as historical accounts. Nor are they unfolding in a uniform way. Instead there appears to be a multitude of urbanization trajectories, as reflected by the variation among case studies. These findings suggest that the urban transition in today's developing countries is following a different pattern than its predecessors. It thus cautions against attempts to base contemporary policy decisions on historical accounts.

What dynamics underpin the unprecedented pace and scale of the urban transition unfolding in developing countries?

While the unprecedented pace and scale of the urban transition unfolding in developing countries is garnering widespread attention, it raises questions as to

the processes underpinning it. By examining the urban transition in China, Nigeria and India, articles 2, 3 and 4 helped to tease out some of the subtle nuances, unveiling several important dynamics.

Figure 11 depicts the speed of urbanization, as reflected by urban-rural growth differentials, for each country. China, in which rural to urban migration was the dominant component of urban growth, appears to be experiencing the fastest rate of urbanization, averaging 3.2 percent between 1960 and 2010. This was followed by Nigeria and India, in which urban natural population increase was the dominant component, averaging 2.8 and 1.7 percent respectively.



Figure 11. Speed of Urbanization for China, Nigeria and India; as measured by Urban-Rural Growth Differentials, 1960-2050. *Source.* Data is from the United Nations (2014), authors calculations. Figure created by author.

One notable finding across all three case studies was that when urban natural population increase was the dominant component of urban growth, the speed of urbanization was comparatively slow; whereas when rural to urban migration or reclassification was dominant, the speed of urbanization began to accelerate. In the case of both Nigeria and India, high urban growth rates often coincided with high rural growth rates, ultimately inhibiting the speed of urbanization. Furthermore, the few times that urbanization accelerated (during the 1970s in India and the 1980s and 2000s in Nigeria) rural to urban migration was at its highest. Similarly, in the case of China, where rural to urban migration was the dominant component, urbanization rates were considerably higher than its counterparts; peaking at 5.61 percent at the turn of the millennium. Additionally, when reclassification was at its highest (nearing 50 percent during the 1980s) the urbanization rate was also high; reaching 4.21 percent. According to Rogers (1982) this is because the principle effect of urban natural increase is to contribute to

urban growth, whereas the principle effect of rural to urban migration (and reclassification for that matter) is to contribute to urbanization. Unlike urban natural population increase, rural to urban migration and reclassification encompass a dual effect in that they not only add to the urban population, but also deduct from the rural population; this dynamic ultimately speeds up the rate of urbanization.

Another notable finding is that in some instances, the acceleration of the urbanization rate appears to be more a reflection of slowing rural growth rates, rather than the actual speeding up of urban growth rates. Evidence of this can be seen in the more prominent declines in rural growth rates (as opposed to rises in urban growth rates) in both China and India. Furthermore, when rural growth rates entered into the negative in both countries, this is when urbanization truly began to takeoff. This would suggest that during the accelerated stage of the urban transition increasing urban-rural growth differentials may be more a reflection of rural dynamics than urban dynamics.

It is also worth noting that accelerated urbanization does not guarantee accelerated economic growth; as many have concluded from the rise of China. Empirical evidence from article 4 on India illustrates that although there appears to be a strong linear relationship between the level of urbanization and the level of economic growth, there was no compelling evidence indicating a relationship between the speed of urbanization and the speed of economic growth at the sub-national level. This follows with the numerous studies suggesting that urbanization and economic growth may not be intrinsically linked (Fay & Opal, 2000; Jedwab & Vollrath, 2015), and that attempts to accelerate urbanization may not lead to the intended economic outcomes (Chen et al., 2014).

How have emerging urbanization patterns affected the evolution of national urban systems?

While the majority of scholarship tends to focus on settlements as individual entities, this has detracted from a more holistic understanding of the dynamics of urban systems. It is important to recognize that while at any time one settlement may be growing as a result of internal migration, another may be shrinking due to rural exodus; the same can be said about natural population growth and decline. Moreover, due to the processes of administrative reclassification, urban systems are continuously undergoing transformative change. Cities should thus be viewed as part of a dynamic urban system comprising varying sizes, locations and typologies, and not simply in isolation.

In light of the emerging urbanization patterns unfolding in today's developing countries, many of which are subject to analogous forces, article 5 empirically examined the evolution of national urban systems in China, Nigeria and India. The findings suggested that while some national urban systems have become more

evenly distributed over time (Nigeria), other have become more uneven (China); and despite adding a significant amount of cities to its urban system, India's distribution has gone unchanged. On the other hand, India's city size hierarchy has become more fragmented, while the hierarchies for both China and Nigeria appear to be conforming to a distribution similar to that which is predicted by Zipf's law, suggesting a more integrated urban system has formed. In terms of growth rates, the fastest growing cities in China appeared to be megacities (>10 million), while for Nigeria it was large cities (1-5 million) and for India it was intermediate cities (500 thousand-1 million). Furthermore, urban primacy was not a concern in any of the countries, and instead towns and small cities tended to dominate all three urban systems. While China and Nigeria have actively undergone multiple stages of spatial and political restructuring at the national scale (Ma, 2005; Adetoye, 2016), this can be seen in the size and spatial configuration of their urban systems. However, in the case of India, despite having added a significant number of settlements, the configuration of its urban system has remained imbalanced; likely reflecting the rather passive approaches towards urbanization that were prevalent throughout India's recent history (Gnaneshwar, 1995). Despite general uniformly valid urbanization processes, it appears that there is a certain degree of heterogeneity among national urban systems in the countries of interest. In some instances contrasting patterns could also be observed. Given that macro-level trends have seemingly affected countries in a similar way, such differences are likely a reflection of the unique economic and political circumstances of each country.

The unprecedented pace and scale of the contemporary urban narrative unfolding in developing countries is presenting new patterns of urbanization. These patterns are influenced by the contributions of the components of urban growth, with migration contributing to the growth of medium and large cities, while natural population increase and reclassification is leading to the establishment of smaller cities and towns. In the case of the former, this can be seen in the growth of larger cities over time, and in the case of the latter in the dramatic increase in the number of cities that comprise an urban system. This represents a notable break from historical patterns. Such findings caution against a uniform understanding of the urban transition in developing countries.

What can be done to lessen the challenges posed by rapid urbanization and rapid urban growth in developing countries?

Cities have demonstrated a transformative ability to improve economic as well as social wellbeing. While forecasts suggest that 2.5 billion will be added to urban areas by 2050, it is inevitable that our cities will continue to grow. The challenge as we move ahead will be how we go about managing this growth in a manner that permits the maximization of urban economies (agglomeration and economies of

scale) while minimizing the so-called urban diseconomies (crime, congestion and pollution).⁴ Clearly, the best approach to managing the urban transition is to ensure that the provision of urban amenities continues to keep pace with the growth of urban populations, which means ensuring that cities are equipped with adequate housing, basic services and infrastructure (Hambdi, 1995; Haynes, 2010; Glaeser, 2011). However, it remains unclear if developing countries will be able to generate the resources needed to effectively absorb the growing urban population; as was the case in the past (Richardson, 1987). To date, few developing countries have demonstrated a successful track record in this area. Consequently, many cities are characterized by informality, decay and the vast urbanization of poverty; problems that tend to be further exacerbated due to the compounding pressures of urbanization (Friedmann, 1968). There is thus a need to explore alternative mechanisms for managing the urban transition in a more viable way.

Article 1 noted the importance of understanding the determinants of urban growth within a country to identify potential opportunities for managing it more effectively. Articles 2, 3 and 4, computed the contributions of each of the components of urban growth and put forward a number of policy recommendations. Some of these findings indicated that the policies being prescribed to manage the urban transition did not always match with the identified source of that growth, suggesting a potential policy mismatch. An example of this can be drawn from Nigeria. According to a survey by the United Nations (2013) spanning the years 1986-2013, the Nigerian government has noted a serious concern with the growth rate of their population and the rate of rural to urban migration, suggesting that both should be lowered. Past accounts indicate that the preferred mechanisms for coping with its unprecedented growth have been to constrain rural to urban migration; examples of this can be found in accounts of forced eviction (The Guardian, 2017), barriers to employment for rural migrants in urban areas (Ajakaiye et al., 2015), and a history of policies directed at rural areas to prevent rural to urban migration (Abbass, 2012; FMLHUD, 2012). Given that urban natural population increase represented on average 50 percent of the overall urban increment between 1960 and 2010, one would assume that demographic approaches would be better placed. According to the 2013 Demographic and Health Survey for Nigeria, the number of wanted children (as reported by women) was 4.8, whereas the actual number of children was 5.5, suggesting that the total fertility rate in Nigeria is nearly 15 percent higher than it would be if unwanted births were avoided (National Population Commission, 2014). Not only does this high rate of unwanted births have implications for the 'carrying capacity' of cities, but it also has implications for the 'caring capacity' of families. In a country with a high level of urban street children, this becomes a major concern. This is not to say that the government should be setting population targets, but instead they could be making efforts to ensure that a range of options

⁴ These are difficult to measure as most of the effects of urban economies are economic in nature (size of labour pools and agglomeration effects), while the effects of urban diseconomies are often social (quality of life and health) (Richardson, 1986).

is available to its citizens. Alternative solutions could take the form of improved access to contraceptives, family planning initiatives, or encouraging female participation in the workplace. In the case of the latter, studies have shown that raising the social and economic status of women increases their decision making authority, providing them with options to put off marriage or pursue further education; both of which have a proven ability to lower fertility (Todaro & Smith, 2012; Lutz, 2014). A range of policy mechanisms pertaining to each of the components of urban growth can be found in article 1. When compared with the contributions of the components of urban growth, they can serve as useful alternatives for managing the urban transition in a more viable way.

In sum, this highlights the importance of ensuring that policies match the actual circumstances on the ground. This calls for more informed (evidence-based) policy making.

6.2 Notes on Generalization

This study has examined the urban transition in China, Nigeria and India between 1950 and 2010. The findings indicate that urbanization and urban growth in the countries of inquiry is presenting itself in a multitude of ways. This includes *economic factors* in the form of urban pull and rural push dynamics, *demographic factors* in the form of changes in fertility and mortality patterns and *political and administrative factors* in the form of the annexation of small settlements by larger ones, rural areas upgraded as urban, changes in urban definitions, and settlements crossing urban population thresholds. It suggests that there is a need to go beyond the rather dated understanding of the urban transition as an economic process and instead view it in a more pluralistic way, accounting for demographic and political/ administrative factors as well.

Although the urban transition is a result of the distinct circumstances particular to a country, it should also be viewed as part of changing macro level trends unfolding throughout the world. Relevant examples of this can be seen in terms of the rise of globalization, improved public health and also the decentralization of administrative responsibilities among others. Stemming from this, it appears that the urban transition is being redefined by the contemporary conditions of today's developing countries. This has produced new patterns of urbanization and urban growth. There is thus reason to believe that the findings from this research can have wider relevance beyond the three case studies in question.

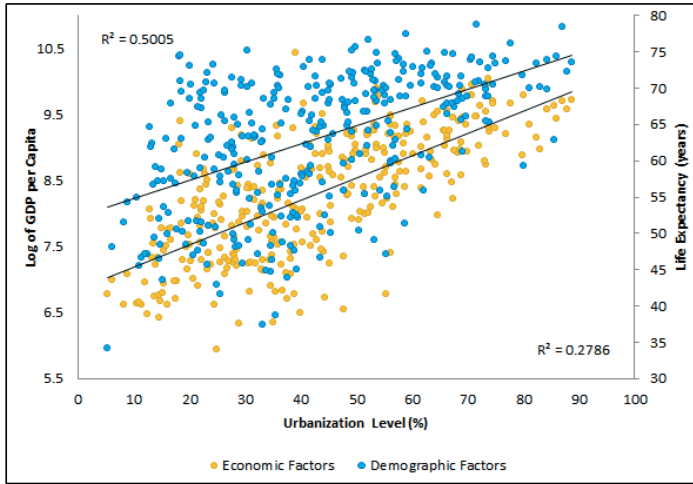


Figure 12. Scatterplot of Log of GDP per Capita and Life Expectancy among a number of developing countries, 2010. *Notes.* GDP is in constant 2011 international dollars, adjusted for purchasing power parity. Developing countries refer to Low and Middle Income countries. *Source.* Data is from the World Bank (2018). Figure created by author.

Evidence of this can be seen in Figure 12, which depicts two scatterplots illustrating the relationship between economic and demographic factors and the level of urbanization for a selection of developing countries between 1990 and 2010. The sample consists of 112 low and middle income countries where the necessary data exists. Economic factors are in the form of GDP per capita and demographic factors are in the form of life expectancy; both of which illustrate a positive linear relationship with urbanization. Unfortunately, there is no obvious variable for measuring political/ administrative factors; however, one would assume that if such data existed, this would also depict a positive relationship with urbanization. Furthering the findings of the three case studies analyzed in this thesis (China, Nigeria and India), this diagram provides further support that the urban transition in developing countries is unfolding in more complex ways than previously conceptualized. There is thus a need to shift beyond the rather dated understanding of urbanization as a singular process resulting from rural to urban migration stemming from income disparities, and instead begin to build further complexity into our models. Only then will we be able to truly understand the dynamics underpinning rapid urbanization and rapid urban growth and identify the policies and mechanisms needed to manage the urban transition in a more effective way.

Chapter 7. Conclusion and Future Research

By identifying the conditions that give rise to rapid urbanization and rapid urban growth and by suggesting recommendations for managing the urban transition in a more viable way, this thesis has attempted to put forward a more nuanced account of the urban transition in developing countries. In doing so, it is hoped that the outcomes of this thesis have contributed to both the advancement of intellectual schools of thought related to cities and development, as well as to bettering policies to achieve sustainable urban development in light of rapid urbanization and rapid urban growth.

7.1 Main Contributions

This thesis touches upon several notable findings. Firstly, it found that a more holistic view was necessary to capture the complexity of the urban transition unfolding in developing countries. Secondly, despite the urban transition being a universal event unfolding in nearly all countries of the world, it does not necessarily follow a uniform pattern, suggesting the notion of multiple urbanization trajectories. Thirdly, since the speed of urbanization is a reflection of both urban and rural growth rates, rapid urbanization appears to occur at a point in which the urban population is growing and the rural population is in decline. Fourthly, despite general uniformly valid urbanization processes, it appears that there is a certain degree of heterogeneity among national urban systems in developing countries; and in some instances contrasting patterns can be observed.

Finally, the favoured policies for managing the growth of cities do not always seem to reflect the contextual circumstances unfolding in these countries, instead they tend to reflect an outmoded understanding of the urban transition. Collectively this points to a need to revisit prominent theories and policies for managing the urban transition. Furthermore, it calls for more informed (evidence-based) approaches to managing the urban transition.

Though the contributions of this thesis come in the form of a new framework in which to understand the urban transition in developing countries, as well as some key findings and lessons learned from three targeted case studies, one still needs to be aware that the urban transition is a dynamic process that reflects the demographic, economic and political circumstances of its surroundings. While it is hoped that the contributions of this thesis have furthered our understanding of the conditions of rapid urbanization and rapid urban growth, one still needs to be critical as to how the findings are interpreted and applied elsewhere. While some of the policy recommendations highlighted throughout this thesis may be an accurate depiction of the empirical data used, it may not necessarily reflect the geopolitical or cultural circumstances of other developing countries.

This research is important in light of ongoing policy discussions related to cities and global development. In particular, the findings are relevant for international organizations – such as the United Nations and the World Bank – in their efforts to collect knowledge and develop policies and programs that are applicable at the global scale. The recently adopted Sustainable Development Goals and the New Urban Agenda that arose out of the Third United Nations Conference on Housing and Sustainable Urban Development (Habitat III) are the most recent examples of global policy documents that could benefit from such research.

7.2 Critical Reflections

While this thesis has provided an account of the urban transition unfolding in a selection of developing countries, it has also demonstrated the difficulties of conducting social science research. It is important to recognize that the primary task of a researcher is to try to make sense of the world around them. However, when the world is characterized by unpredictability, messiness and disorder, this becomes a near impossible task (Urry, 2005). Consequently, researchers are faced with the perilous tradeoff between approaches to scientific inquiry that try to account for the messiness around them, and attempts that try to simplify it (Law, 2004). This tradeoff between ‘complexity’ and ‘reductionism’ comes to characterize the difficulty of social science research; becoming a point of contention for many. While on one hand accounting for complexity allows one to better reflect the realities on the ground, it would be simply impossible to truly capture the complete messiness of the real world. On the other hand, reductionism may increase the applicability of ones findings making it easier for generalization and policy prescriptions, it does, however, risk distorting reality.

By shifting from a single theoretical view for understanding the urban transition to a more nuanced one, this research has attempted to capture some of the complexity surrounding the urban transition in developing countries; ultimately, shedding light on the phenomenon of rapid urbanization and rapid urban growth. At the same time, attempts have been made to draw from the results of the three case studies, to see if such findings are applicable to the rapid urban transition unfolding elsewhere. The risks of such tradeoffs, however, must always be considered.

7.3 Looking Forward

Though this thesis has attempted to shed light on some of the previously neglected aspects of the urban transition in developing countries, the dynamics of rapid urbanization and rapid urban growth are relatively unknown, meaning that there is still much work to be done.

Distinguishing the key variants among historical and contemporary accounts of the urban transition remains an important research topic. Recent advancements in satellite imagery and remote sensing have made it easier to retroactively compile standardized datasets for comparison at the national level. The *OECD-EuroStat Database* and the *Atlas of Urban Expansion* are notable examples of those which have already initiated this process and made their data publicly available to others. Given the dearth of knowledge pertaining to the dynamics of urbanization, advancing our understanding of what is driving the urbanization process at the national level becomes a worthwhile application of such data. Furthermore, as countries like China reap the benefits of accelerated urbanization, we can only assume that others countries will attempt to emulate this success. However, as this research has demonstrated, there is no guarantee that accelerated urbanization will be accompanied by accelerated economic development. In order to ensure that cities continue to fulfill their role as platforms for upward mobility there is a need to advance our understanding of the complex relationship between urbanization and economic development.

This study has noted that there is not one urbanization path, but instead there are multiple urbanization trajectories. Combining the research agendas highlighted above in an attempt to distinguish the conditions that give rise to optimal and sub-optimal urbanization trajectories seems a worthwhile next step. A number of research questions still remain: If multiple urbanization trajectories exist, does this mean that some trajectories will be preferred over others? Will alternative forms of urbanization give way to new processes of development? Is there a best pathway to development, and if so, what does this entail? Providing further insight into these research areas will be critical to advancing our understanding of urbanization as a strategy for development. Needless to say, there is still work to be done.

Chapter 8. References

- Abbass, I. (2012). Trends of Rural-Urban Migration in Nigeria. *European Scientific Journal*, 8(3), 97-125.
- Adetoye, D. (2016). The Political Economy of State Creation and Socioeconomic Development in Nigeria. *European Journal of Research in Social Sciences*, 4(2), 36-44.
- Ajakaiye, O., Jerome, A., Nabena, D. & Alaba, O. (2015). Understanding the Relationship Between Growth and Employment in Nigeria. *WIDER Working Paper 2015/124*. Helsinki: UNU-WIDER.
- Atlas of Urban Expansion (2016). Atlas of Urban Expansion. Available at: <http://www.atlasofurbanexpansion.org/>. Last accessed: August 28, 2018.
- Bairoch, P. (1988). *Cities and Economic Development: From the Dawn of History to the Present*. Chicago: University of Chicago Press.
- Berg, B. (1995). *Qualitative Research Methods for the Social Sciences*. Boston: Allyn and Bacon.
- Bienen, H. (1984). Urbanization and Third World Stability. *World Development*, 12(7), 661-691.
- Brau, A., Mueller, V. & Lee, H.L. (2014). The Role of Rural-Urban Migration in the Structural Transformation of Sub-Saharan Africa. *World Development*, 63, 33-42.

- Brockerhoff, M. (2000). An Urbanizing World. *Population Bulletin*, 55(3), 1-44.
- Bryman, A. (2012). *Social Research Methods, 4th Edition*. New York: Oxford University Press.
- Chen, M., Zhang, H., Liu, W. & Zhang, W. (2014). The Global Pattern of Urbanization and Economic Growth: Evidence from the Last Three Decades. *Plos One*, 9(8), 1-15.
- Chen, N., Valente, P. & Zlotnik, H. (1998). What do we Know About Recent Trends in Urbanization. In: Bilsborrow, R. Ed. *Migration, Urbanization and Development: New Directions and Issues*. New York: United Nations Fund for Population Activities, 59-88.
- China Data Center (2017). University of Michigan: China Data Center. Available at: chinadataonline.org, Last accessed: November 2, 2017.
- Cohen, B. (2006). Urbanization in Developing Countries: Current Trends, Future Projections, and Key Challenges for Sustainability. *Technology in Society*, 28, 63-80.
- Cohen, B. (2004). Urban Growth in Developing Countries: A review of Current Trends and A Caution Regarding Existing Forecasts. *World Development*, 32(1), 23-51.
- Creswell, J. (2009). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, Third Edition*. London: Sage.
- Davis, K. (1965). The Urbanization of the Human Population. *Scientific American*, 213(3), 40-53.
- Davis, M. (2006). *Planet of Shums*. New York: Verso.
- Davis, J. & Henderson, V. (2002). Evidence on the Political Economy of the Urbanization Process. *Journal of Urban Economics*, 53, 98-125.
- De Janvry, A. & Sadoulet, E. (2016). *Development Economics: Theory and Practice*. London: Routledge.
- de Vries, J. (1990). Problems in the Measurement, Description, and Analysis of Historical urbanization. In: van der Woude, A. Hayami, A. & de Vries, J. Ed. *Urbanization in History*. Oxford: Clarendon Press, 43-60.
- Dorigo, G. & Tobler, W. (1983). Push-Pull Migration Laws. *Annals of the Association of American Geographers*, 73(1), 1-17.
- Dyson, T. (2011). The Role of the Demographic Transition in the Process of Urbanization. *Population and Development Review*, 37, 34-54.
- Farrell, K. (2018). An Inquiry into the Nature and Causes of Nigeria's Rapid Urban Transition. *Urban Forum*, 29(3), 277-298.
- Farrell, K. (2017). The Rapid Urban Growth Triad: A New Conceptual Framework for Examining the Urban Transition in Developing Countries. *Sustainability*, 9(8), 1-19.

- Farrell, K. (under review). A Reluctant Urban Transition: Should India pursue an accelerated urbanization strategy?
- Farrell, K. & Nijkamp, P. (under review). The Evolution of National Urban Systems in China, Nigeria and India.
- Farrell, K. & Westlund, H. (2018). China's Rapid Urban Ascent: An Examination into the Components of Urban Growth. *Asian Geographer*, 35(1), pp. 85-106.
- Fay, M. & Opal, C. (2000). Urbanization Without Growth: A Not-So-Uncommon Phenomenon. *Policy Research Working Paper no. 2412*. Washington D.C.: The World Bank.
- Federal Ministry of Lands, Housing and Urban Development. (2012). *National Urban Development Policy 2012*. Abuja: Federal Republic of Nigeria.
- Fox, S. (2011). Understanding the Origins and Pace of Africa's Urban Transition. *Working Paper Number 89*. London: Crisis States Research Center.
- Fox, S. & Goodfellow, T. (2016). *Cities and Development: Second Edition*. New York: Routledge.
- Friedmann, J. (1969). The Role of Cities in National Development. *The American Behavioral Scientist*, 12(5), 13-21.
- Friedmann, J. (1968). The Strategy of Deliberate Urbanization. *Journal of the American Institute of Planners*, 34(6), 364-373.
- Glaeser, E. (2011). *Triumph of the City: How Our Greatest Invention Makes Us Richer, Smarter, Greener, Healthier and Happier*. Penguin Books: New York.
- Géographie-cités Lab. (2018). Standardized Databases for Comparing Urban Systems. <http://www.parisgeo.cnrs.fr/?lang=fr>.
- Gillham, B. (2000). *Case Study Research Methods*. London: Continuum.
- Given, L. (2008). Historical Research. *The Sage Encyclopedia of Qualitative Research Methods*. London: Sage.
- Gnaneshwar, V. (1995). Urban Policies in India: Paradoxes and Predicaments. *Habitat International*, 19(3), 293-316.
- Hambdi, N. (1995). *Housing Without Houses: Participation, Flexibility, Enablement*. Rugby: Practical Action Publishing.
- Harris, N. (1990). Urbanisation, Economic Development and Policy in Developing Countries. *Habitat International*, 14(4), 3-42.
- Harris, J. & Todaro, M. (1970). Migration, Unemployment and Development: A Two-Sector Analysis. *American Economic Review*, 60(1), 126-142.
- Hart, C. (1998). *Doing a Literature Review: Releasing the Social Science Research Imagination*. London: Sage.

Haynes, K. (2010). Infrastructure: The Glue of Megacities. In: Buijs, S., Tan, W. & Tunas, D. Eds. *Megacities: Exploring a Sustainable Future*. 010 Publishers: Rotterdam, 93-98.

Holden, S. & Otsuka, K. (2014). The Role of Land Tenure Reforms and Land Markets in the Context of Population Growth and Land Use Intensification in Africa. *Food Policy*, 48, 88-97.

Hope, K. (1986). Urbanization and Economic Development in the Third World: An Overview. *Cities*, February, 41-57.

Jahnukainen, M. (2010). Extreme Cases. In: Mills, A., Durepos, G. & Wiebe, E. Ed. *Encyclopedia of Case Study Research, Volume I and II*. Thousand Oaks: Sage, 379-380.

Jedwab, R. & Vollrath, D. (2015). Urbanization Without Growth in Historical Perspective. *Explorations in Economic History*, 58, 1-21.

Johansson, R. (2003). *Case Study Methodology. International Conference on Methodologies in Housing Research, Stockholm*. Available at: http://www.psyking.net/HTMLobj-3839/Case_Study_Methodology-_Rolf_Johansson_ver_2.pdf. Last Accessed: August 1, 2018.

Kasarda, J. & Crenshaw, E. (1991). Third World Urbanization: Dimensions, Theories and Determinants. *Annual Review of Sociology*, 17, 467-501.

Kolb, B. (2008). *Marketing Research: A Practical Approach*. London: Sage, 141-157.

Kulcsar, L. & Brown, D. (2011). The Political Economy of Urban Reclassification in Post-Socialist Hungary. *Regional Studies*, 45(4), 479-490.

Kuznets, S. (1955) Economic Growth and Income Inequality. *The American Economic Review*, 45(1), 1-28.

Law, J. (2004). *After Method: Mess in Social Science Research*. New York: Routledge.

Lawrence, R. (2010). Deciphering Interdisciplinary and Transdisciplinary Contributions. *Transdisciplinary Journal of Engineering & Science*, 1(1), 125-130.

Lewis, A. (1954). Economic Development with Unlimited Supplies of Labor. *The Manchester School*, 22, 139-191.

Li, H., Wei, Y. & Ning, Y. (2016). Spatial and Temporal Evolution of Urban Systems in China during Rapid Urbanization. *Sustainability*, 8(651), 1-17.

Lipton, M. (1977). *Why Poor People Stay Poor: Urban Bias in World Development*. London: Temple Smith.

Lorenz, M. (1905). Methods of Measuring the Concentration of Wealth. *Publications of the American Statistical Association*, 9(70), 209-219.

Lutz, W. (2014). A Population Policy Rationale for the Twenty-First Century. *Population and Development Review*, 40(3), 527-544.

- Lutz, W. & KC, S. (2010). Dimensions of Global Population Projections: What do we know about future population trends and structures? *Philosophical Transactions of the Royal Society B*, 365, 2779-2791.
- Ma, L. (2005). Urban Administrative Restructuring, Changing Scale Relations and Local Economic Development. *China Political Geography*, 24, 477-497.
- Ma, L. (2002). Urban Transformation in China, 1949-2000: A Review and Research Agenda. *Environment & Planning A*, 34, 1545-1569.
- Montgomery, M., Stren, R., Cohen, B. & Reed, H. (2004). *Cities Transformed: Demographic Change and Its Implications in the Developing World by the Panel on Urban Population Dynamics*. London: Earthscan, 75-107.
- Morrison, P., Bryan, T. & Swanson, D. (2004). Internal Migration and Short Distance Mobility. In: Siegel, J. & Swanson, D. Ed. *The Methods and Materials of Demography, Second Edition*. Elsevier Academic Press: London, 493- 522.
- Mulligan, G. (2013). Revisiting the Urbanization Curve. *Cities*, 32, 113-122.
- National Population Commission (2014). *Nigeria Demographic and Health Survey*. Abuja: Federal Republic of Nigeria.
- National Research Council. (2000). Beyond Six Billion: Forecasting the World's Population. In: Bongaarts, J. & Bulatao, R., Eds., *Panel on Population Projections*. Washington, DC: National Academy Press.
- Neuwirth, R. (2006). *Shadow Cities: A Billion Squatters, A New Urban World*. New York: Routledge.
- Northam, R. (1975). *Urban Geography*. Toronto: John Wiley and Sons, Inc.
- Notestein, F. (1945). Population: The Long View. In: Schultz, T. Ed. *Food for the World*. Chicago: University of Chicago Press.
- O'Sullivan, A. (2012). *Urban Economics, Eighth Edition*. New York: McGraw-Hill International.
- Oberai, A. (1993). Urbanization, Development, and Economic Efficiency. In: Kasarda, J. and Parnell, A., Eds., *Third World Cities: Problems, Policies, and Prospects*. London: Sage Publications, pp. 58-73.
- OECD. (2017). Africapolis List and Population of West African Urban Agglomerations, 1950-2010. Available at: <http://stats.oecd.org/Index.aspx?QueryId=65660>. Last Accessed: April 4, 2017.
- OECD-EuroStat. (2018). Functional Urban Areas by Country. Available at: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Archive:European_cities_%E2%80%93_the_EU-OECD_functional_urban_area_definition&oldid=141056. Last accessed: August 28, 2018.
- Plane, D., Henrie, C. & Perry, M. (2005). Migration Up and Down the Urban Hierarchy and Across the Life Course. *Proceedings of the National Academy of Sciences*, 102(43), 15313-15318.

Preston, S. (1979). Urban Growth in Developing Countries: A Demographic Reappraisal. *Population and Development Review*, 5(2), 195-215.

Rahman, M. (2013). Estimation of Internal Migration by the National Growth Rate Method: An Alternative Approach. *Bangladesh Development Studies*, 36(3), 79-87.

Reynolds, M. & Holwell, S. (2010). Introducing Systems Approaches. In: Reynolds, M. & Holwell, S. Eds., *Systems Approaches to Managing Change: A Practical Guide*. London: Springer.

Richardson, H. (1987). The Cost of Urbanization: A Four Country Comparison. *Economic Development and Cultural Change*, 35(3), 561-580.

Rogers, A. (1991). Heterogeneity, Spatial Population Dynamics, and the Migration Rate. *Environment and Planning A*, 24, 775-791.

Rogers, A. (1982). Sources of Urban Population Growth and Urbanization, 1950-2000: A demographic Accounting. *Economic Development and Cultural Change*, 30(3), 483-506.

Rogers, A. (1978). Migration, Urbanization, Resources and Development. In: McMains, H. & Wilcox, L. Eds. *Alternatives for Growth: The Engineering and Economics of Natural Resources Development*. Cambridge: National Bureau of Economic Research, 147-238.

Rostow, W. (1959). *The Stages of Economic Growth*. Cambridge: Cambridge University Press.

Rudestam, K. & Newton, R. (2001). *Surviving your Dissertation: A Comprehensive Guide to Content and Process*. Thousand Oaks: Sage Publications.

Schultz, T. (1953). *The Economic Organization of Agriculture*. New York: McGraw Hill.

Shryock, H., Siegel, J. & Larmon, E. (1971). *The Methods and Materials of Demography. Volume 2*. United States: Bureau of the Census.

Siegel, J. & Swanson, D. (2004). *The Methods and Materials of Demography. Second Edition*. London: Elsevier Academic Press, 493-522.

Skeldon, R. (1990). *Population Mobility in Developing Countries*. Belhaven Press: London and New York.

Song, Y., Qiu, Q., Guo, Q., Lin, J., Li, F., Yu, Y., Li, X. & Tang, L. (2010). The Application of the Spatial Lorenz Curve (SLC) and Gini Coefficient in Measuring Land Use Structure Change. Conference Paper: The 18th International Conference on Geoinformatics: GIScience in Change, Geoinformatics 2010, Peking University; June 18-20, 2010.

Strauss, A. & Corbin, J. (1998). *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory, 2nd Edition*. Thousand Oaks: Sage Publications.

- The Guardian. (2017). They Came While We Were Asleep: Lagos Residents Tell of Brutal Evictions. Accessed at: <https://www.theguardian.com/cities/2017/may/31/destroyed-community-lagos-nigeria-residents-forced-evictions-demolitions>. Last accessed: August 1, 2018.
- Thompson, W. (1929). Population. *American Journal of Sociology*, 34(6), 959-975.
- Todaro, M. (1969). A Model of Labor Migration and Urban Unemployment in Less Developed Countries. *The American Economic Review*, 59(1), 138-148.
- Todaro, M. & Smith, S. (2012). *Economic Development, 11th Edition*. Boston: Pearson.
- Tornqvist, G. (1968). Flows of Information and the Location of Economic Activities. *Geografiska Annaler. Series B, Human Geography*, 50(1), 99-107.
- United Nations. (2014). *World Urbanization Prospects*. ST/ESA/SER.A/366. New York: Department of Economic and Social Affairs.
- United Nations. (2013). *World Population Policies*. ST/ESA/SER.A/341. Department of Economic and Social Affairs, Population Division. New York: United Nations.
- United Nations. (2001). *The Components of Urban Growth in Developing Countries*. ESA/P/WP.169. New York: Population Division, Department of Economic and Social Affairs.
- United Nations. (1980). *Patterns of Urban and Rural Population Growth*. ST/ESA/SER.A.68. New York: Department of International Economic and Social Affairs.
- United Nations. (1976). *Orders of Magnitude of the World's Urban Population in History*. E/CN.9/XIX/CRP.2. New York: Population, Department of Economic and Social Affairs.
- Urry, J. (2005). The Complexity Turn. *Theory, Culture & Society*, 22(5), 1-14.
- Weber, A. (1899). *The Growth of Cities in the Nineteenth Century: A Study in Statistics*. New York: Macmillan.
- Westlund, H. (2009). The Social Capital of Regional Dynamics: A Policy Perspective. In: Karlsson, C., Anderson, A., Cheshire, P., Stough, R. Eds. *New Directions in Regional Economic Development*. Springer: London, 121-141.
- Williams, M. (2000). Interpretivism and Generalisation. *Sociology*, 34, 209-224.
- World Bank. (2018). World Development Indicators. World Bank Open Data. Washington, D.C.: World Bank. Accessed at: <http://data.worldbank.org/>. Last accessed: August 1, 2018.
- World Bank. (2009). *World Development Report: Reshaping Economic Geography*. 43738. Washington, DC: World Bank.

Yew, C. (2012). Pseudo-Urbanization? Competitive Government Behavior and Urban Sprawl in China. *Journal of Contemporary China*, 21 (74), 281-298.

Yin, R. (2009). *Case Study Research: Design and Methods*, 4th Edition. Los Angeles: Sage.

Yin, R. (2003). *Case Study Research: Design and Methods*. Thousand Oaks: Sage.

Zipf, G. (1949). *Human Behavior and the Principle of Least Effort: An Introduction to Human Ecology*. Cambridge: Addison Wesley.