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

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Abstract— By the year 2010, 10% of the world's urban population was concentrated in one of 23 "megacities," those with at least 10 million people. 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 what are already the world's biggest cities? In our empirical analysis we investigate the "internal" and "external" driving forces behind the global phenomenon of urban concentration over the past 6 decades. During this period the world's biggest cities have continued growing faster than all the others, and we expect this trend to continue into the foreseeable future. We also emphasize a real difference between what we call "mega-local cities," which are mainly located in the world's developing countries, and the much more economically powerful "mega-global cities" of the developed world. Our findings also suggest that urban growth tends toward polarization: at first the largest city in a specific country outpaces all other cities, but over time we detect a more balanced urban system emerging for the country as a whole. We also observe the spatial rules underlying these trends, noting that the size of megacities is strongly correlated with country size. To identify the "external" factors that are associated with megacity growth, we investigate the effect of more than 20 variables, aggregated into 5 major clusters: trade and commerce; government power; transportation networks; technology and innovations; and financial and business services. Our analysis points to a clear correlation between the strength of these factors and the size of the largest city in a given country. We identify three sets of factors that appear to be of major importance in accounting for urban concentration: the development of transportation networks; the spread of technology and innovation; and the growth of financial and business networks, all of which appear to be at work transforming "mega-local cities" into "mega-global cities."

Keywords— Megacities; the world's largest cities; urban internal and external driving forces; global urban development; human urban settlement;

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Research highlights

1) Cities around the world keep growing and megacities (10 million+) are unleashed
2) There is a clear divergence between "mega-local cities" and "mega-global cities"
3) An empirical relationship found: one megacity per 100mil population in a country
4) Powerful "internal" force at work: the largest cities lead to polarization growth
5) Key external drivers of urban growth: transport, I.T., finance & business services

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 centres, 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;
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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