Is China an Outlier?

China’s Urbanization in Historical and International Contexts

Liyan Xu, Jinhua Zhao
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Facts of World Urbanization

Urbanization rate: percentage of population living in *urban areas* (as defined by the country).

This image is in the public domain.
World Urbanization by Countries, 1800-2010

Source: various; available upon request.
The Urbanization Curve


Facts of China’s Urbanization

China’s Urbanization 1949-2050

Facts of China’s Urbanization

China’s Urbanization and Economic Development 1952-2012

Facts of China’s Urbanization

China’s Urbanization and Housing Improvement, 1952-2012

Facts of China’s Urbanization

China's Urbanization and Per capita Energy Consumption, 1952-2012

Facts of China’s Urbanization

Population Growth of Chinese Cities of Different Sizes, 2000-2010

Larger cities grew faster

Source: Own calculation based on China’s 5th and 6th National Census data.
China’s Urbanization: What’s So Special?

- Speed
- Economic Outcomes
- Resource/Environment Costs
Speed of Urbanization

• Rapid urbanization: far from “unprecedented”
  o Historical counterpart: Lowell, MA
  o Contemporary counterpart: Dubai
  o Country-level counterparts:
    • USSR, Japan, South Korea
    • Latin America
World Urbanization by Countries, 1800-2010

Source: various; available upon request.
Shanghai

1990-2010
Lowell, MA
1821-1845

These maps are in the public domain.
Dubai

c.1990-2010
Urbanization and Economic Development

**Urbanization Rate vs. Lg(PPP per Capita), World, 2010**

![Graph showing the relationship between Urbanization Rate and Lg(PPP per Capita) for various countries, with a trend line and R² value of 0.65291.]

**Source:** Own calculation based on the UN World Urbanization Perspective 2012, World Bank PPP per capita data 2012.
Healthy Urbanization

Urbanization Rate vs. Lg(PPP per Capita), World + OECD Members, 2010

Source: Own calculation based on the UN World Urbanization Perspective 2012, World Bank PPP per capita data 2012.
Healthy Urbanization

Urbanization Rate vs. Lg(GDP per Capita), OECD Countries, 1960 - 2010

R² = 0.66121

Source: Own calculation based on the UN World Urbanization Perspective 2012, World Bank GDP per capita data 2012.
Healthy Urbanization

Photographs of suburb and suburban neighborhood removed due to copyright restrictions.

Photograph courtesy of global_jet on Flickr. Under CC-BY.

Manhattan; Suburb (Harry Potter’s aunt’s house in suburban London)
Over-urbanization/Pseudo Urbanization

Urbanization Rate vs. Lg(PPP per Capita), World + Continental Latin America, 2010

Source: Own calculation based on the UN World Urbanization Perspective 2012, World Bank PPP per capita data 2012.
Over-urbanization/Pseudo Urbanization

Urbanization Rate vs. Lg(GDP per Capita), Continental Latin America, 1960 - 2010

Source: Own calculation based on the UN World Urbanization Perspective 2012, World Bank GDP per capita data 2012.
Over-urbanization/Pseudo urbanization

Rio: skyscrapers and favelas (screenshot from Fast and Furious 5 and Rio, the 2011 cartoon movie featuring two blue macaws)
Under-urbanization

Urbanization Rate vs. Lg(PPP per Capita), World + Post-Soviet/Socialist Countries, 2010

\[ \text{Lg(PPP per Capita)/2010 Dollars ($)} \]
\[ \text{Urbanization Rate/}% \]

Source: Own calculation based on the UN World Urbanization Perspective 2012, World Bank PPP per capita data 2012.
Under-urbanization

Photograph of Soviet baku removed due to copyright restrictions.
Over-urbanization and Economic Stagnation

Urbanization Rate vs. Lg(PPP per Capita), World + Sub-Saharan Africa, 2010

Source: Own calculation based on the UN World Urbanization Perspective 2012, World Bank PPP per capita data 2012.
Over-urbanization and Economic Stagnation

Urbanization Rate vs. Lg(GDP per Capita), Sub-Saharan Africa, 1960 - 2010

Source: Own calculation based on the UN World Urbanization Perspective 2012, World Bank GDP per capita data 2012.
Over-urbanization at a Low Development Level

Map data ©2009 Google, DigitalGlobe, GeoEye. All rights reserved. This content is excluded from our Creative Commons license. For more information, see http://ocw.mit.edu/help/faq-fair-use/.

Kibera, Nairobi’s largest slum

Photograph courtesy of dany13 on Flickr. Under CC-BY.
Countries with Dutch Diseases

Urbanization Rate vs. Lg(PPP per Capita), World + OPEC and Other Major Oil Exporters, 2010

Source: Own calculation based on the UN World Urbanization Perspective 2012, World Bank PPP per capita data 2012.
Countries with Dutch Diseases

World map displaying cost of living removed due to copyright restrictions.

Source: http://www.numbeo.com/cost-of-living/
Countries with Dutch Diseases

Article text removed due to copyright restrictions.

Source: Jones, Barbara. "Hamburgers cost £32 and a one-bed flats go for £7,500 a month... this boy lives in the most expensive city in the world (sadly for him, he's on the wrong side of the tracks)." DailyMail, Aug. 04, 2012.

Country Trajectories

Urbanization Rate vs. Lg(GDP per Capita), World, 2010 with Urbanization Trajectories of Various Countries

Source: Own calculation based on the UN World Urbanization Perspective 2012, World Bank PPP per capita data 2012.
Deriving a Model...

- Happy families are all alike; every unhappy family is unhappy in its own way.

Leo Tolstoy, Anna Karenina, Chapter 1
Urbanization Rate vs. Lg(GDP per Capita), World, 2010 with Urbanization Trajectories of Various Countries

Source: Own calculation based on the UN World Urbanization Perspective 2012, World Bank PPP per capita data 2012.
Resource/Environment Costs?

- Land Resources
- Energy
- Pollution
Land Resources Consumption

Per capita urban land use 2010

Source: Own calculation based on data from http://www.demographia.com/
Land Resources Consumption

Urbanization Rate vs. Per capita urban land use
2010

Source: Own calculation based on data from http://www.demographia.com/, and the UN World Urbanization Perspective 2012.
Land Resources Consumption

Per capita GDP vs. Per capita urban land use 2010

\[ y = 340.47x - 1106.8 \]
\[ R^2 = 0.44924 \]

Energy Intensity - Total Primary Energy Consumption per Dollar of GDP

(Btu per Year 2005 U.S. Dollars (Market Exchange Rates))

Energy Consumption

Urbanization Rate and Energy Intensity

Legend
- : China
- : United States
- : Other countries

Energy Consumption

Per Capita GDP and Energy Intensity

US Energy Intensity vs. Energy Consumption Per Capita

Energy Per Capita

Energy Intensity

Pollution

Photograph of person surrounded by smog removed due to copyright restrictions.

Pollution

Photograph of person surrounded by smog removed due to copyright restrictions.

China’s Urbanization: What’s So Special?

- Then, what’s so special about China?
- Is China really an outlier?
Concluding Remarks

- China is unique
  - Normative vs. Positive Standards

- Why?
  - Scale matters
  - Internal complexities are unprecedented
Normative vs. Positive Standards

- To be good doesn’t necessarily mean to be normal
  - Despite the “norm” given by the fitting line (in terms of the relationship between urbanization and economic development), most countries have failed to adhere to the norm.
  - China is among the few developing countries/economies where urbanization is relatively healthy.
  - Even among these few countries/economies, China is probably the one with the worst beginning conditions, which makes China’s achievements even more valuable.
Winners

Urbanization Rate vs. Lg(GDP per Capita), World, 1960 - 2010; China, 1952-2012

Source: Own calculation based on the UN World Urbanization Perspective 2012, World Bank PPP per capita data 2012, and on China Compendium of Statistics 1949-2008,
Scale Matters

Urbanization Rate vs. Lg(PPP per Capita), World, 2010

Source: Own calculation based on the UN World Urbanization Perspective 2012, World Bank PPP per capita data 2012.
Source: Own calculation based on the UN World Urbanization Perspective 2012, World Bank PPP per capita data 2012.
Fast speed and fair economy outcomes may not be unique, but these achievements become valuable when considering the huge scale of the country.

Why scale matters?

- Huge scale may change the basic settings of the stage.
- Partial equilibrium -> general equilibrium

- Absolute amount usually matters when it comes to public goods, or public "bads", negative externalities such as air pollution or GHG emission.
Internal Complexities

Source: Own calculation based on the UN World Urbanization Perspective 2012, World Bank PPP per capita data 2012.
Urbanization Rate at the Province Level

Source: Own calculation based on China’s 6th National Census data
Urbanization Rate at the Prefecture Level

Legend
Urbanization Rate
Prefectures
- No Data
- Below 20%
- 20% - 40%
- 40% - 60%
- 60% - 80%
- Over 80%

Source: Own calculation based on China’s 6th National Census data
Unbalanced Urbanization

Urbanization Rate vs. Lg(GDP per Capita), China Provinces 1952-2012; Background: World, 2010

Source: Own calculation based on the UN World Urbanization Perspective 2012, World Bank PPP per capita data 2012, and China’s 6th National Census data

R² = 0.66121
Unbalanced Urbanization

Urbanization Rate vs. Lg(GDP per Capita), China 1952-2012, with China Prefectures 2010; Background: World, 2010

R² = 0.66121

Source: Own calculation based on the UN World Urbanization Perspective 2012, World Bank PPP per capita data 2012, and China’s 6th National Census data
Unbalanced Urbanization

Urbanization Rate vs. Lg(GDP per Capita), China Provinces 1952-2012; with Guangdong Prefectures 2010; Background: World, 2010

R² = 0.66121

Source: Own calculation based on the UN World Urbanization Perspective 2012, World Bank PPP per capita data 2012, and China’s 6th National Census data
Despite similar urbanization level, rural Vermont (right) is different from rural Guizhou (left).

In the developed countries, the countryside and the city imply different styles of life; however in developing countries, they mean different qualities of life.

The two differ in terms of infrastructure accessibility, consumption level, educational quality, or even life expectancy.
Therefor, China’s urbanization (and the developing world’s in general) can be viewed as a process of “voting with feet”.

Putting another way, the developed world is in a state of urban-rural equilibrium, but the developing world isn’t.

In China, the mobility is further facilitated by characteristics of regional economy (rather than international economy, as seen in the Europe): perfect factor mobility, same currency, etc.

Challenges: natural tendency toward over-urbanization (Harris and Todaro. 1970)

Corrective policy tools: Hukou?
Thank you!