Managing Suburban Growth in China’s Metropolitan Regions: Trends and Options

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1. Context
   1. China’s Metropolitan Regions
   2. Shanghai as Case Study

2. Research Issue + Methodologies

3. Key (interim) Findings
   1. Drivers of suburbanization in China
   2. Emerging Outcomes
   3. Institutional Causes

4. Consequences

5. Further Analytical and Policy Work
1. Context – national urbanization trends

- From 1975 - 2010, China's urban population will have grown by 281%.

- Urban population (thousands) over the years for various countries.

- GDP per capita, US $ PPP, current by 2030?

- Urban pop (% of total) vs. GDP per capita, US $ PPP, current.
1. Context – Yangtze Delta Megalopolis
1. Context – Largest Metropolitan Regions in 2015

- Tokyo: 36.2
- Mumbai: 22.6
- Shanghai: 21.3
- Delhi: 20.9
- Mexico: 20.6
- Sao Paolo: 20
- New York: 19.7
- Buenos Aires: 14.6

Graph showing population trends from 1950 to 2015 for various cities.
1. Context – Shanghai’s Existing Metropolitan Structure
Guangzhou MR Population Densities, 2000 (inh/km²)
Tokyo MR Population Densities, 2000 (inh/km²)
London MR Population Densities, 1999 (inh/km²)
Toronto MR Population Densities, 2000 (inh/km2)
Patterns of both structured and unstructured suburbanization are constraining the emergence of potential agglomeration benefits across China’s metropolitan regions.

- Not a systematic program of research (yet).
- Analytic work on consulting projects in 9 MRs in China for World Bank: investment projects and AAA
- GIS-based spatial analysis of demographic and economic trends
- Satellite image-based, change analysis of builtup land
- Fiscal and institutional assessments

* Caveat: big danger in making generalizations in China given huge regional differences
Maximizing potential agglomeration benefits requires:

1. (almost) sufficient serviced land and building stock to affordably meet locational, quantitative, and qualitative demands of all households (including the poor and near-poor)

2. transport systems to affordably, safely, and predictably meet household and worker demands for accessibility to services and places of work

3. infrastructure services to affordably, safely, and predictably meet quantitative and qualitative demands of households and firms for power, communication, water, sanitation where needed

4. affordable options to facilitate the proximate location of firms, service providers, and innovation partners

5. least-effort (time and cost), safe, and predictable accessibility to firms’ supply and output markets, and to innovation partners

6. minimum of agglomeration diseconomies
3. Findings: Patterns of Suburbanization
Intensity of Land Use Change, 1987-2002
Emergence of Suburban Corridors and Clusters
Growing at Varying Speeds

- Chuansha Cluster
- Zhoupu Cluster
- Duhang Corridor
- Baoshan Corridor
- Luodian Corridor
- Jiading Corridor
- Anting Corridor
- Qingpu Corridor
- Minhang Cluster
- Songjiang Corridor
- Kunshan Corridor
- Taicang Cluster
- Nanqiao Corridor
- Chongming Corridor
- Jinshanwei Cluster

Graph showing the growth in urban land (km²) from 1988 to 2002 vs. the per cent change in urban land use from 1988 to 2002.
Key Drivers of Suburbanization:

1. Economic restructuring:
   - Shift of manufacturing to suburbs
   - Strong growth in consumer and producer services in high-density core area
   - Global trade hub function for central China and Yangze Basin

2. In-migration: 5 million migrants in Shanghai

3. Land Values:
   - Price incentives for enterprises
   - Forced industrial and residential relocations
   - Housing inflation in core areas
   - Subsidization of suburban industrial land

4. Physical Accessibility Improvements (for firms, not households)

5. Competition for investment among governments: municipal and district; between districts
3. Key Drivers of Suburbanization – economic restructuring
3. Key Drivers of Suburbanization – immigration
3. Key Drivers - inmigration
3. Key Drivers of Suburbanization – Land Prices

Per cent of households who had moved in previous 5 years (2000 census) within Outer Ring Road

Jiading
People's Square
Chuansha
Huinan

Per cent
kilometers
within Outer Ring Road

0 10 20 30 40 50 60 70
1 4 7 10 13 16 19 22 25 28 31 34 37 40 43 46 49 52 55 58 61 64 67 70 73 76 79 82 85 88 91 94 97 100 103 106 109 112 115 118 121
3. Key Drivers of Suburbanization – Land Prices [apartment sale prices]
3. Drivers: Physical Accessibility Improvements (for firms)
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3. Key Drivers – competition for investment among governments
Emerging Outcomes:

1. Over-consumption of agricultural land
2. Shortage of serviced land to required standards in demand locations
3. Growing core-area -- and inner suburban – traffic congestion, increasing transactions costs
4. Misalignment between metropolitan transport and residential land use patterns increasing travel costs to households
5. Inaccessibility of suburban residents to metropolitan labour markets
6. Dissipation of pollution sources across the metropolitan region
Causes are Institutional:

1. **Mis-alignment of functional responsibilities**, revenue assignments, and expenditure responsibilities among municipal, district, and town governments

2. **Perverse fiscal incentives**: declining fiscal capacities of sub-municipal governments forces one-time sales of land use lease rights; no land-based recurring revenues

3. **Subsidization and land conversion controls** distort real estate markets

4. **System of Property Rights** mitigates economies of scale and constricts land supply

5. **Planning processes** cannot keep up with pace of change

6. **No explicit, codified mandates** for metropolitan management, including suburban areas
4. Causes – master plan and actual development
Central challenge: how to get governments to better manage land, transport, infrastructure, and environmental protection across metropolitan regions, including through inter-jurisdictional cooperation?

- Top-down, command and control not sustainable
- Incentives needed:
  - Career: performance appraisals...not sustainable
  - Equity: ‘do good’...not likely
  - Effectiveness: ‘do more, better...save farms, save the environment’...dubious
  - Efficiencies: ‘do it at less cost’...maybe
  - ...ECONOMIC RETURNS to governments: job creation, inward investment, fiscal returns from taxes on economic activity

5. Analytic and Policy Priorities
DEMONSTRATING ECONOMIC RETURNS OF METROPOLITAN AGGLOMERATION:

• How can we quantify improvements to agglomeration benefits from better management of land, transport, infrastructure, and environmental protection across jurisdictions, including in suburban areas (i.e. spatially disaggregated analysis)?

• How can we quantify returns to governments, including fiscal returns, of maximizing metropolitan agglomeration benefits across jurisdictions, including in suburban areas? (from abstract to concrete)?

• How can we communicate the above in terms that local stakeholders – especially governments – can easily and fully understand?

• Institutional modalities will follow; should not be the core focus.