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Megacities, the World's Largest Cities Unleashed: Major Trends and Dynamics in Contemporary Global Urban Development

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Summary. — In this study we ask two basic questions: will the megacity trend continue into the immediate and long-term future and why do more and more people continue to concentrate in the world's biggest cities? Based on the UN dataset of all cities in the world with population 750,000 and a number of other datasets, and with an innovative application of the Gini-coefficient, this study explores the ongoing trends and patterns of contemporary human urban settlement over the past half century, particularly the phenomenal growth of megacities (10 million+) and their powerful "internal" and "external" driving forces.

Key findings: (1) Cities around the world are becoming bigger and bigger, and megacities, the world's biggest cities, are unleashed, with a clear divergence between "mega-global cities" with more powerful and advanced business services sectors or international financial centers, and "mega-local cities" that do not; (2) an empirical "megacity relationship" whereby a country or territory will potentially have one megacity for every 100 million people in the country with the prime city population largely controlled by country population; (3) powerful "internal" forces at work: the prime city of each country tends to dominate their respective urban structures and occupy an increasingly-larger share of national population, giving an endogenous account as to why some cities, particularly the largest cities, become bigger and bigger; (4) major "external" forces: among the tested 20 and aggregated 5 variables, IT, and finance and business sectors are the key "external" factors driving the growth of cities and megacities, transforming "mega-local cities" to "mega-global cities"; (5) improved transport and telecommunication networks are also strong external factors driving megacity growth, in contrast to common perceptions and most of the existing literature.

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Key words — megacities, the world's largest cities, urban internal and external driving forces, global urban development, human urban settlement

1. INTRODUCTION

Despite the internet-related communications revolution, predictions of the consequent irrelevance of cities have proved untrue (Kourtit, Nijkamp, & Scholten, 2015). Instead, as Manuel Castells (2010) has observed, we are in fact "in the midst of the largest waves of urbanisation in human history" (p. 2738). Two centuries ago, only 3% of the world's population lived in cities (Sjoberg, 1965). But, at the beginning of the twentieth-century, this number had increased to 14% (Mumford, 1961), risen faster to 36% by 1960 (Figure 1), and finally passing the 50% mark in the first decade of the new Millennium (UNWUP, Department of Economic, & Population Division., 2015). By the estimates of the UN, 66% all of humanity will be "urban" by the year 2050.

At the center of this phenomenon are the world's "megacities", cities with populations exceeding 10 million (UNWUP, 2015). In the 1950s, only New York and Tokyo were in this category, but there were around 30 by 2015, with a dozen more expected by 2025. It appears that more and more people want to live in what are already the biggest cities of the world. As we look at the data that are currently available, several obvious questions emerge. Will cities inevitably continue to grow larger and larger? Why do more and more people choose to concentrate in big cities? And, what, if any, are the limits of megacity growth? In spite of the existing literature on urbanization by well-respected and hugely influential scholars such as Ascher and Domingues (1998), Hall (1998), and Scott (2008a, 2008b), we are not aware of many studies that have

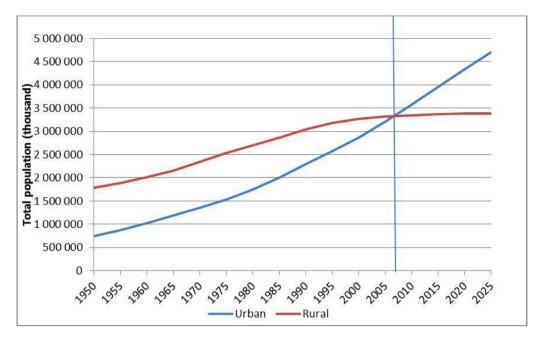
attempted to understand the development trajectories of the contemporary city, and, more importantly, to search out some of the reasons behind the phenomenon of continued and continuing urban concentration.

The three major objectives of this paper are as follows:

1. What can we say about the global trends and patterns of human urban settlements over the past half century, with particular attention to megacities, the world's largest cities?

2. What do we know about the "internal" driving forces of the urban concentration phenomenon? Which category of cities tends to grow first, and does this growth offer a lead for other cities to follow?

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Source: UNWUP 2015, File 3: Urban Population at Mid-Year by Major Area, Region and Country

Figure 1. Urban and Rural Population of the World, 1950-2025.

3. What are some of the external forces driving urban concentration and continued megacity growth?

This study will attempt to answer these three questions and in so doing we hope to make a modest but novel contribution to the literature and to our understanding of contemporary human urban settlement over the past half century. The paper is organized into eight sections: after this introduction we have a brief literature review, followed in the third section by a discussion of the data we shall use and the definitions of the major terms and concepts of the study; the fourth section reports on new trends and patterns of urban settlement at the global level; the fifth section focusses on the "internal" drivers of urban concentration; the sixth section reports on the "external" drivers of urban concentration; and the last two sections offer overall discussion of results and implications followed by concluding remarks that highlight the study's major findings and empirical and theoretical contributions.

2. LITERATURE REVIEW

(a) The city triumphant

Cities are developing remarkably in scale and scope (Scott and Storper (2015); Burdett & Sudjic, 2006), a phenomenon acknowledged and celebrated by some recent influential works. As Harvard economist Edward Glaeser noted in his book The Triumph of the City... "cities are nothing less than our species' greatest invention" (Glaeser, 2011, p. 6). In an earlier study Glaeser observed that cities "are expanding enormously because urban density provides the clearest path from poverty to prosperity" (Ades & Glaeser, 1995). Several decades ago Jane Jacobs had written in her landmark volume The Economy of Cities that her purpose was "to show that cities are primary economic organs" (Jacobs, 1969, p. 6); and Peter Hall three decades later notes in his magisterial

volume Cities in Civilization that "the unique creativity of great cities, caught in their brief golden ages, should be a topic worth examining" (Hall, 1998, p. 7).

Less well-known academics and urban practitioners have also agreed with these sentiments. Jeb Brugmann, for example, asserted in his book Welcome to the Urban Revolution that "the emerging of cities throughout the world is reordering the most basic dynamics of global ecology, politics, markets, and social life" (Brugmann, 2009, p.24). Douglas Saunders Arrival City (2010) considers cities as the places where the newest migrants gather to celebrate the rise of homo urbanism. Richard Florida argues in The Great Reset that cities exist not just to provide a place to live also the "cultural excitement, and indeed happiness that one has come to link with an urban way of life" (Florida, 2011, p. 10). Chen and Lu (2014) have examined the relationship between the population a country and its prime city (the city with the largest population within that country), finding that a country's population is the most important factor influencing how big its prime city will be. This study is inspired by all of these studies above, particularly by Glaeser (2011), Ades and Glaeser (1995), Chen and Lu (2014), Scott and Storper (2015) and Hall (1998).

Cities and especially megacities are powerful agents of modernization and development (see, for example: Florida, 2011; Glaeser, 2011; Hall, 1998; Kotkin, 2010; Scott, 2008a, 2008b, 2011; Soja, 2000) but they also face challenges in their ability to provide food, housing, transportation, shelter, and education, as well as encountering some serious environmental, political, and social problems (Beck & Grande, 2010; Harvey, 2012; Li, Endter-Wada, & Li, 2015). Numerous scholars, environmentalists and political leaders have focused on the negative aspects of megacity growth, such as everexpanding health and income disparities that create a vicious cycle of poverty and inequality (Kalan, 2014; UNRISD, 2013). On the other hand, the more optimistic among such scholars, see things very differently. Glaeser, for example,

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