China's Regional Economy
—— IO analysis

Prepared for 19th INFORUM World Conference

South Africa

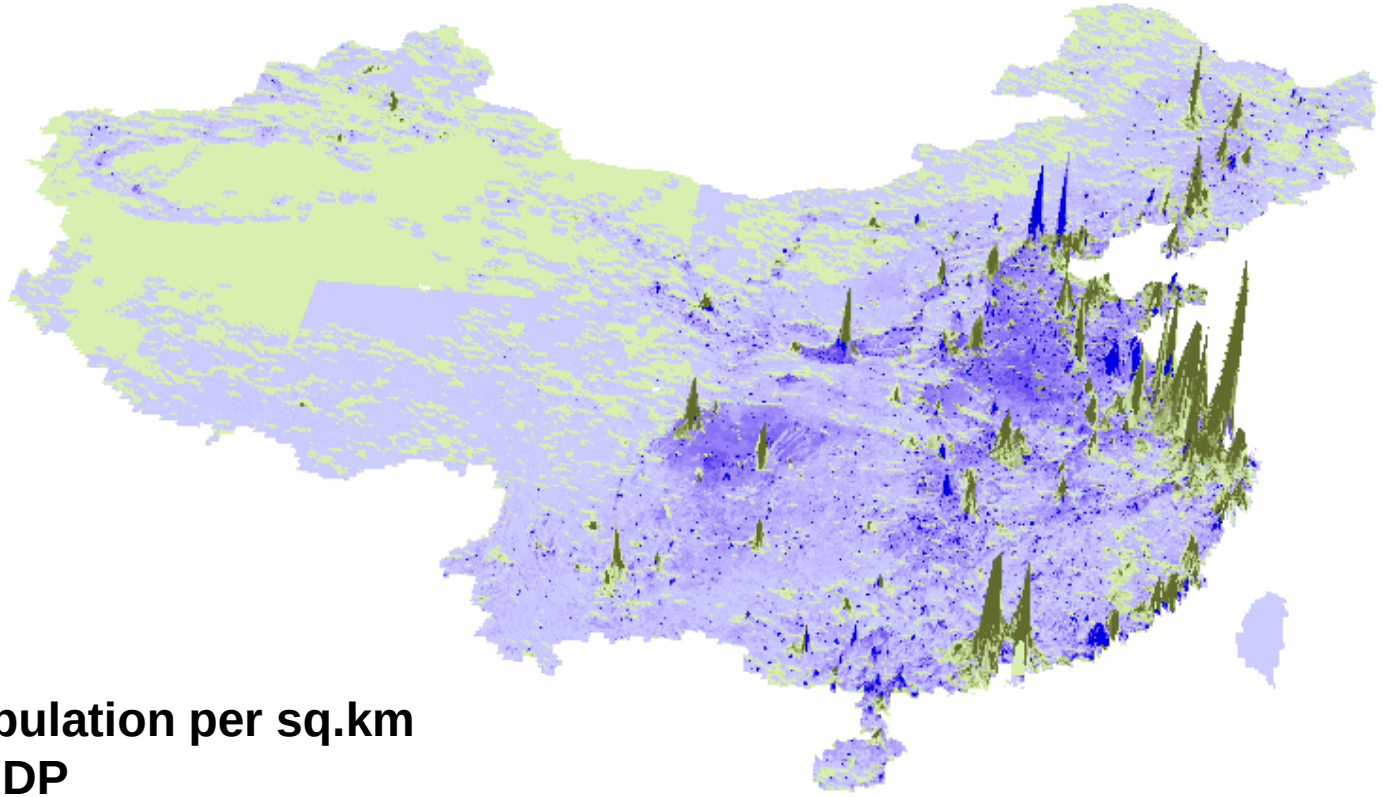
22, August 2011

Outline

- Motivation and background
- Model Description
- Result of decomposition

Distribution of China's Major Regions

Economic density



GDP/Population per sq.km
Green-GDP
Blue-Population

Distribution of GDP

Percentage of GDP of the East, the Central, the West ,and the Northeast in the country(%)

	1978	1980	1990	2000	2005	2007	2008	2009	2010
The East	44.1	44.1	45.9	52.8	54.5	55.2	54.3	53.8	53.0
The Central	21.8	22.5	22.1	20.2	18.8	19.0	19.3	19.3	19.7
The West	20.1	20.0	20.2	17.1	17.0	17.3	17.8	18.3	18.7
The Northeast	13.9	13.4	11.7	10.0	8.7	8.5	8.6	8.5	8.6

Regional Disparity

The ratio of GDP per capita in regions of the East, the Central, and the West in the country.

	1978	1980	1990	2000	2005	2007	2008	2009
East （the West=1）	1.93	1.87	1.92	2.42	2.49	2.48	2.29	2.23
East （the Central= 1)	1.56	1.51	1.64	1.89	2.09	2.19	1.97	2.05
Central （the West=1）	1.23	1.24	1.17	1.28	1.19	1.49	1.16	1.09

Decomposition of GDP -Methodology

- On the demand side, regional GDP can be composited into four driving sources:
  - Consumption: including Household and government
  - Investment
  - Export
  - Domestic outflow

} **Total Outflow**

Decomposition of GDP -Methodology

- Using regional non-competition input-output tables and input-output model.

$$X = (I - A^l)^{-1} \cdot Y$$

$$= (I - A^l)^{-1} \cdot (C + I + EX + DO)$$

- Of which, *C, I, EX*, and *DO* respectively represents consumption, investment, export and domestic outflow; A^l refers to local intermediate input coefficient

Decomposition of GDP -Methodology

$$GDP = v \cdot X$$

$$GDP = v \cdot (I - A^l)^{-1} \cdot (C + I + EX + DO)$$

$$= v \cdot (I - A^l)^{-1} \cdot C \rightarrow \text{Consumption}$$

$$+ v \cdot (I - A^l)^{-1} \cdot I \rightarrow \text{Investment}$$

$$+ v \cdot (I - A^l)^{-1} \cdot EX \rightarrow \text{Export}$$

$$+ v \cdot (I - A^l)^{-1} \cdot DO \rightarrow \text{Domestic Outflow}$$

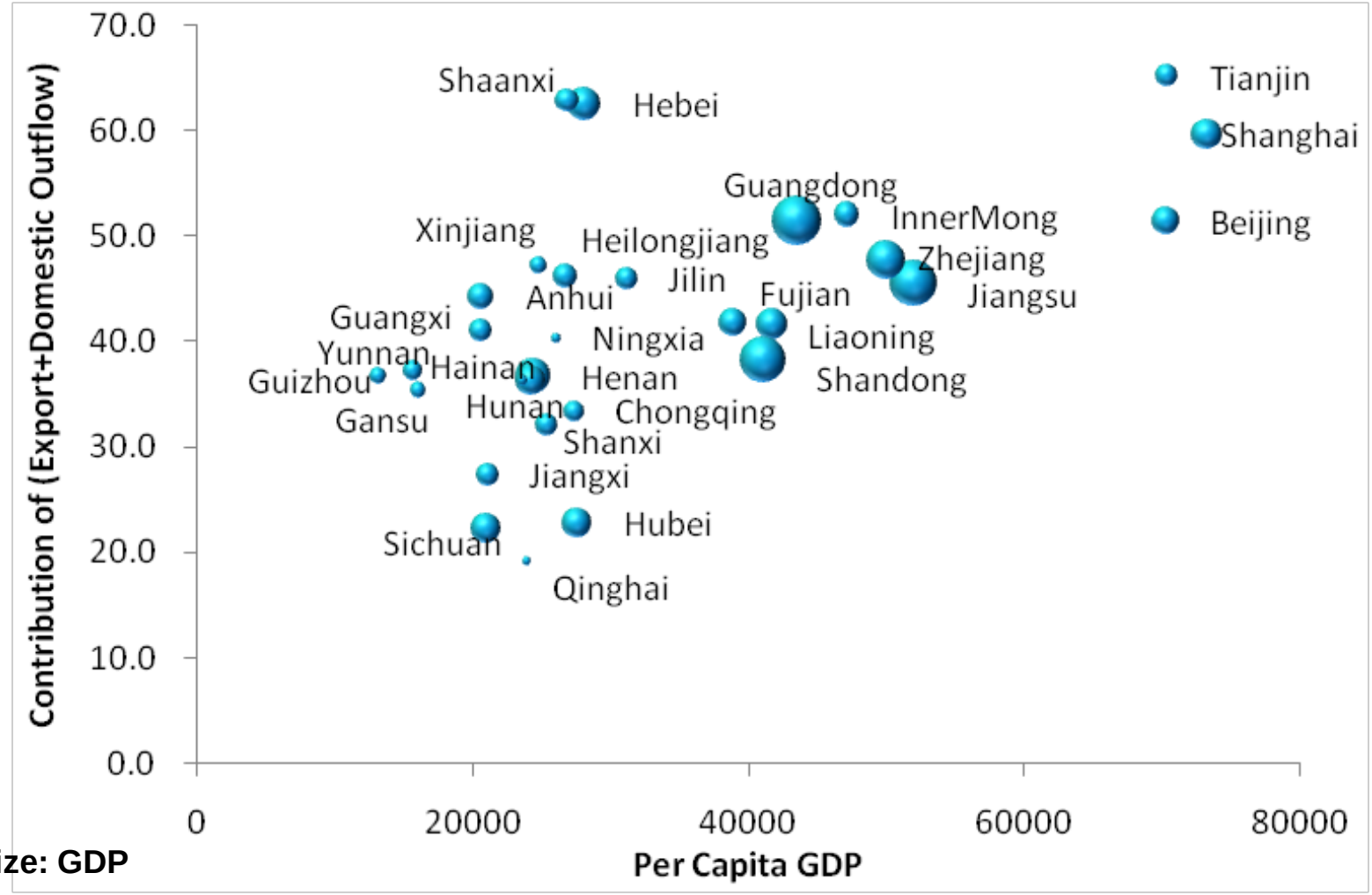
- Of which, v is the vector of ratio of value added.

Structure of regional IO table

Final Use											
Final Consumption Expenditure			Gross Capital Formation			Exports	Domestic Outflow	Total Final Use	Imports	Domestic Inflow	Gross Output
Household Consumption Expenditure	Government Consumption Expenditure	Total Final Consumption Expenditure	Gross Fixed Capital Formation	Changes in Inventories	Gross Capital Formation						

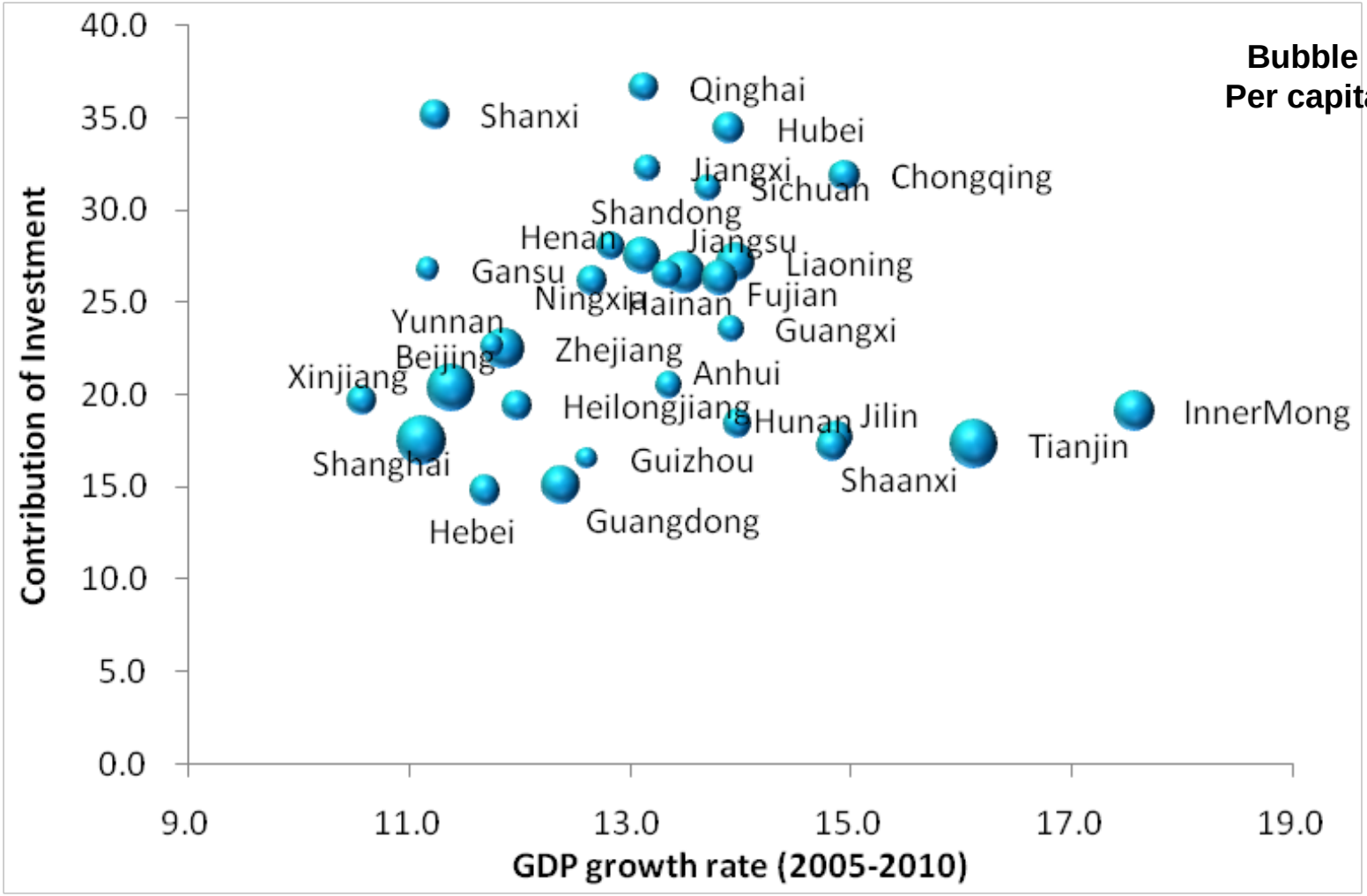
Total Outflow **Total Inflow**

Contribution of Export plus Domestic outflow (2007)

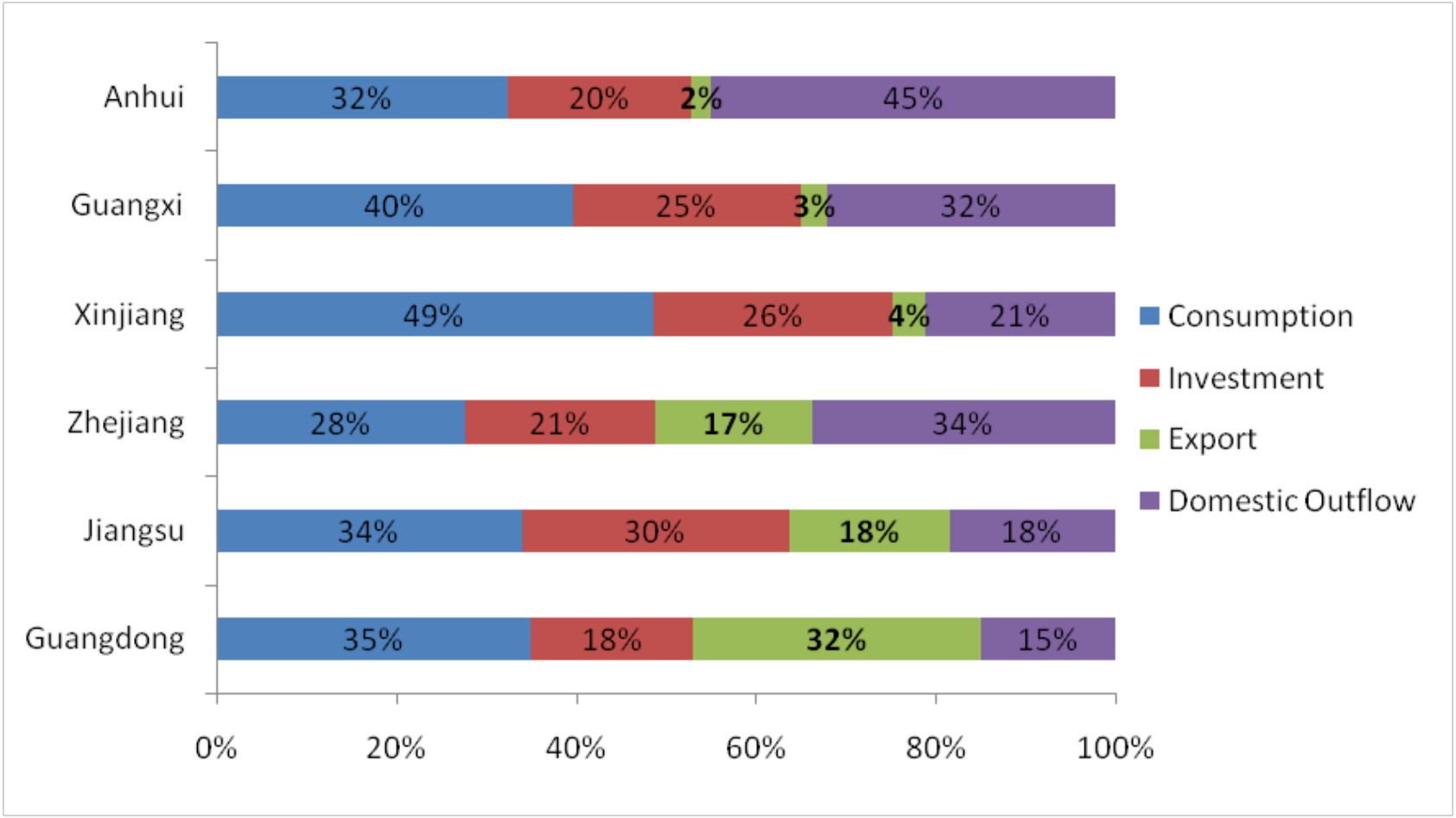


Bubble size: GDP

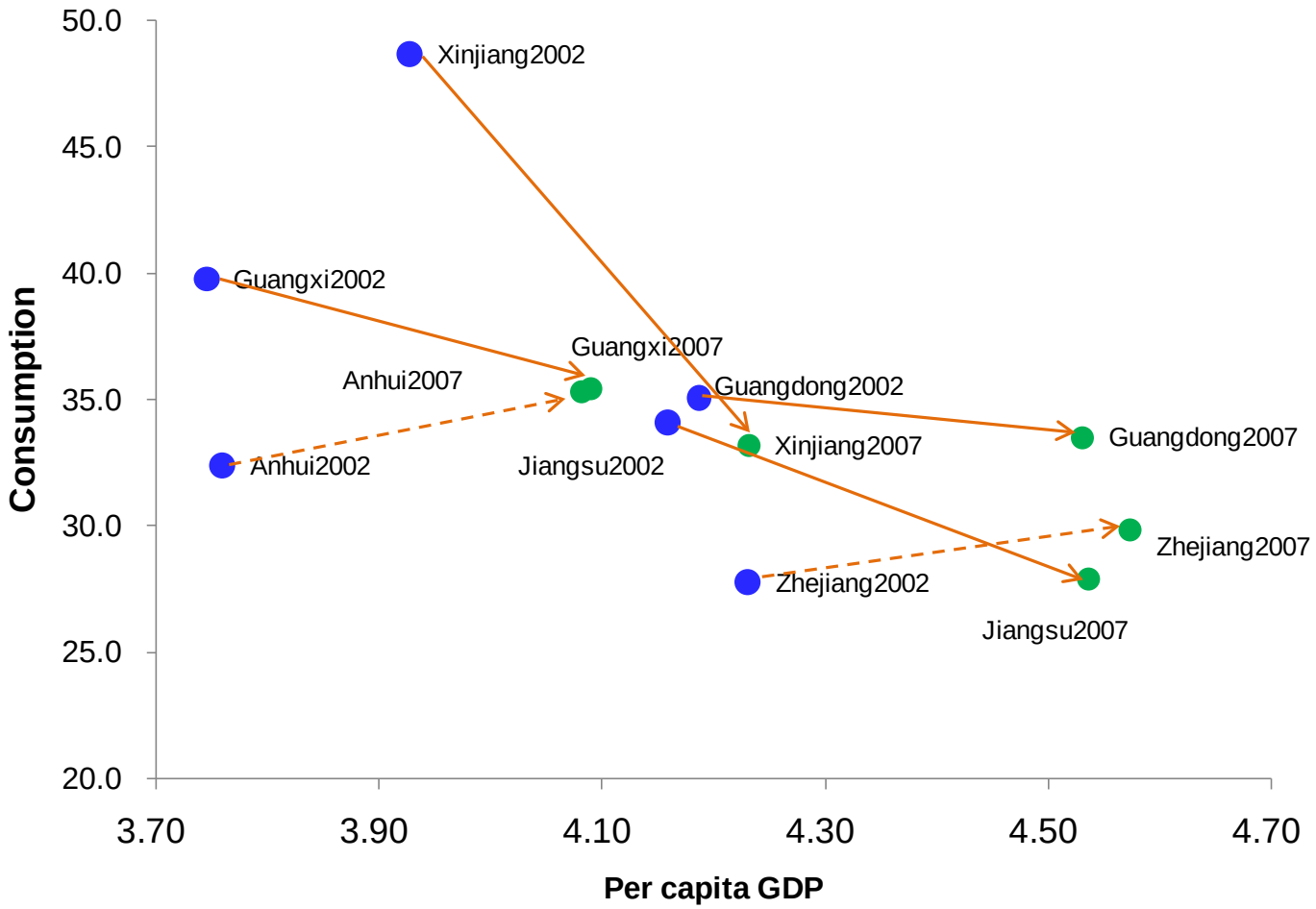
Investment and Growth



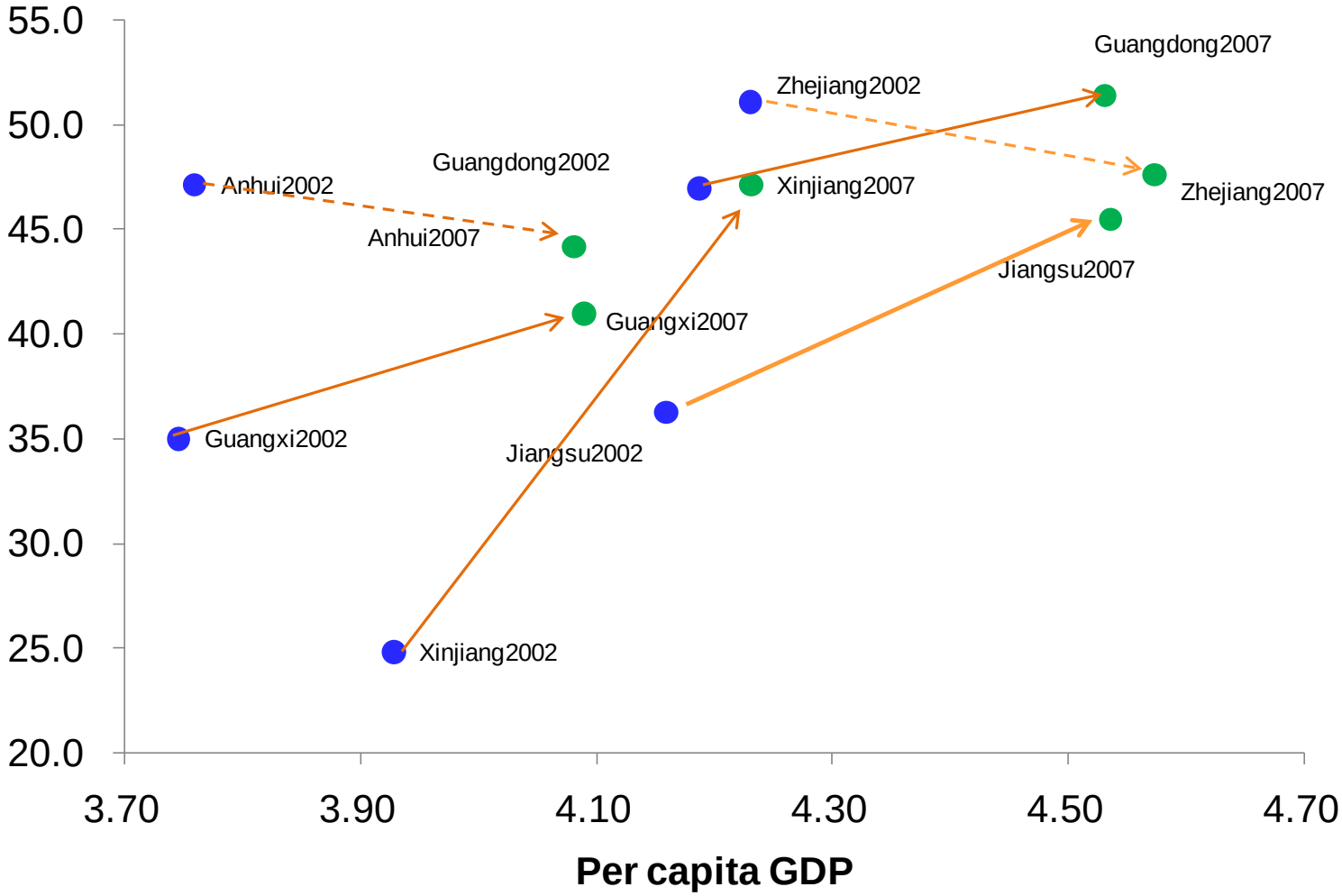
Result of decomposition (2002)



Change of Contribution of consumption



Change of Contribution of Export +Domestic outflow



Thanks for your attention!