ECONOMIC GEOGRAPHY: LOOKING BACK, SEEING AHEAD

Indermit S. Gill and Somik Lall

Duke University and the World Bank

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WORLD BANK GROUP Social, Urban, Rural & Resilience

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ECONOMIC GEOGRAPHY SINCE 2009

- The Revenge of Markets
  - **Urbanization in India and Africa**
- The Revenge of the Regions
  - **Territorial development in Europe and the US**
- The Revenge of the Colonies
  - **International integration in East and Central Asia led by China**

THE THREE BIG CHANGES SINCE 2009

- Agglomeration
  - **Urbanization appears to be going awry in the world's least developed regions**
- Migration
  - **Divergent territorial development is fueling resistance to people from other places**
- Specialization
  - **International integration is happening through connective infrastructure instead of common institutions**

LOOKING BACK

01

Agglomeration and **Urbanization**

02

Migration and **Territorial Development**

03

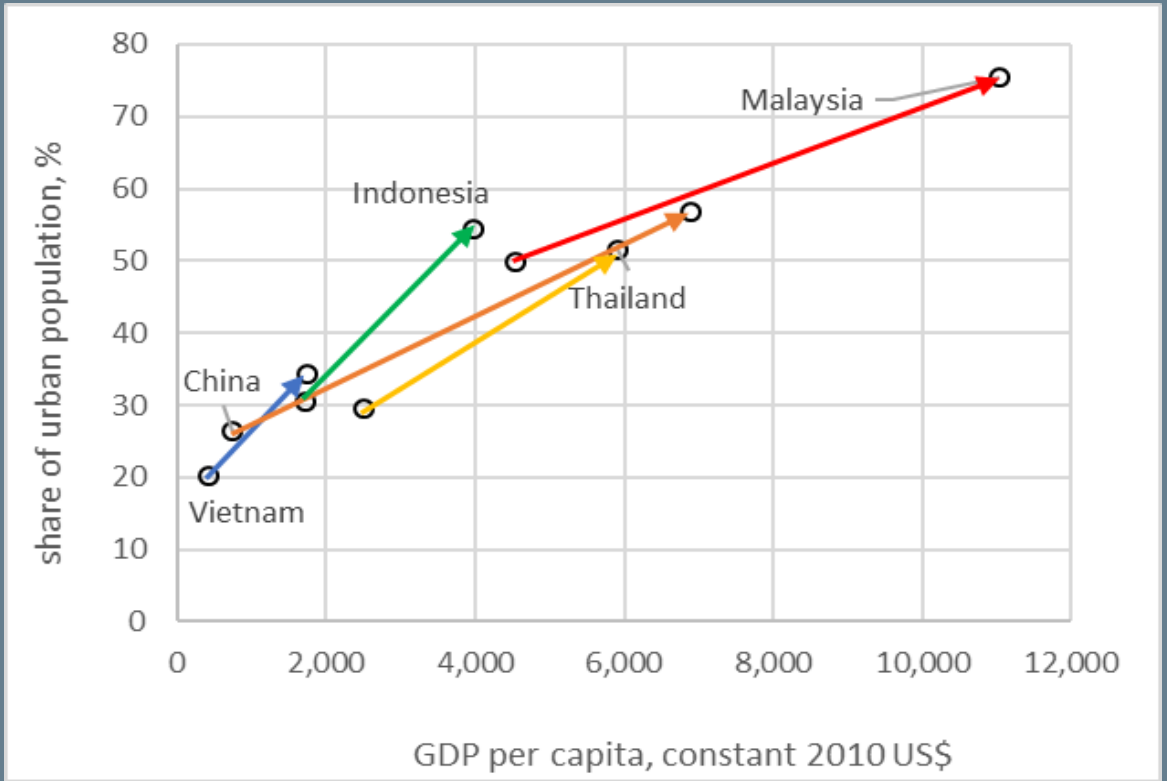
Specialization and **International Integration**

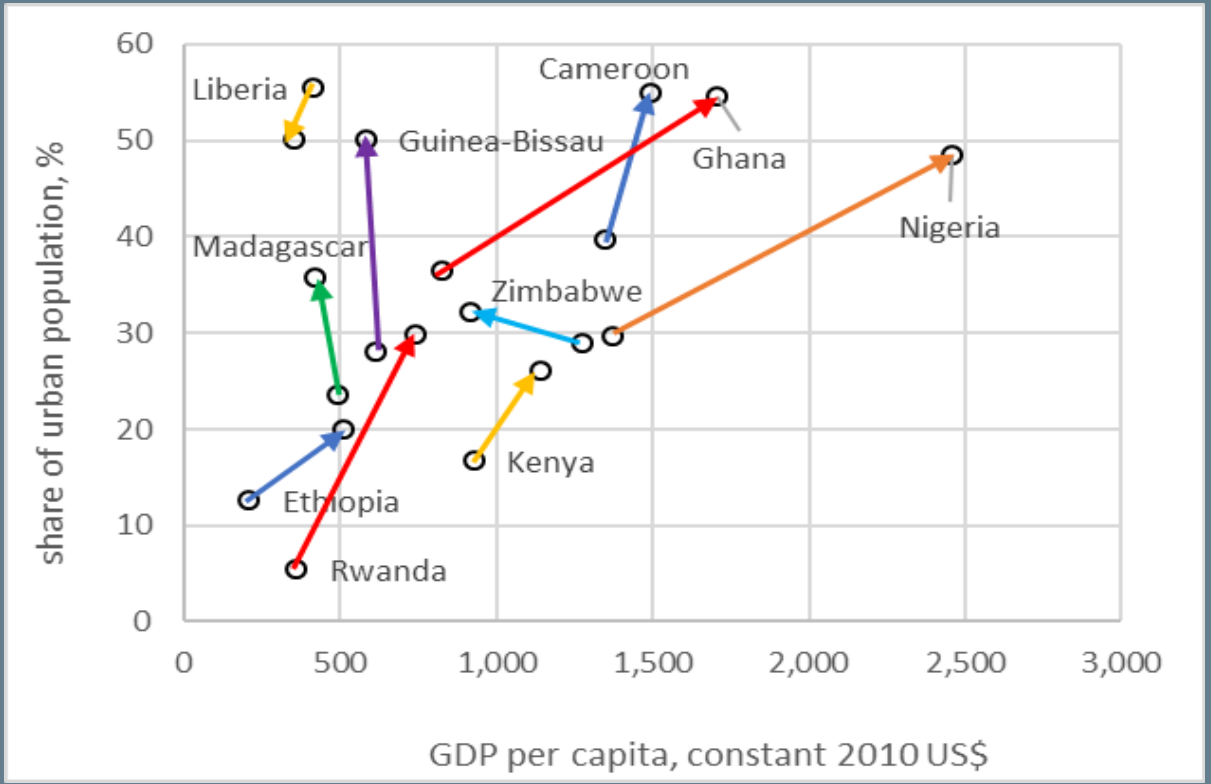
FIRST BIG CHANGE SINCE 2009

- **Agglomeration**
  - **Urbanization appears to be going awry in Africa**
- Migration
  - **Territorial development and growing resistance to people from other places**
- Specialization
  - **International integration through connective infrastructure instead of common institutions**

URBANIZATION WITHOUT AGGLOMERATION

IN AFRICA, THE LINK BETWEEN THE GROWTH OF CITIES AND ECONOMIC DEVELOPMENT HAS BEEN WEAK





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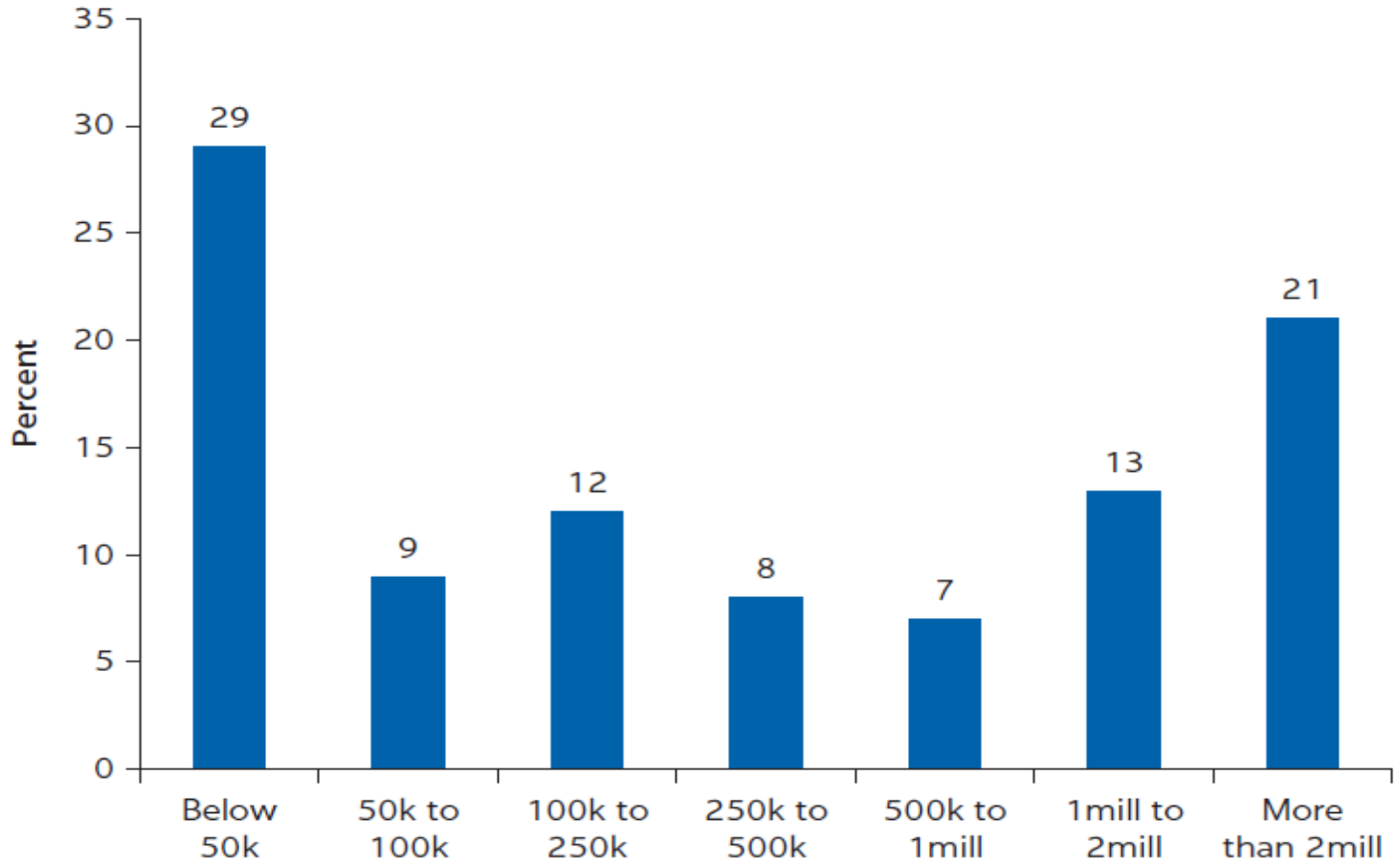
Source: World Development Indicators

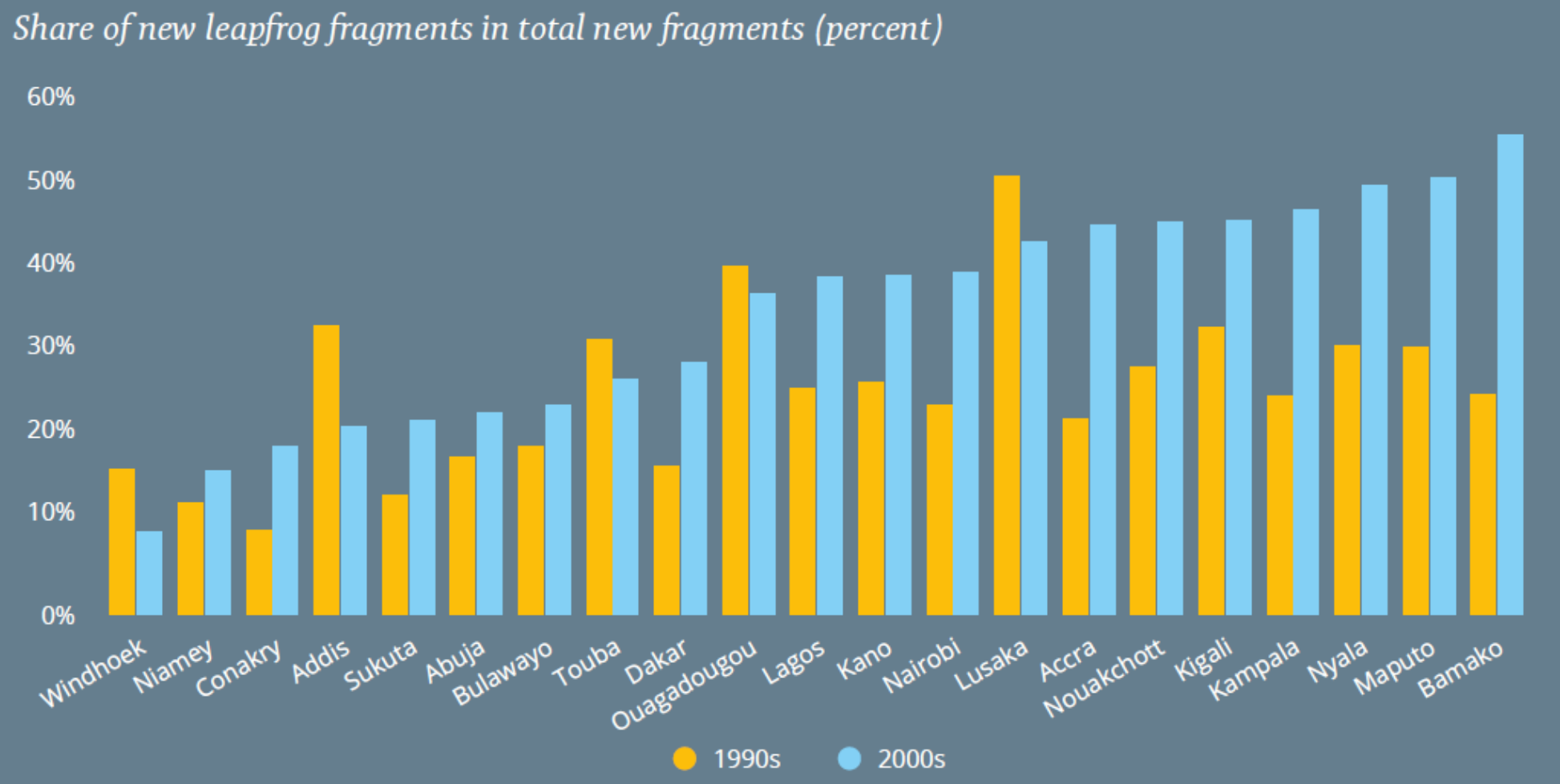
Missing midsized cities

Almost one-third of the urban population lives in towns with fewer than 50,000 people



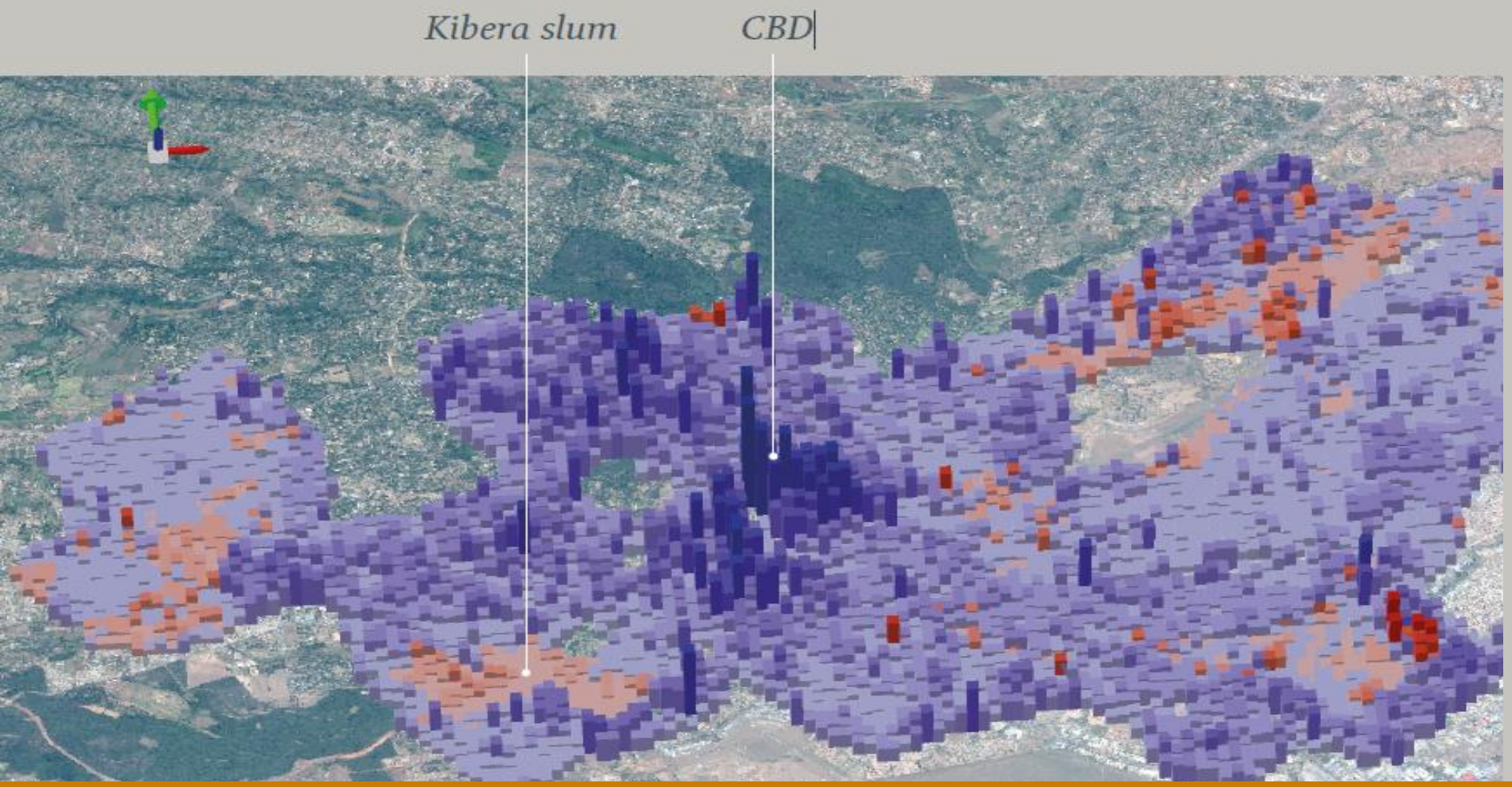
Source: Calculations based on census data from citypopulation.de.
Note: Based on data for 39 countries in Sub-Saharan Africa for which censuses were available after 2004, excluding therefore Angola, Central African Republic, Comoros, Equatorial Guinea, Eritrea, Nigeria, Somalia, and Swaziland.

Land is being developed in small & disconnected fragments: People are disconnected from other people and from jobs



Source: Baruah 2015. Note: Share of new leapfrog fragments of new development with the alternatives being infill and extension.

Rapid urbanization and unmanaged growth tend to generate unsustainable land use, which is nearly impossible to change after a city grows



Misallocation of 1000 acres of land near city center costs (4 km from downtown)

$1 billion (land value differential) or

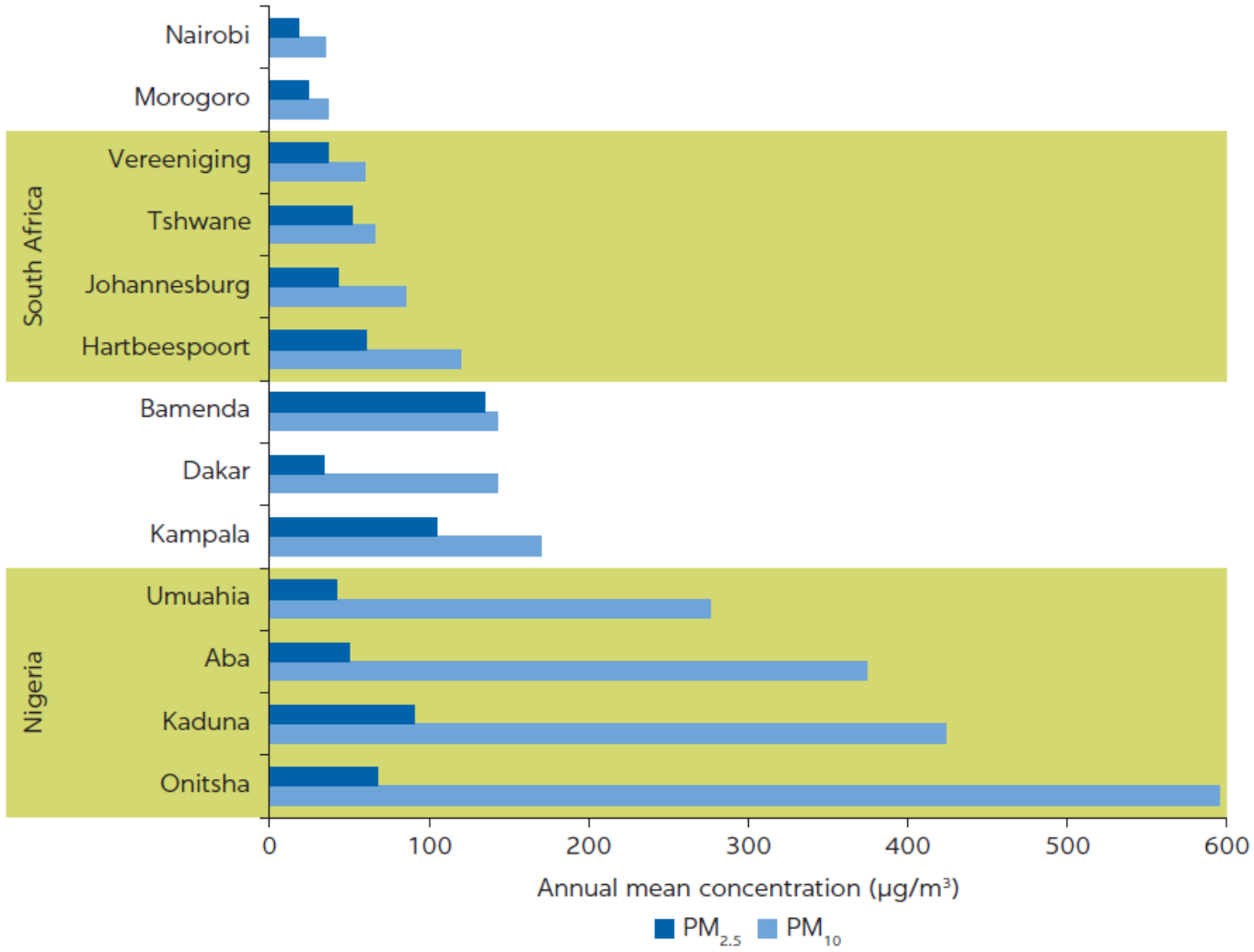
$200 per person in greater Nairobi or

70% of Kenya's GDP per capita in 2014

Average built height in Nairobi, 2015

Source: Modified from Henderson, Regan and Venables, 2016

Congestion without agglomeration



Source: White, Turpie, and Letley 2017.
Note: µg/m³ = microgram per cubic meter.

SECOND BIG CHANGE SINCE 2009

- Agglomeration
  - **Urbanization appears to be going awry in Africa**
- **Migration**
  - **Territorial development and growing resistance to people from other places**
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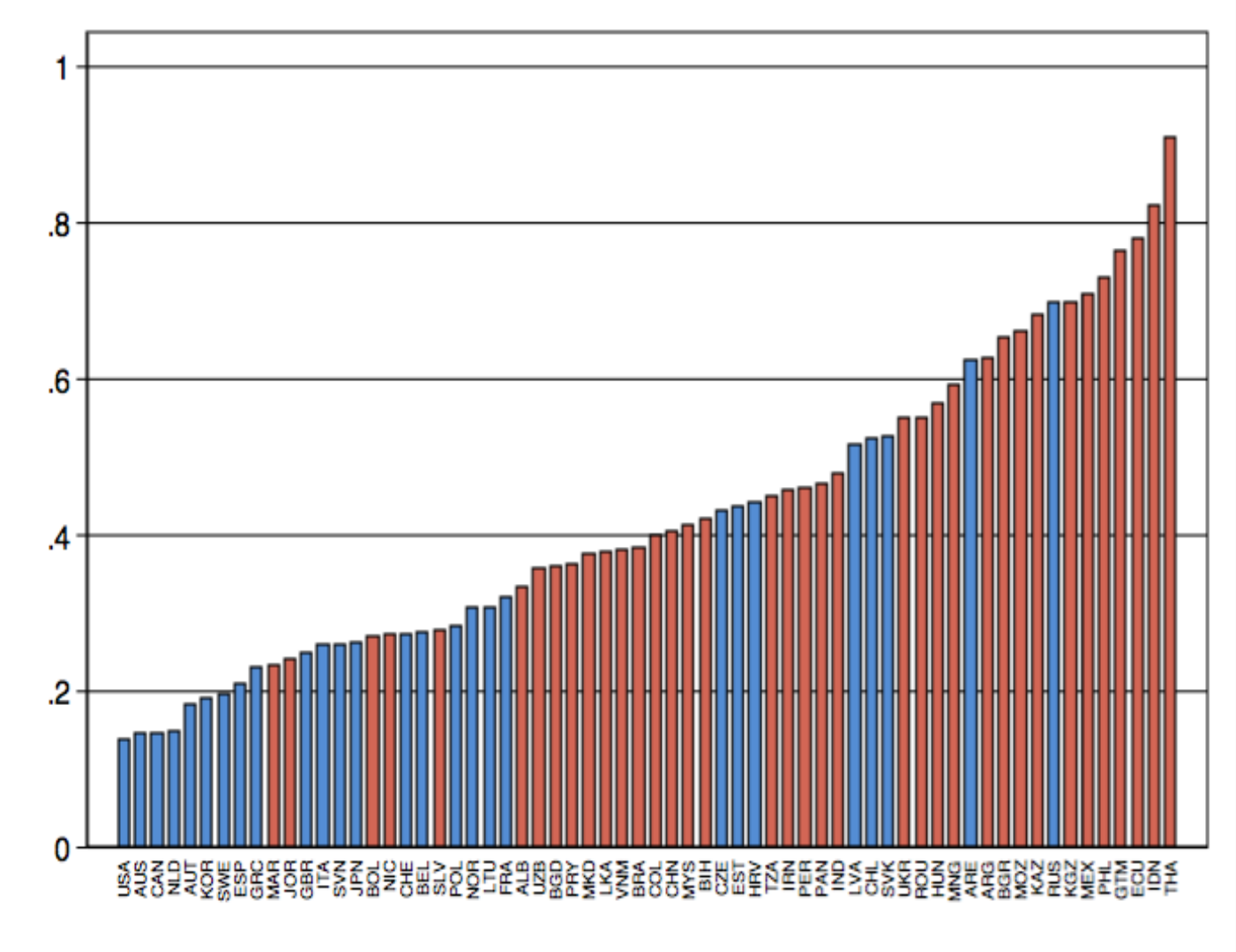
TERRITORIAL INEQUALITY IS PERVASIVE

Territorial inequality across the world (Second Theil Index, 2012)



Source: Andres Rodriguez Pose

AND SEEMS TO BE ON THE RISE

Changes in regional disparities in developing countries

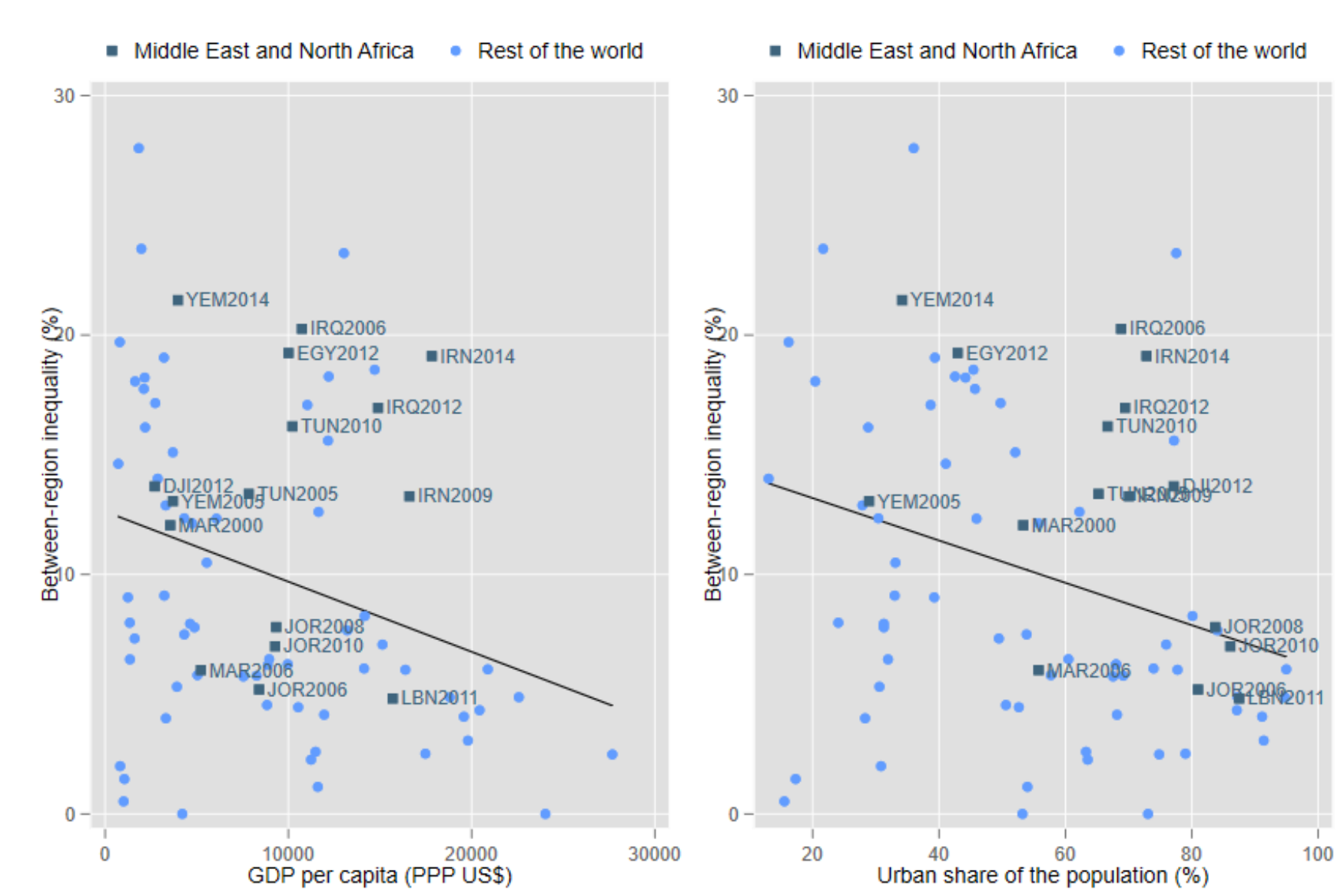
			Spatial inequality		
Country	Spatial units	Period	Initial	Final	Average
Argentina	23	1992-2006	0.040	0.097	0.057
Bolivia	9	1990-2006	0.024	0.050	0.033
Brazil	27	1990-2006	0.102	0.110	0.109
Bulgaria	6	1990-2006	0.049	0.084	0.067
Chile	13	1990-2006	0.066	0.069	0.072
China	31	1990-2005	0.085	0.126	0.123
Colombia	33	1990-2006	0.076	0.052	0.065
Ecuador	21	1993-2006	0.211	0.266	0.250
Estonia	5	1990-2006	0.039	0.088	0.069
India	32	1993-2005	0.059	0.090	0.074
Indonesia	30	2000-2006	0.256	0.223	0.246
Latvia	6	1993-2006	0.030	0.156	0.097
Lithuania	10	1993-2006	0.004	0.049	0.021
Mexico	32	1993-2004	0.143	0.145	0.147
Peru	24	1990-2006	0.140	0.135	0.142
Philippines	16	2005-2006	0.163	0.169	0.166
Poland	16	1990-2006	0.009	0.033	0.021
Romania	8	1990-2006	0.008	0.064	0.030
South Africa	9	1995-2005	0.135	0.114	0.119
Thailand	76	1994-2005	0.439	0.473	0.439
Turkey	26	1990-2001	0.094	0.076	0.081
Venezuela	23	1990-2006	0.006	0.028	0.024

Notes: Spatial inequality is measured using Theil's index. Source: Ezcurra and Rodríguez-Pose, 2013

SPATIAL INEQUALITIES ARE HIGH IN MENA…

63%

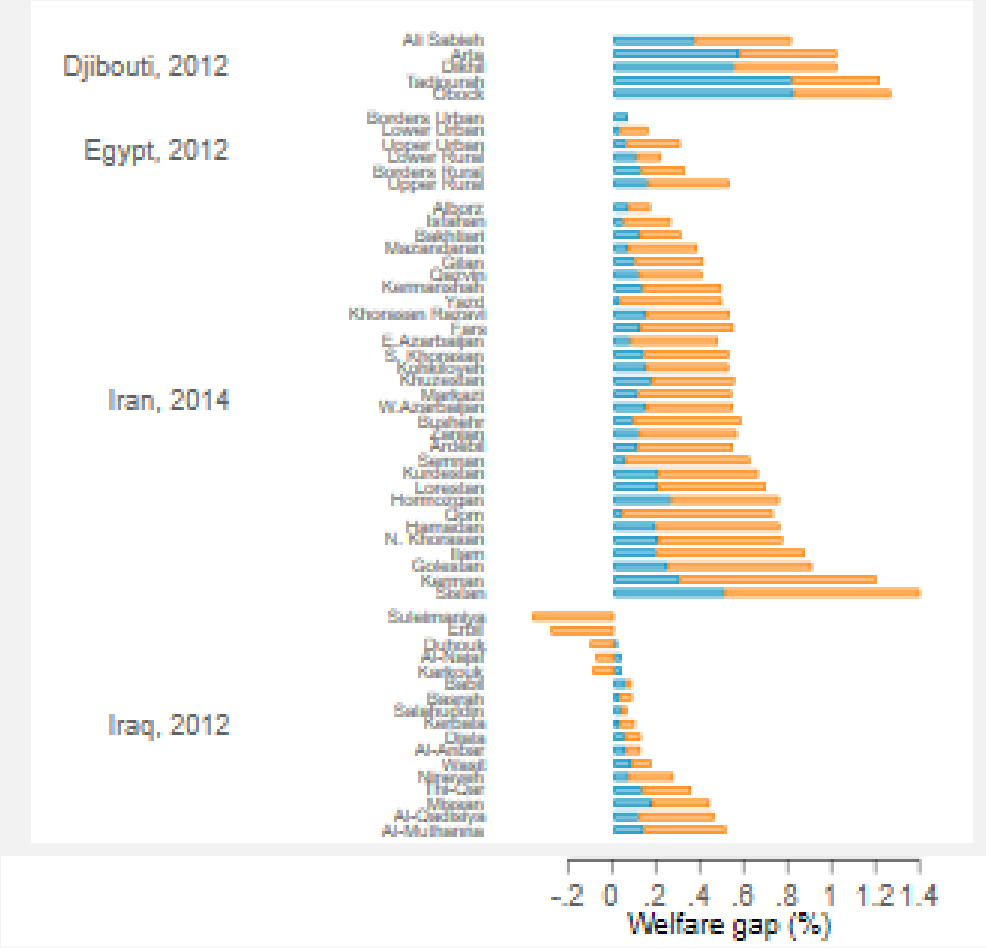
Differences in consumption across sub national regions in MENA contribute 63% more to total inequality than elsewhere in the world.

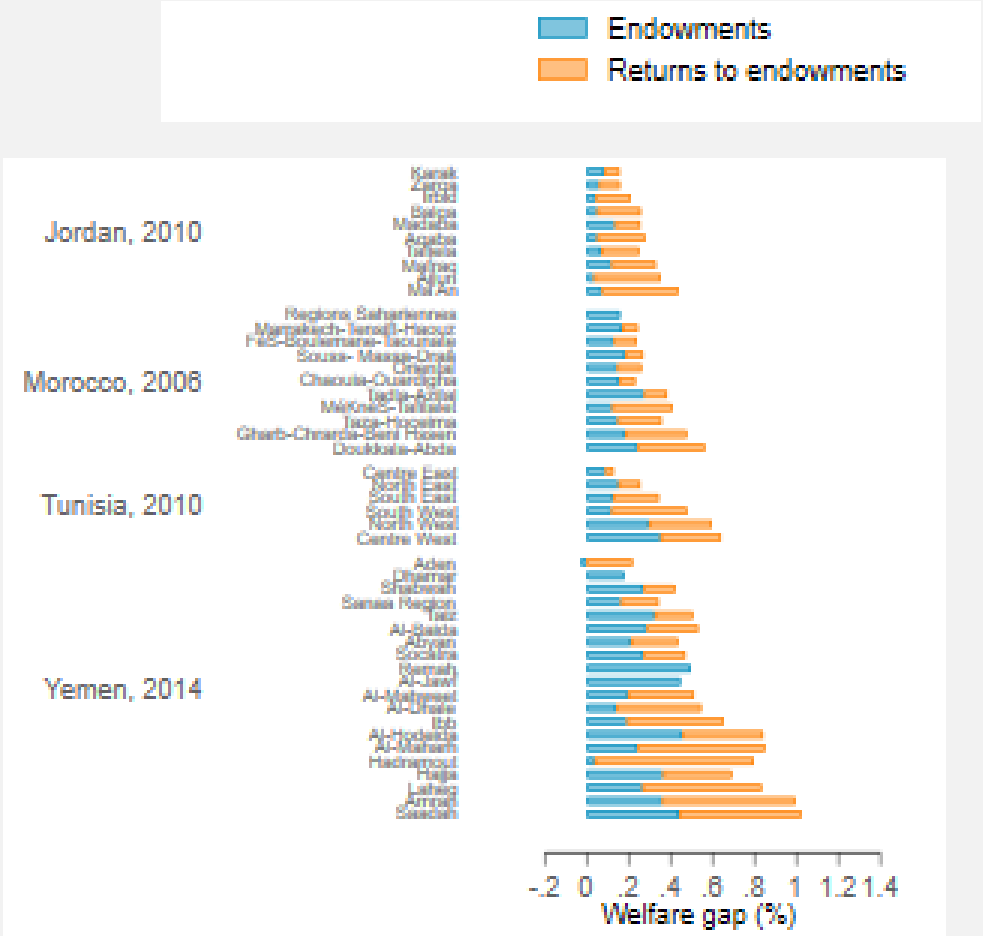


Source: GMD Global TSD / World Bank (2018).

SPATIAL INEQUALITIES LARGELY EXPLAINED BY DIFFERENCES IN RETURNS TO ENDOWMENTS

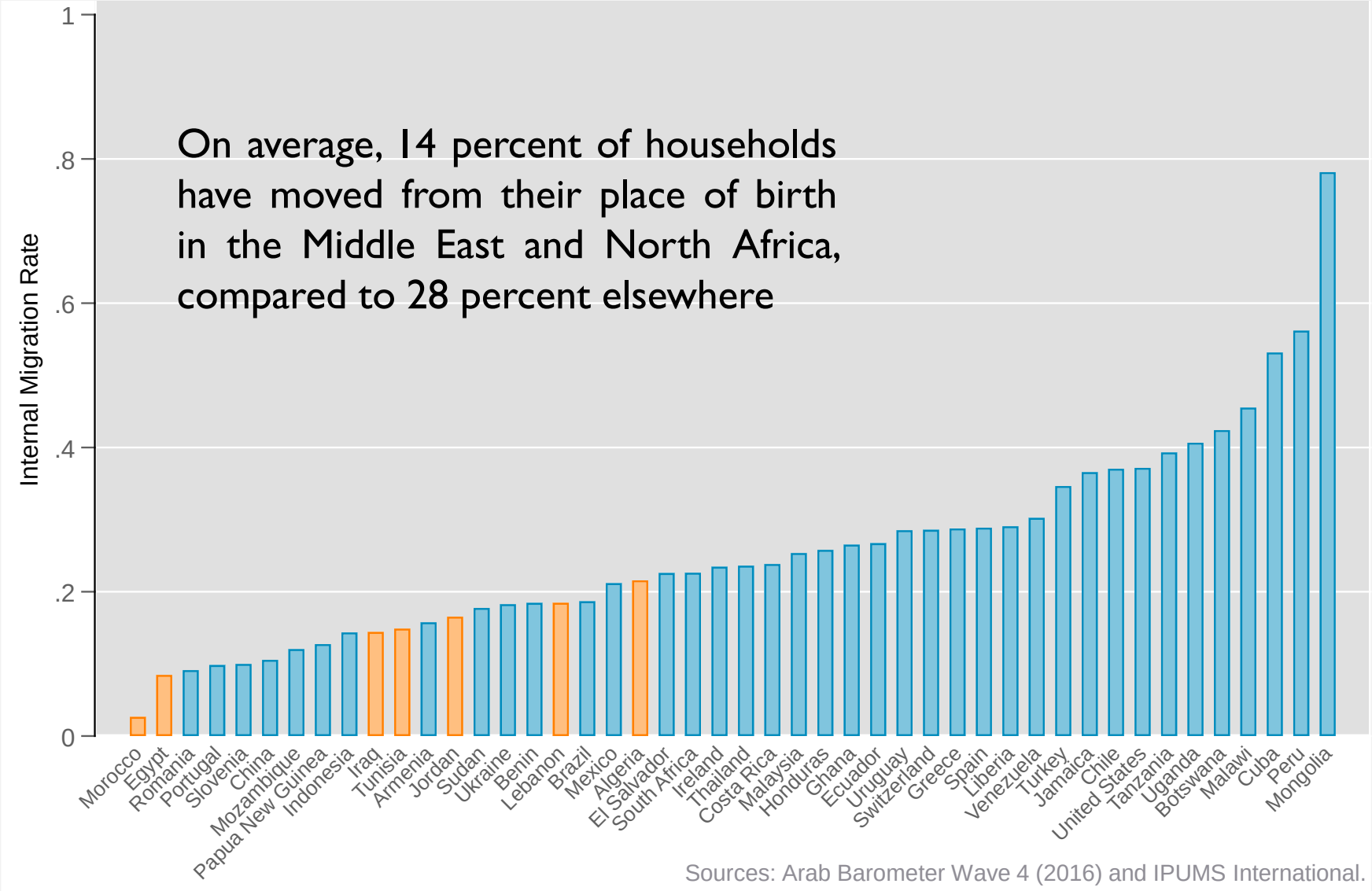
Spatial inequalities can be attributed to differences in endowments and returns to endowments





Source: GMD Global TSD / World Bank (2018).

Most MENA countries are not fully leveraging the most potent vehicle to enhance returns from endowments - migration



Sources: Arab Barometer Wave 4 (2016) and IPUMS International.

MENA governments have focused on national convergence

With new economic poles and new cities that have had limited impact

Why? Focus has been on equalizing endowments, not on enhancing their returns

THIRD BIG CHANGE SINCE 2009

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- **Specialization**
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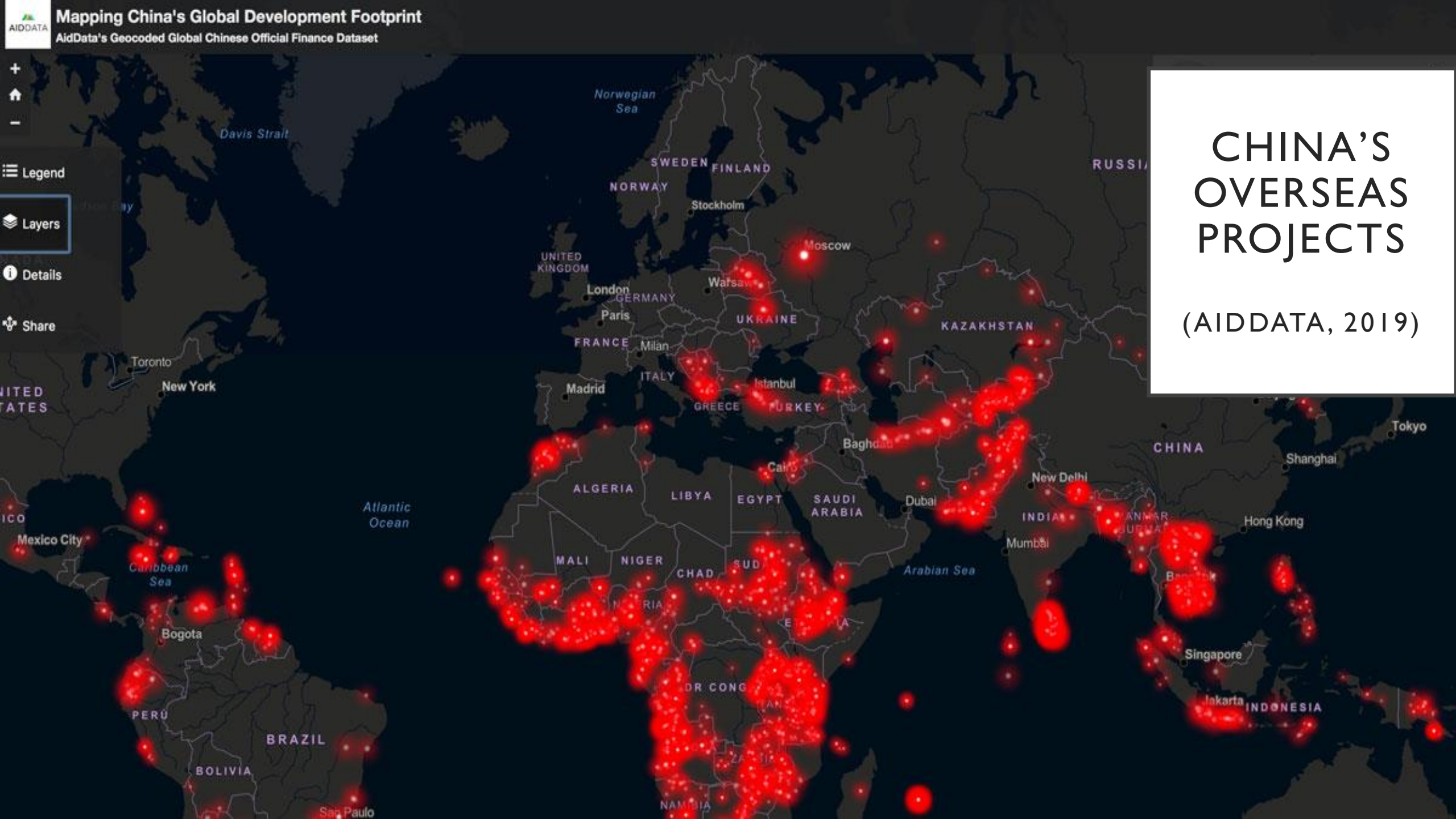


CHINA'S OVERSEAS PROJECTS

(AIDDATA, 2019)

The Belt and Road Initiative

BELT AND ROAD ECONOMICS @ THE WBG

- **World Bank study on the Belt and Road Initiative (BRI)**
  - 71 economies located along the Belt and Road
    - BRI economies account for over 30% of global GDP, 60% of population, 40% of world trade
  - Connectivity gaps in BRI economies
  - Economic effects of the BRI transportation infrastructure
  - Complementary policies and institutions

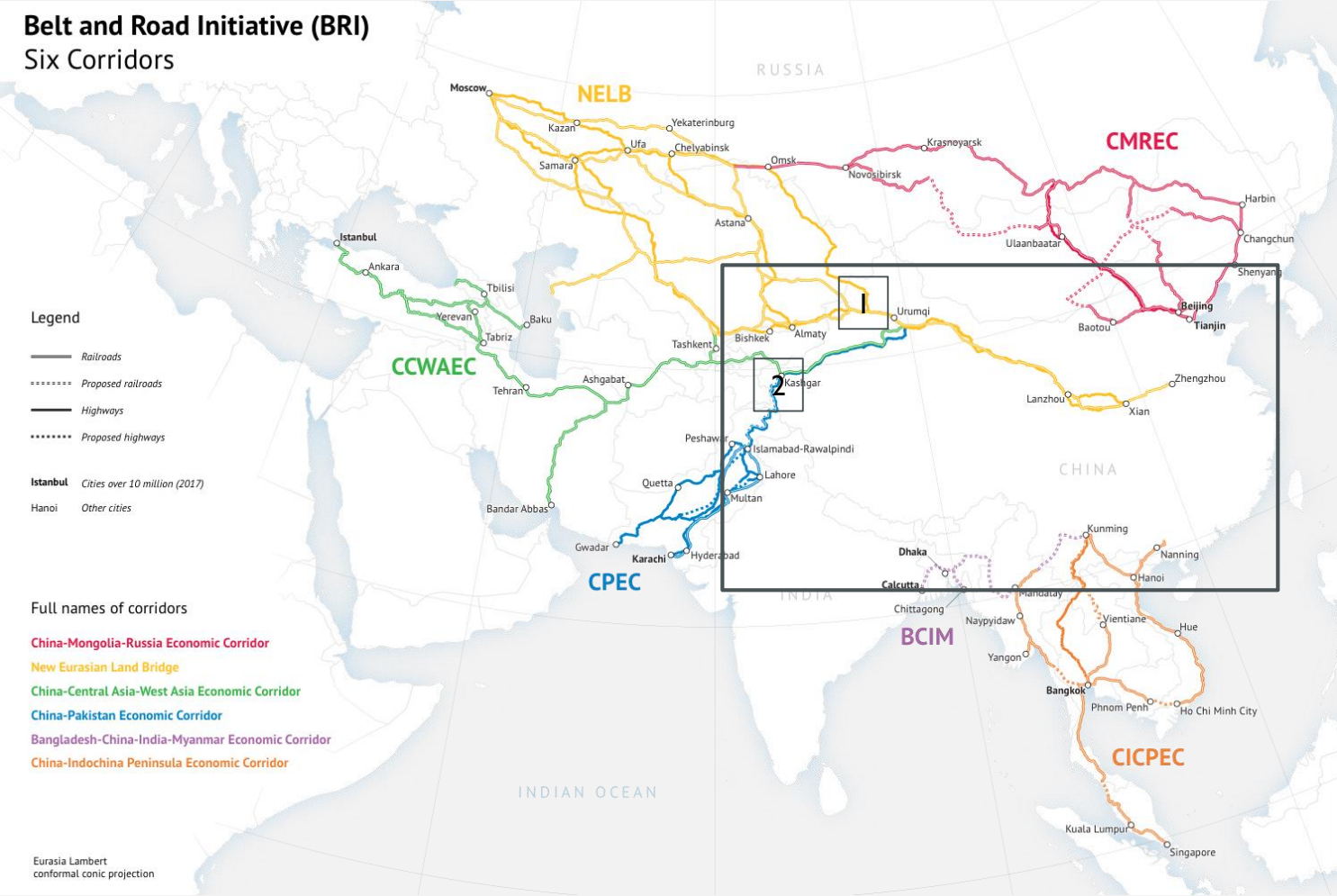
- **Spatial adjustments to external integration**
  - Significant potential for welfare gains and reshaping economic geography …
  - .. If BRI economies implement complementary domestic policies and investments that:
    - Support trade facilitation
    - Leverage agglomeration economies through territorial development policies

POTENTIAL FOR MAJOR ECONOMIC GAINS WHEN TRANSPORT INVESTMENTS ARE SUPPORTED BY COMPLEMENTARY TRADE FACILITATION POLICIES

Direct impacts of transport cost decline on real incomes			
A	B	C	D
Countries	-Infrastructure	Trade facilitation	Trade facilitation and Infrastructure
China-3	1.2%	1.8%	2.6%
Kazakhstan	1.9%	4.3%	5.9%
Kyrgyzstan	1.6%	3.4%	4.6%
Pakistan	1.5%	1.5%	2.9%
Tajikistan	1.6%	2.2%	3.5%
Turkmenistan	0.4%	4.4%	4.7%
Uzbekistan	0.7%	2.8%	3.4%
Aggregate	1.4%	2.3%	3.4%

Source: Bird, Lebrand and Venables 2018

NEW TRANSPORT HUBS IN THE WEST OF CHINA

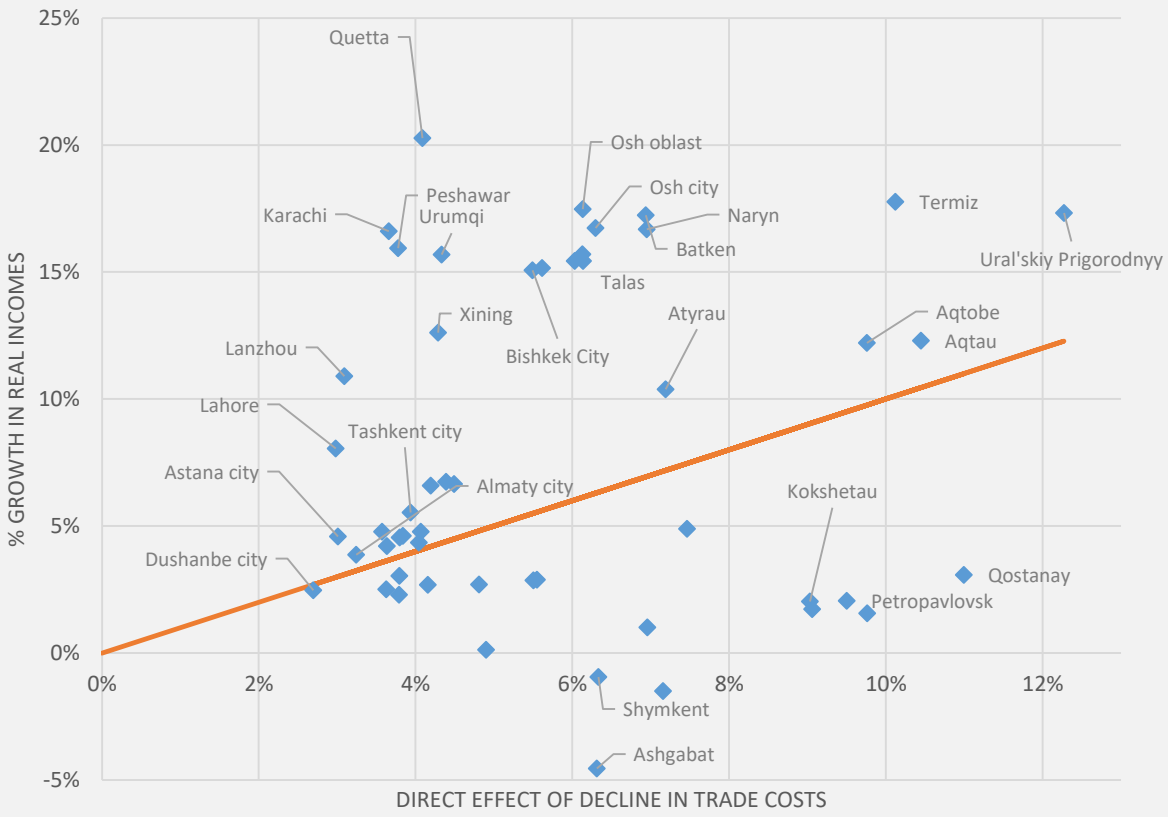


New hubs:

1. Khorgos-Urumqi
2. Kashgar

COMPLEMENTARY BORDER REFORMS ENHANCE SPATIALLY DIFFERENTIATED IMPACTS

- Uzbekistan (a double land locked country): Average income gains across districts increased from 0.08% to 9%
- Kyrgyz Republic : Average income gains across districts rises from 5.1%, to 9.7%
- Magnitude of impacts depend on what cities do
  - Is there scope for a manufacturing response?
    - Yes:
      - decline in trade costs is principally with regional partners, not the rest of world.
      - Economies of scale from concentration of manufacturing drives the spatially concentrated gains
      - Such places will attract more workers
      - Western China, Pakistan, and Kyrgyzstan.
    - No: places with comparative advantage in primary products benefit more



Source: Bird, Lebrand and Venables 2018

STRANDED INFRASTRUCTURE ASSETS

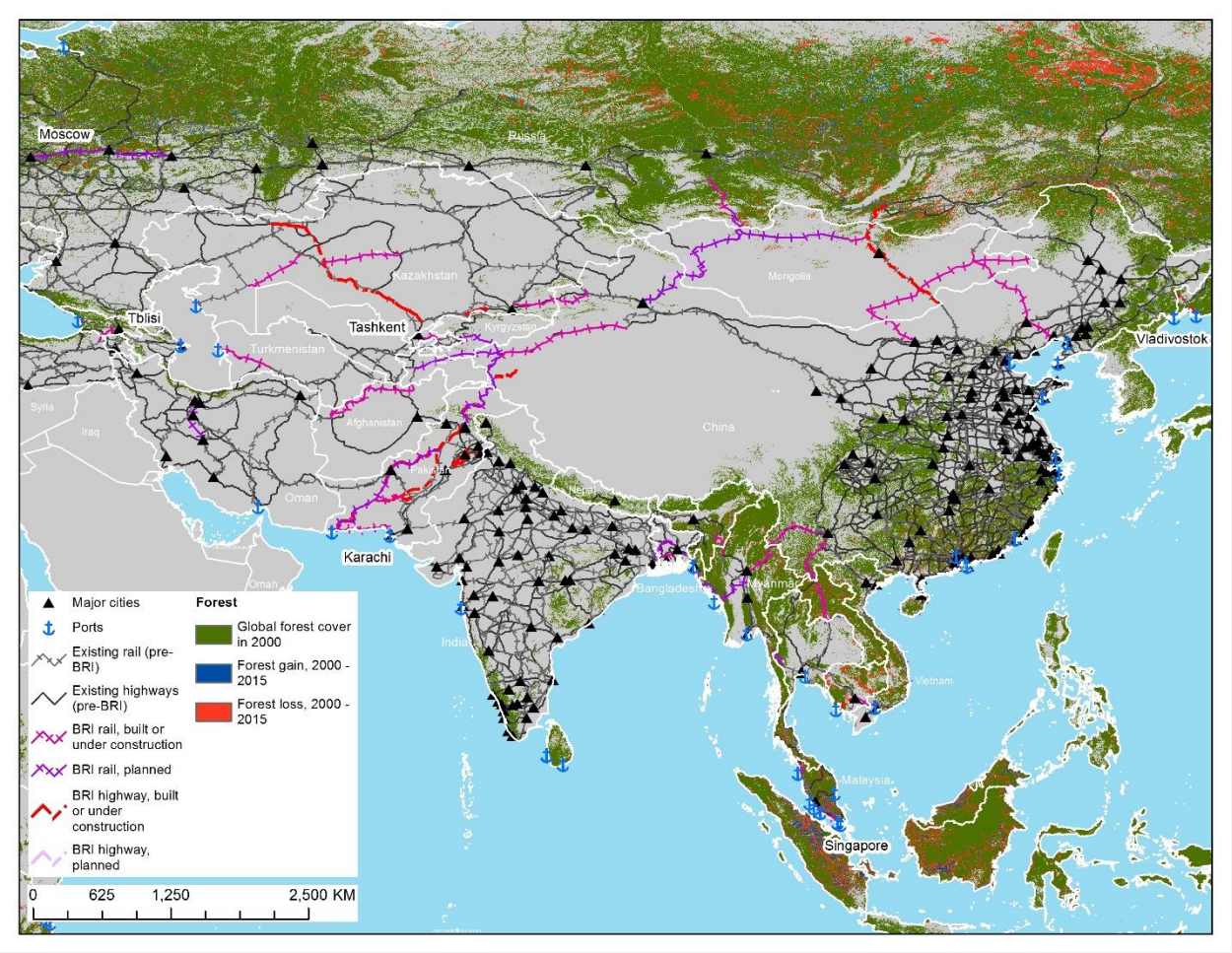
Analysis of gains from individual projects reveals two lessons

1. **Approximately half of the projects are expected to generate near zero (land) value**, because they do not create new least cost paths between large populations centers
   - Hambantota (Sri Lanka) and Gwadar (Pakistan) ports are redundant to existing ports in these countries, not creating new links
   - Khorgos-Aktau railway reduces trade costs, but not near to any large markets
   - The gravity model predicts that reductions in trade costs are most valuable when trade costs are already low (i.e. between two nearby cities)

2. Some projects are be creating redundancy rather than filling in key infrastructure gaps
   - Dhaka-Bongaon rail (BGD, IND) could be made redundant by Kunming-Calcutta HSR
   - The same is true for the Kalay-Tamu-Jiribam rail (MNR, IND)

SOURCE: Reed, Tristan and Alexandr Trubetskoy (2018)

ENVIRONMENT RISKS



- **Ecosystem – e.g., habitat and ecosystem services losses, fragmentation, edge effects**
- **Wildlife – e.g., collisions, migration barriers, illegal trafficking**
- **Habitat & environmental service losses, via Land Use response**

Source: Geopolitical Monitor; Losos, Pfaff et al 2018

SEEING AHEAD

01

Agglomeration and **Density**

Technology

02

Migration and **Distance**

Politics

03

Specialization and **Division**

Environment

SESSION ON FORESIGHT

01

Redefining Density

Technology

02

Intervening to reduce Distance

Place based policies

03

Institutions to complement infrastructure that reduces Division

Environment

HTTPS://WWW.WORLDBANK.ORG/EN/EVENTS/2019/03/25/WORLD-DEVELOPMENT-REPORT-2009-RESHAPING-ECONOMIC-GEOGRAPHY