



THE LONDON SCHOOL  
OF ECONOMICS AND  
POLITICAL SCIENCE



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# Sustainable Infrastructure for China's New Urbanization

## 中国新型城镇化的可持续基础设施

Policy for the post-Covid-19 recovery and high quality growth  
新冠肺炎疫情后的经济恢复和高质量增长政策

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Draws on papers for the LSE/Coalition for Urban Transitions program on Financing Urban Transitions in China and Mexico (2018-2021), as well as ADB and the World Bank.

参考LSE/城市转型联盟中国和墨西哥城市转型融资项目（2018-2021）以及亚洲开发银行和世界银行的论文。

## Key policy imperatives in the Covid-19 recovery period

### 新冠肺炎疫情恢复期的主要政策要求

- Address health risks, as well as economic shocks

应对健康风险及经济冲击

- Health care involves decisions concerning cities, where people live and how they interact with each other and public services

卫生保健方面涉及有关城市，人们在哪生活，他们如何互动以及公共服务的决策

- Economic aspects involve minimizing potential negative impact on jobs, especially from reduced demand for exports

经济方面包括最大限度地减少对工作的潜在负面影响，尤其是出口需求减少的影响

- Short-run measures need to focus on protecting lives, and jobs, but in a way as to ensure long-run sustainable growth

短期措施应侧重于保护生命和工作，同时确保长期可持续增长

# With Covid-19 reconsider urbanization and how infrastructure is financed

## 借助新冠肺炎疫情，重新审视城镇化以及基础设施融资方式

- Covid-19: highlighted fault lines in urban design, as well as local government provision and financing of basic services, including for 50 m “floating workers who have returned to places of hukou”

新冠肺炎疫情：突显了城市设计，以及地方政府基本服务提供和融资中的断层线，包括为5000万“返回户籍所在地农民工”提供的基本服务

- But

但是...

- Chinese transformation over the last quarter of a century based on export-led growth, with reliance on largely coastal mega-cities

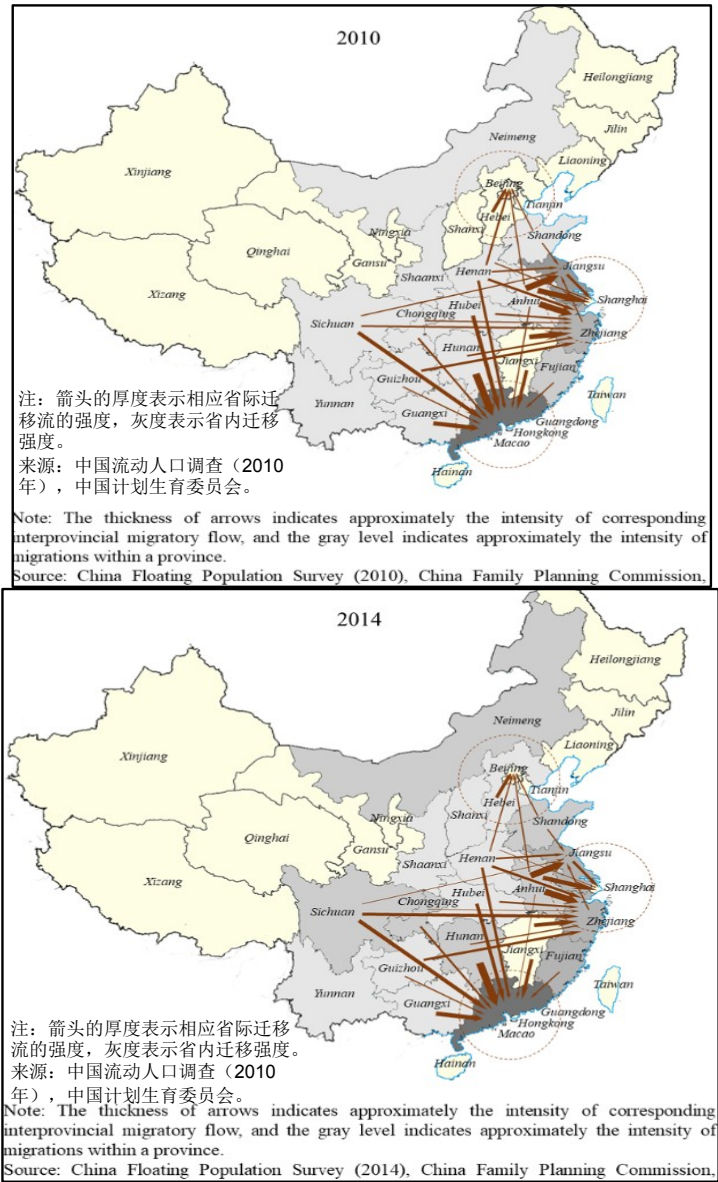
中国过去25年的转型主要依靠沿海大城市，以出口型增长为基础

- Major migration to coastal “metropolitan hubs”, 175 m migrant workers, 700 m taken out of poverty,  
向沿海“都市中心”大规模迁移，1.75亿农民工，7亿人脱贫，
- Too large, urban sprawl, congestion and pollution, huge pressure on infrastructure needs  
城市大规模无计划延伸、拥堵和污染，巨大的基础设施压力
- 1999 Western Development Strategy, not entirely successful

1999年西部大开发战略并未取得完全成功

- Major investments in connectivity (high speed trains, airports)  
主要投资连通性领域（高铁、机场）
- This is necessary, but not sufficient for “Convergence” or “Levelling up”(parallels in UK and Italy)  
这有必要，但不足以实现“融合”或“升级”（如英国和意大利）
- Also need basic services to attract labour as well as firms  
还需要基本服务来吸引劳动力和企业

Figure 1. Inter and Intra-Provincial Migratory flows, 2010 (above) and 2014 (below). 图1. 2010年（上）和2014年（下）省际和省内迁移流动



Source: Luo and Zhu (2020).  
来源: Luo and Zhu (2020).

- 1999 Western Development Strategy** to “rebalance” production and income distribution  
**1999年西部大开发战略** “重新平衡”生产和收入分配
  - But people still continue to migrate to the coastal hubs, because that’s where the jobs are  
但是人们仍然继续迁移到沿海中心，因为那里有大量的工作机会
  - Infrastructure alone was not sufficient  
基础设施不足
- Capital city clusters initiative (13FYP):**  
**省会城市群计划（“十三五”）：**
  - Migrations to Wuhan, but not all poor, but pressure on public services  
向武汉迁移，但并未都是贫困人口，公共服务面临压力
- New “Go West” initiative** by the State Council  
**新的“西部大开发”倡议** (2020年5月)  
 国务院提出新的“西部大开发”倡议（2020年5月）
  - Will help with pivot to jobs in the interior, if properly implemented  
如果实施得当，将有助于增加内陆工作机会
  - Focus on Clean and Compact Cities—to absorb labour, and also provide basis for firms to relocate  
重点建设清洁紧凑型城市，吸引劳动力，同时吸引企业落户
- But, ideal locations for CCCs still losing inhabitants (LSE/CUT Program)**  
**但是，建设清洁紧凑型城市的理想选址仍在流失居民**（LSE / CUT项目）
  - Increasing budgetary pressures, including for the provision of public services, health care, debt spiral  
预算压力不断加大，包括提供公共服务，医疗保健，债务急剧上升

# Reform options post-Covid-19

## 新冠肺炎疫情后的改革方案

- **Metropolitan areas:**

大都市区

- Problems with high rise building—what to do with elevators?  
高层建筑-解决电梯问题
- Risks with social distancing on metros and BRTs  
地铁和快速公交系统上的社会疏远风险
- Will lead to a reconfiguration of work practices, including location of activities within metro areas  
将导致工作方式的重构，包括大都市区内的活动地点

- High tech **Innovation zones in Greater Bay Area and Yangtze River Delta:** major possibilities for clean growth/ ongoing work

大湾区和长三角地区的高新技术创新区：实现清洁增长/推进正在进行的工作

- Move **towards CCCs in the interior**

建设内陆清洁紧凑型城市

- Provide jobs, clean environment, pedestrian and cycle access and green areas  
提供工作机会、清洁环境、行人和自行车道以及绿色区域
- But critical issue is the provision of basic services  
但是关键问题是提供基本服务
- And how this is to be financed, to attract relocating firms  
以及如何促进基本服务融资，吸引企业落户

# Making CCCs sustainable

## 建设可持续的清洁紧凑型城市

- There needs to be **clarity on functions mayors are responsible for**, and what is done for other levels along with performance criteria  
需要明确市长职责，其他各级工作以及绩效标准
- **Revenue sharing** on the basis of  
收入分享基于
  - Current shares of the VAT  
目前的增值税份额
  - Piggy backs on the income taxes (**and a potential carbon tax**) that do not vary with central adjustment of rates for counter-cyclical policies  
借助收入所得税（**和潜在碳税**），不受中央逆周期政策税率调整影响
- **Central transfers for centrally determined goals, including investments, with improved tracking**  
中央转移实现中央确定的目标，包括投资，并改善跟踪
- **All liabilities on more accurate balance sheets**  
所有负债记录在更准确的资产负债表上
- **Own-source revenue: beneficial property tax** linked to public services, including preventive health care  
自有收入：公共服务（包括预防保健）相关的**有益财产税**

# Financing

## 融资

- **1993/4 tax, revenue sharing and equalization transfer reforms** strengthened national finances, facilitated infrastructure financing, and counter-cyclical policy

1993/4年的税收、收入分享和均等性转移改革加强了国家财政，促进了基础设施融资和逆周期政策

- But **centralization of revenues** with modern tax instruments like the VAT subsumed the local business tax (2015)

但是，使用增值税等现代税收工具对收入进行集中管理，包含了地方营业税（2015年）

- **Local finances dependent on shared revenues and land sales**, and access to credit (not all known to the center), no “own significant source revenues”

地方财政依赖分享收入和土地出售，以及信贷获取渠道，没有“显著的自有收入来源”

- Land sales:

土地出售

- Major cause for the incentives for urban sprawl  
导致城市无计划延伸的主要原因
- Off-budget transactions that lead to “hidden liabilities”  
预算外交易导致“隐性负债”

- **Shared revenues cannot be the basis for a local government bond system**

分享收入不可作为地方政府债券体系的基础

**Beneficial property tax to replace land sale revenues, provide incentives to move to CCCs and better accountability for basic services—also improves distributional outcomes**

有益财产税，取代土地出售收入，激励建设清洁紧凑型城市，加强基本服务问责-同时改善分配结果

*Projected impacts of a property tax to raise 2% of city-level GDP with no property exemptions*

无财产免税的情况下，财产税收入提高到2%的城市GDP的预计影响

Source: Ahmad, Niu, Wang and Wang (2020)

来源: Ahmad, Niu, Wang and Wang (2020)

City 城市	Property tax revenues equal to 2% of GDP (Y bn) 财产税收入相当于GDP的2% (10亿元)	Current local education spending (Y bn) 当前地方教育支出 (10亿元)	Property tax rate to reach 2% of local GDP (Y/m <sup>2</sup> ) 财产税率达到当地GDP的2% (元/m <sup>2</sup> )	Impact on inequality (Atkinson's index)对不平等的影 响 (阿特金森指数)			Impact on inequality (Gini coefficient) 对不平等的影 响 (基尼系数)		
				Initial 初期A1	T a x Only 仅 税 收A2	Tax/Benefit Education 税收/福利教育 A3	Initial 初期G1	T a x Only 仅 税 收 G2	Tax/Benefit Education 税收/福利教育 G3
Guangzhou 广州	39.2	32.12	121.4	.60	.76	.75	<b>.39</b>	<b>.40</b>	<b>.39</b>
Shanghai 上海	54.9	84.10	90.81	.71	.51	.50	<b>.40</b>	<b>.41</b>	<b>.40</b>
Shenyang 沈阳	10.9	11.51	52.68	.63	.49	.47	<b>.33</b>	<b>.34</b>	<b>.33</b>
Wuhan 武汉	23.8	23.11	85.11	.52	.47	.46	<b>.33</b>	<b>.35</b>	<b>.33</b>
Xian 西安	12.5	11.96	48.8	.47	.57	.49	<b>.35</b>	<b>.36</b>	<b>.34</b>
Fuzhou 福州	12.4	15.31	54.6	.51	.89	.55	<b>.36</b>	<b>.37</b>	<b>.36</b>



# Investment design and finance

## 投资设计与融资

- Must incorporate **considerations regarding labour and skills, environment and income distribution**  
必须考虑劳动力和技能、环境和收入分配
  - Theory of cost benefit analysis (Drèze and Stern, 1987)  
成本效益分析理论
  - Budgetary implications/ taxes and subsidies as well as public sector pricing  
预算影响/税收和补贴以及公共部门定价
- **Special purpose/project bonds** sensible, but  
特殊目的/项目债券很明智，但
  - Cannot assume that fees can ring fence infrastructure, especially with externalities, e.g., preventive health care infrastructure  
无法认定费用会限制基础设施用途，尤其是外部性，例如预防性医疗基础设施
  - Must be on the balance sheet, and again **own-source revenues will be needed to ensure sustainability and minimize risk**  
必须计入资产负债表，需要**自有收入确保可持续性并最大程度地降低风险**

# List of papers in Program on Financing Sustainable Urban Transitions in China

## 中国可持续城市转型融资项目论文目录

1. Ahmad, E., (2020), "Designing and Financing a Sustainable and Inclusive Urban Transition in China: an overview," *LSE/CUT Program on Financing Sustainable Urban Transitions in China and Mexico*.  
中国可持续、包容性城市转型设计和融资概述”， LSE/CUT中国和墨西哥可持续城市转型融资项目
2. Ahmad, E., (2019), "Financing High Quality Growth in China," *LSE/CUT Program on Financing Sustainable Urban Transitions in China and Mexico*.  
“中国高质量增长融资”， LSE/CUT中国和墨西哥可持续城市转型融资项目
3. Ahmad, E., (2019), "Decentralization and Governance: Options for the 14<sup>th</sup> Five Year Plan," *LSE/CUT Program on Financing Sustainable Urban Transitions in China and Mexico*.  
“权力下放与治理：‘十四五规划’”， LSE/CUT中国和墨西哥可持续城市转型融资项目
4. Ahmad, E and Q. Yang, (2020), "Aligning incentives in vertical governance model with horizontal accountability—the *tiao-kuai* tradeoffs in China," *LSE/CUT Program on Financing Sustainable Urban Transitions in China and Mexico*.  
“协调纵向治理模式中的激励与横向问责制-中国的条块权衡”， LSE/CUT中国和墨西哥可持续城市转型融资项目
5. Ahmad, E. and Xiaorong Zhang, (2020), "Local government liabilities and sustainable debt in China—evidence from County T in Central China," *LSE/CUT Program on Financing Sustainable Urban Transitions in China and Mexico*.  
“中国地方政府债务和可持续债务-来自中部T县的证据”， LSE/CUT中国和墨西哥可持续城市转型融资项目
6. Ahmad, E., M. Niu, L. Wang and M. Wang, (2020), "Designing Beneficial Property Taxation for Sustainable Development in China—evidence from six cities, including Guangzhou" *LSE/CUT Program on Financing Sustainable Urban Transitions in China and Mexico*.  
“为中国的可持续发展设计有益财产税-来自包括广州在内的六个城市的证据”， LSE/CUT中国和墨西哥可持续城市转型融资项目
7. Luo, Xubei and Nong Zhu (2020), "Migration, City attractiveness and Regional Hubs in China," *LSE/CUT Program on Financing Sustainable Urban Transitions in China and Mexico*.  
“中国的迁移、城市吸引力和区域中心”， LSE/CUT中国和墨西哥可持续城市转型融资项目
8. Niu, M., and X. Zhang, (2020), "A Tale of Three Cities—towards a sustainable urban transition in China", *LSE/CUT Program on Financing Sustainable Urban Transitions in China and Mexico*.  
“三城记-中国可持续城市转型”， LSE/CUT中国和墨西哥可持续城市转型融资项目