

# Equity in the payments for healthcare in Asia

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# Acknowledgement

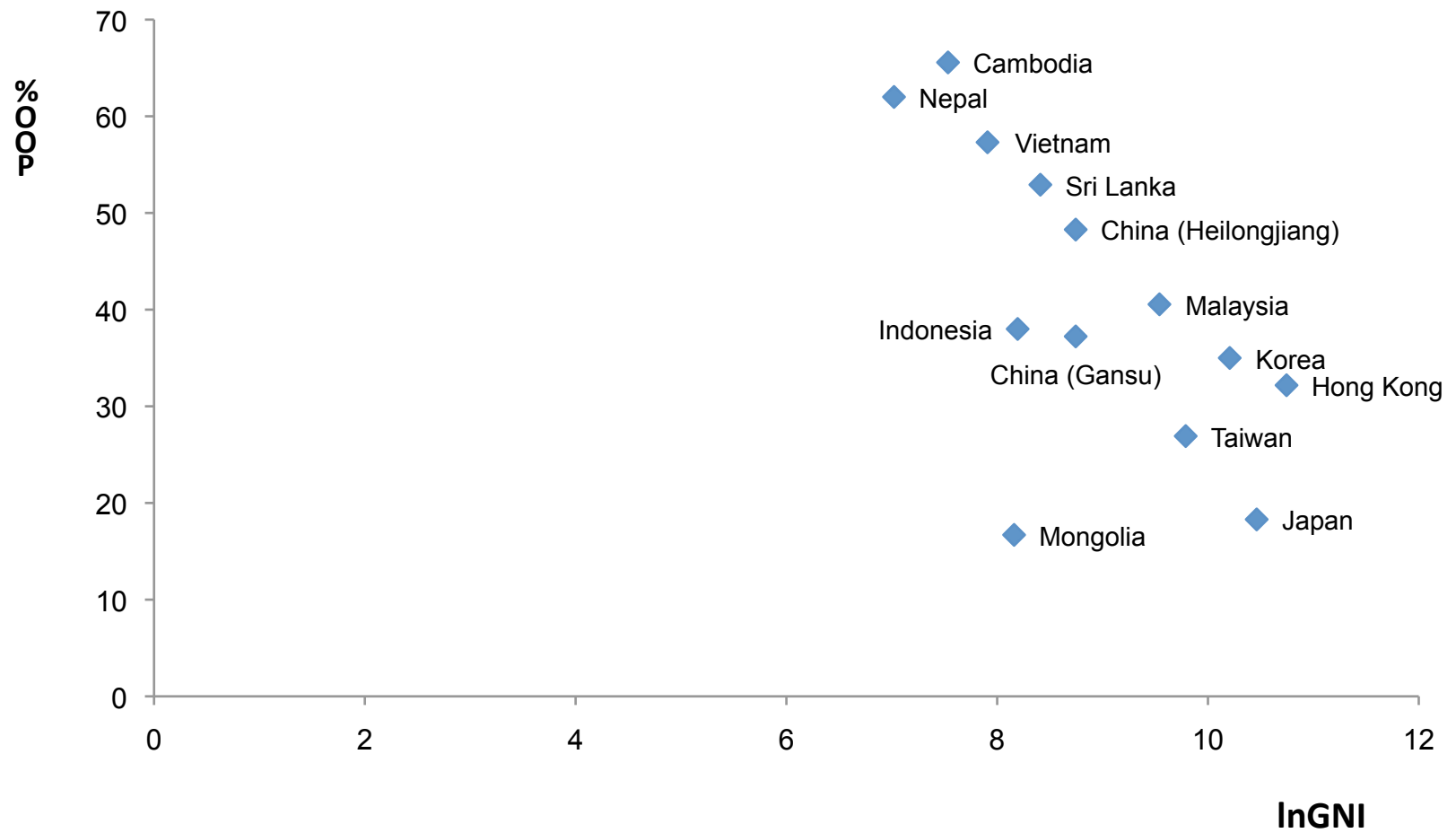
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# Motivation

- Who pays for health care is central to distributional consequences of health finance
- Are various health payments related to ability to pay (ATP)?
- A previous study examined the distribution of health financing in Asia in the early 2000s (O'Donnell & van Doorslaer, 2008)
- Compared to the high-income economies of Western Europe and the US, this region covers the whole range of development
- So it is possible to examine whether the distributional incidence of health financing varies with the level of development

# GNI vs. OOP



# Objectives

- To estimate the distributional incidence of healthcare financing in Asian territories with recent data
- To find out any significant changes in the distribution of healthcare financing over time

# Measurement of ATP

- Value of household consumption for low and lower-middle income territories
- Value of household expenditure for upper-middle and high income territories
- All adjusted by equivalence scale ( $e_h$ ):  $(A_h + 0.5K_h)^{0.75}$ , where A (K) is the no. of adults (kids) in the household

# Health payments data

- All contributions towards health care finance
  - Direct tax
  - Indirect tax
  - Social insurance
  - Private insurance
  - Out-of-pocket payment
- Reported or estimated from some related variables reported in the survey
- Payments aggregated to household level and adjusted by equivalence scale

# Summary indices of distribution

- Concentration index (C)
  - Measures the direction and strength of relationship between payments and ATP
  - Indicates whether the rich pay more in absolute terms
  - range =  $-1$  (pro rich) to  $1$  (pro poor)
- Kakwani index (K)
  - Measures whether the rich pay more relative to ATP
  - Equal to difference between concentration index and Gini coefficient of inequality in ATP measure
  - range =  $-2$  (pro rich) to  $1$  (pro poor)

# Kakwani for total payments

- Kakwani index is additively separable

$$K = \sum_{j=1}^J \omega_j K_j$$

- $K_j$  is Kakwani for source  $j$  and  $\omega_j$  is a weight reflecting the % of TEH from  $j$
- Overall progressivity depends on
  - Progressivity of specific sources ( $K_j$ )
  - Finance mix ( $\omega_j$ )
- Weights based on aggregate/NHA estimates
- Weights adjusted to capture sources for which distribution cannot be estimated

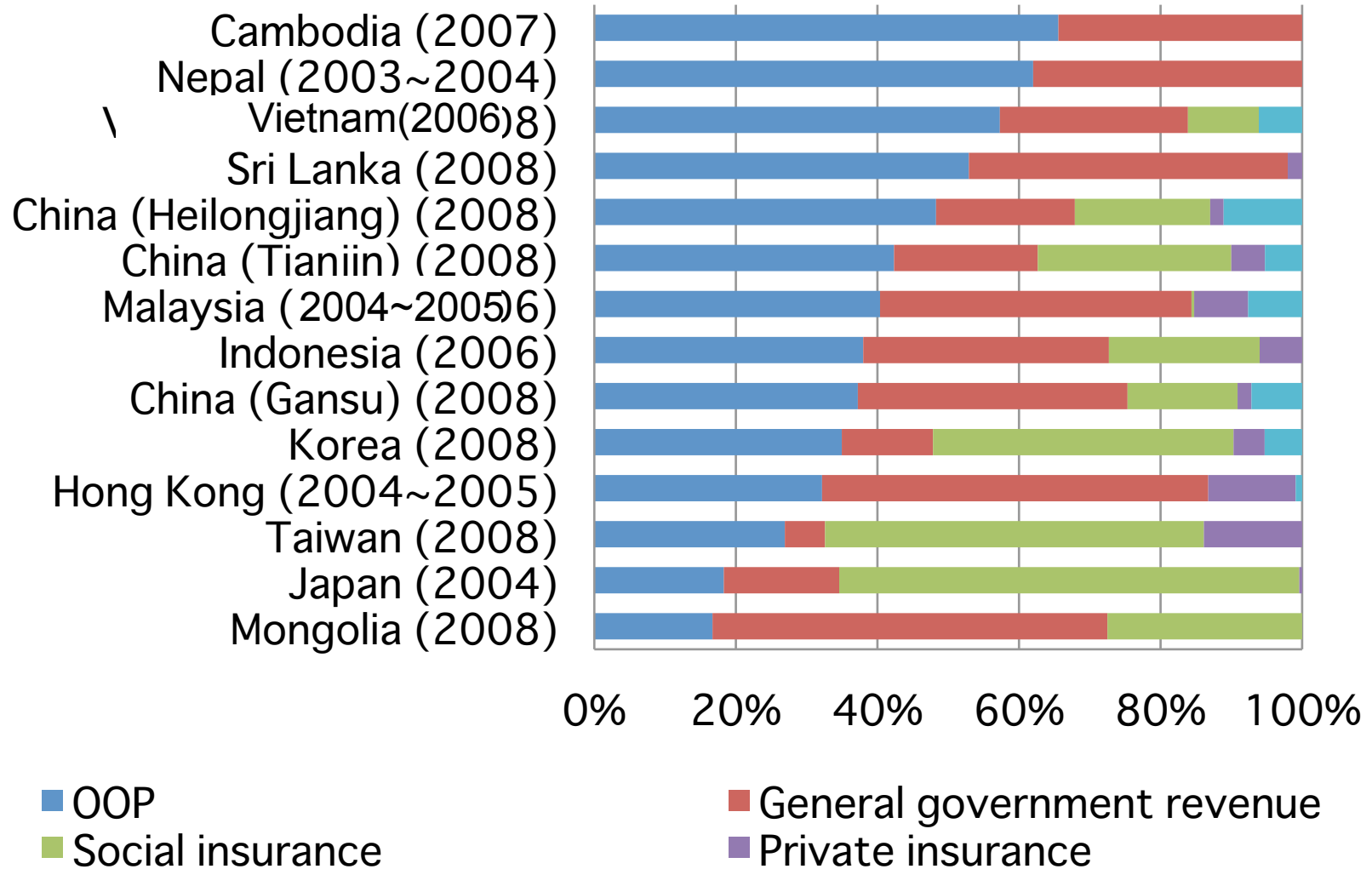
# Data

- Household survey data on ATP and health payments
- National Health Account data on aggregated expenditures by source
- From 12 territories
  - Cambodia, China, Hong Kong SAR, Indonesia, Japan, Korea Rep., Malaysia, Mongolia, Nepal, Sri Lanka, Taiwan, Vietnam

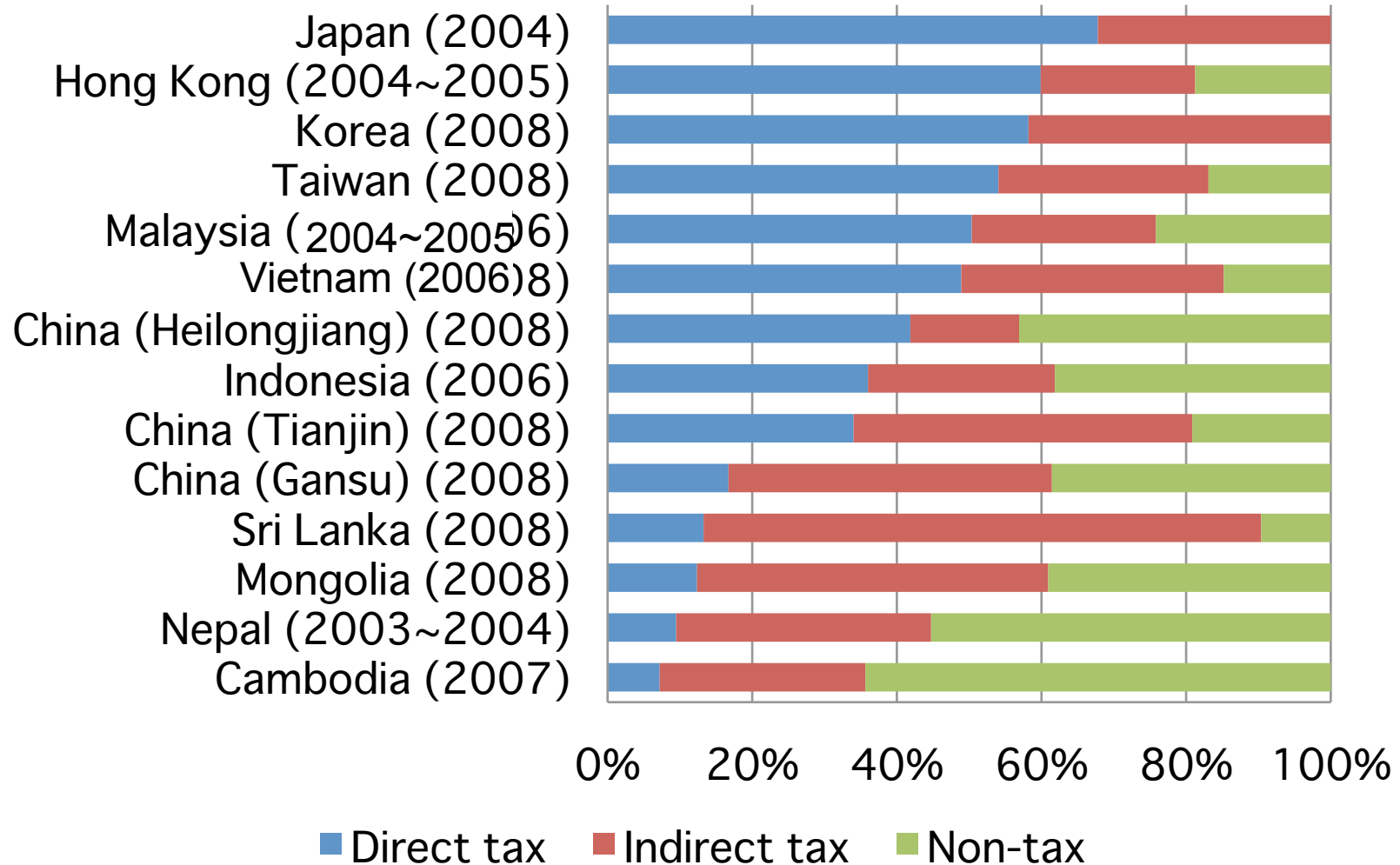
# Measures of ATP and methods of measuring health financing contributions

Territory	Ability to pay	Personal income tax	Sales/excise tax	Social insurance	Private insurance	Reported OOP payments include
Cambodia	consumption	estimated	estimated	N/A	N/A	doctor fees, other medical services, drugs, hospital charges, medical supplies and others
China (Gansu)	Expenditure	N/A	estimated	estimated/reported	reported	outpatient, inpatient service, drugs etc.
China (Heilongjiang)	Expenditure	N/A	estimated	estimated/reported	reported	outpatient, inpatient service, drugs etc.
China (Tianjin)	Expenditure	N/A	estimated	estimated/reported	reported	outpatient, inpatient service, drugs etc.
Hong Kong	Expenditure	estimated	estimated	No SI	reported	Out-patient, In-patient, Drugs, Traditional Chinese Medicine, Dental, Medical supplies / equipment, Health supplement, Other health care payments
Indonesia	consumption/expenditure	estimated	estimated	estimated	N/A	
Japan	Expenditure	reported	estimated	reported	N/A	
Korea	Expenditure	reported	estimated	reported	N/A	Outpatient, inpatient, dental, traditional medicine, medicines, medical supplies, other health care payments
Malaysia	consumption	reported	estimated	reported	reported	
Mongolia	consumption/expenditure	reported	estimated	reported	N/A	outpatient care, inpatient care and self prescribed medicines
Nepal	consumption	reported	estimated	No SI	No PI	Tradational fees, Hospital expenses, Tradational drugs, Consultation fees with Doctor & Paramedicals, TBAs etc, Modern Ayurvedic drugs & consultation fees. drugs/ medicine, tests etc., diagnostic cost, travel cost Western Hospital Charges, Consultation Fees, Laboratory Tests / Diagnostic Services, Medicines, Ayurvedic Hospital Charges, Ayurvedic Consultaion Fees / Tests, Ayurvedic Medicines Therapeutic Services, Hearing Aides, Spectacles, Dental Care, Other ( Prosthetic Devices, Artificial Limbs, Crutches etc), Homeopathy (Fees, Drugs), Accupuncture (Fees, Drugs), Occult Practices, Medical supplies/ Services (Attendants, Ambulance etc.), Contraceptive Methods/Drugs
Sri Lanka	consumption	estimated/reported	estimated/reported	N/A	reported	
Taiwan	Expenditure	reported	estimated roughly	reported	reported	
Vietnam	consumption	estimated	estimated	estimated	N/A	out patients care, in patients care, drugs, medical devices

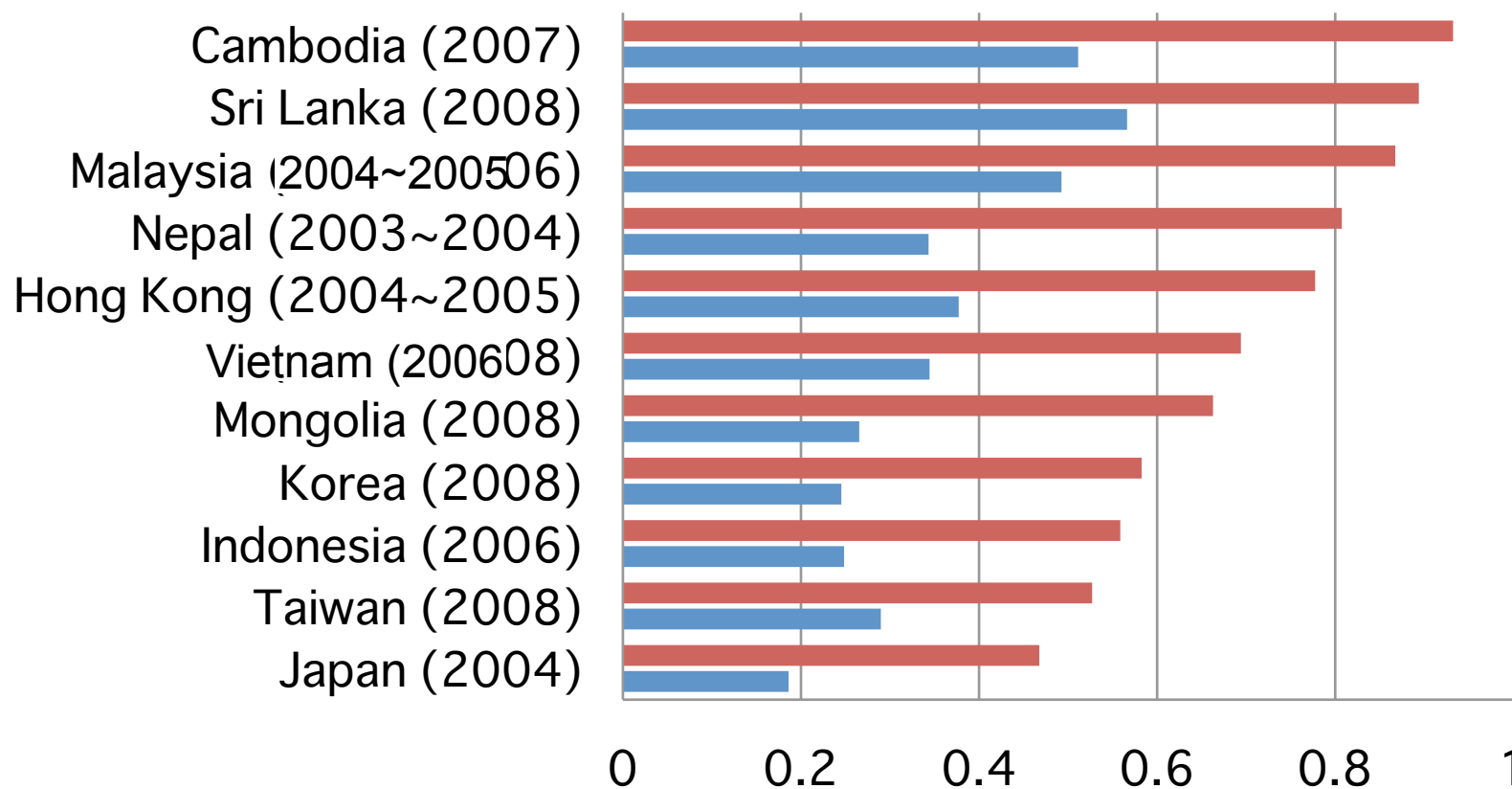
# TEH by source



# GGR by main source



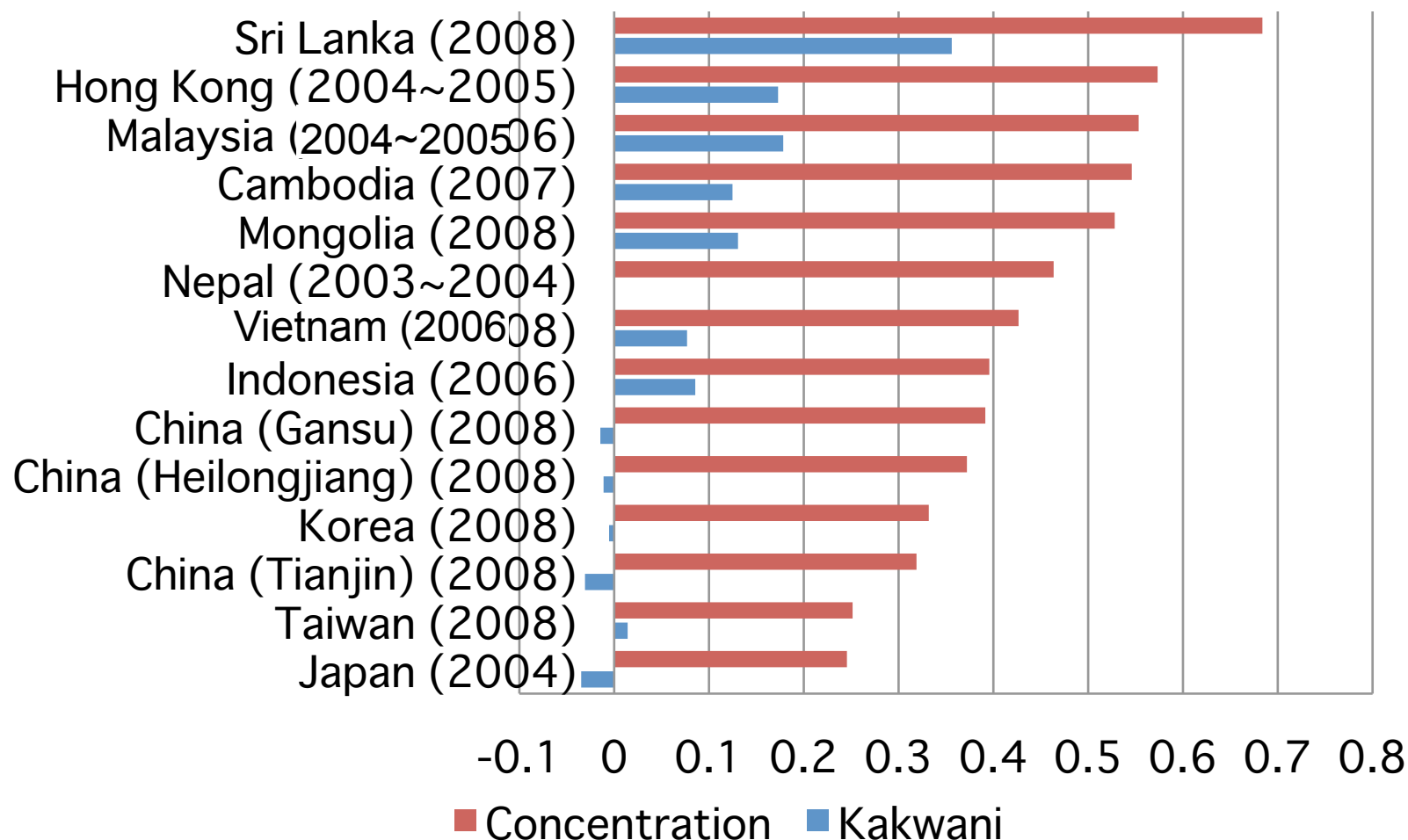
# Concentration and Kakwani indices of direct tax



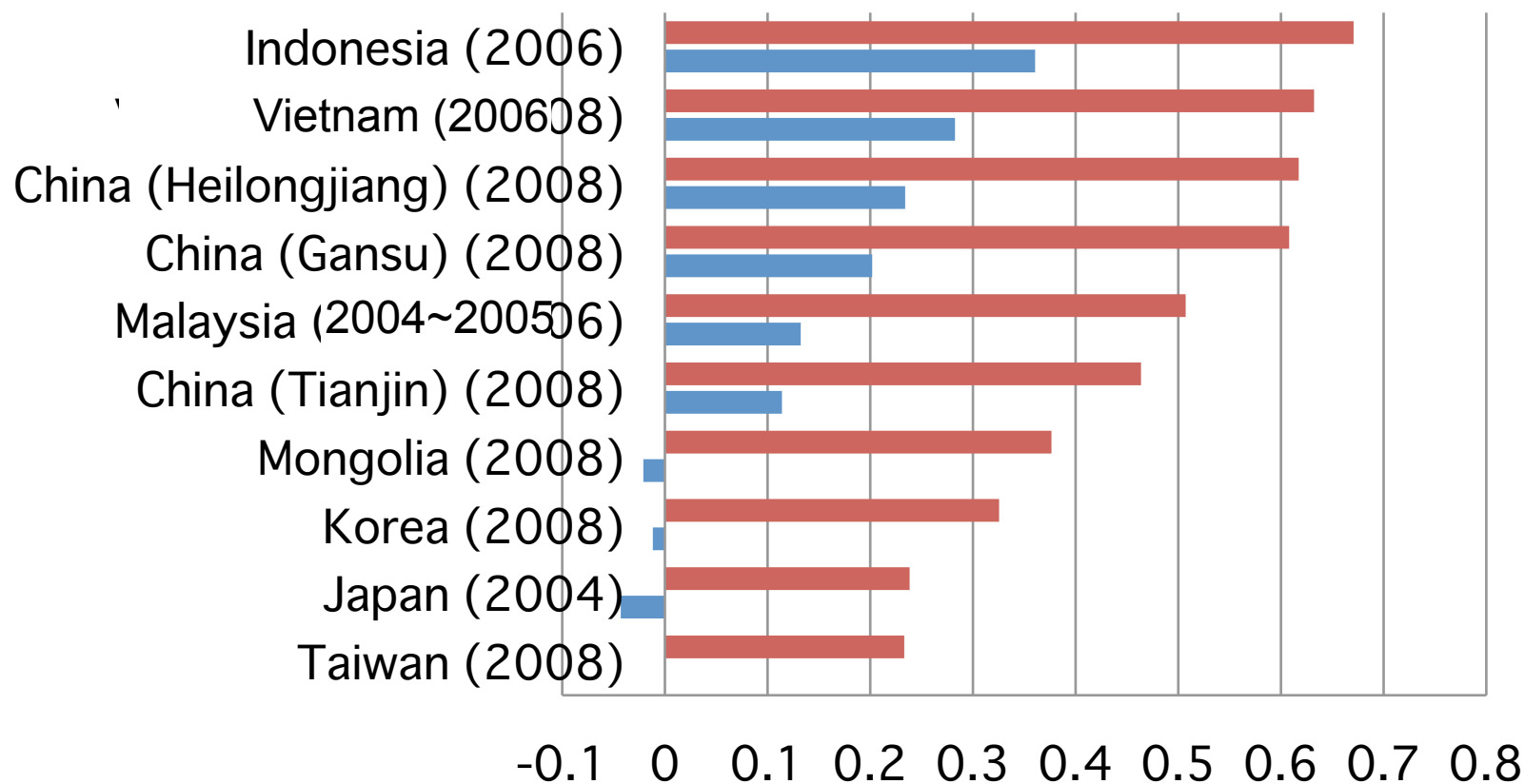
\* China: N/A

■ Concentration ■ Kakwani

# Concentration and Kakwani indices of indirect tax



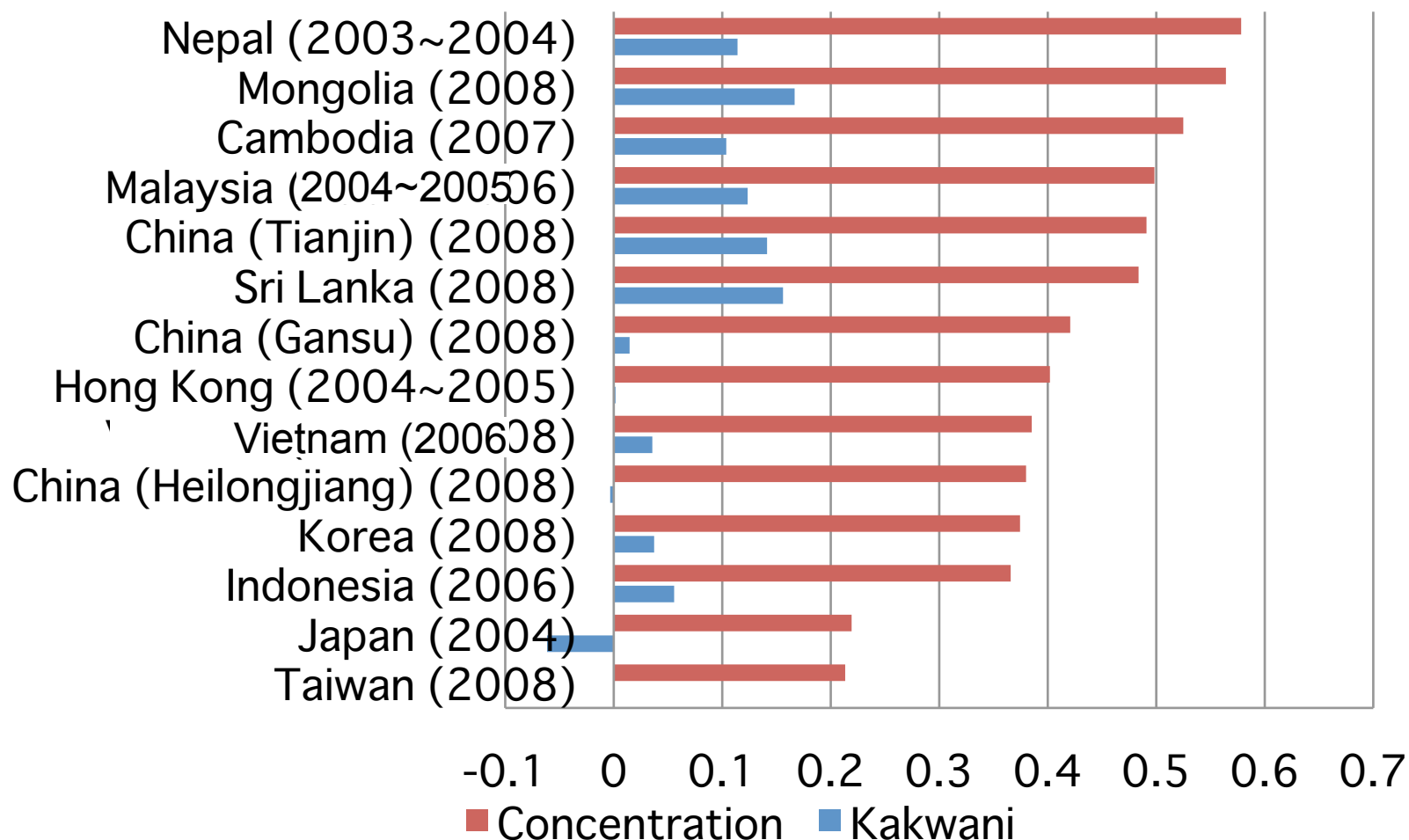
# Concentration and Kakwani indices of social insurance



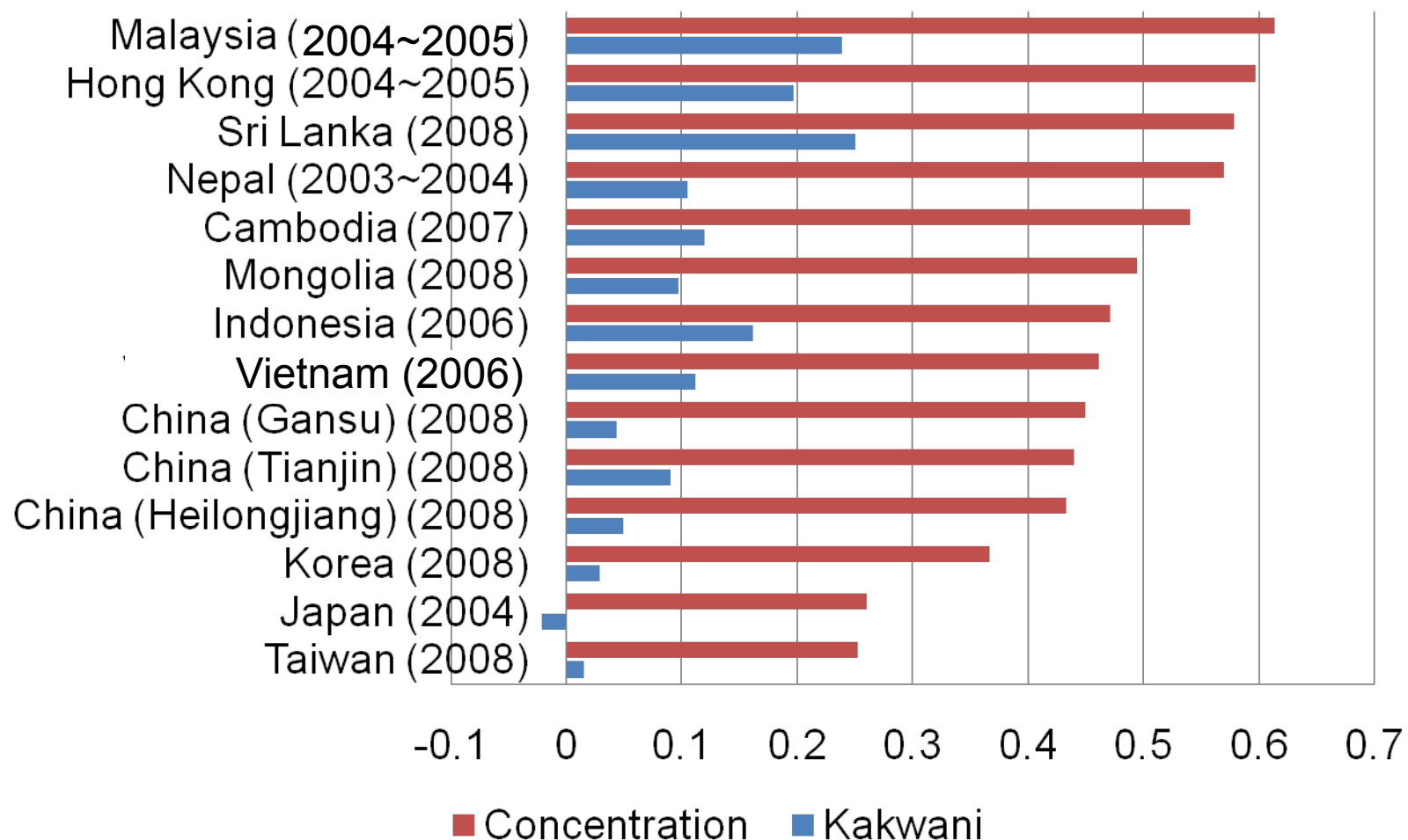
\* Cambodia, Hong Kong, Nepal, Sri Lanka: N/A

■ Concentration ■ Kakwani

# Concentration and Kakwani indices of OOP



# Concentration and Kakwani indices of total health financing



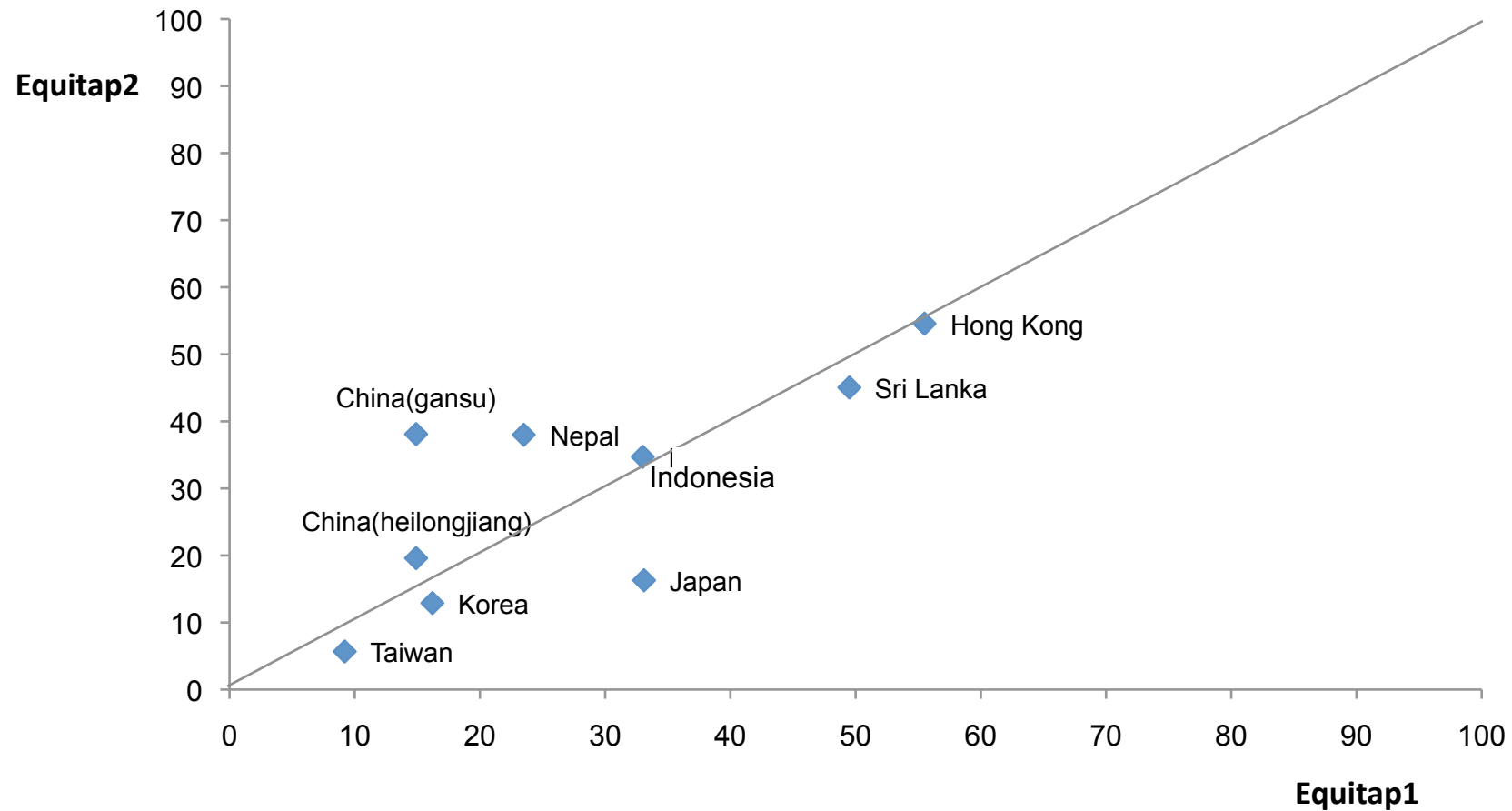
# Summary of results (1)

- Who pays for health care in Asia?
- The better-off pay more (absolutely & relatively)
- But there is variation in the concentration of the burden on the better-off and the degree of proportionality to ATP
- In general, as GDP increases, share paid by the better-off falls and financing becomes more proportional
- Slight regressivity or proportionality in high-income, social insurance systems (Japan, Korea & Taiwan)
- Hong Kong SAR is the only high-income territory with progressive financing

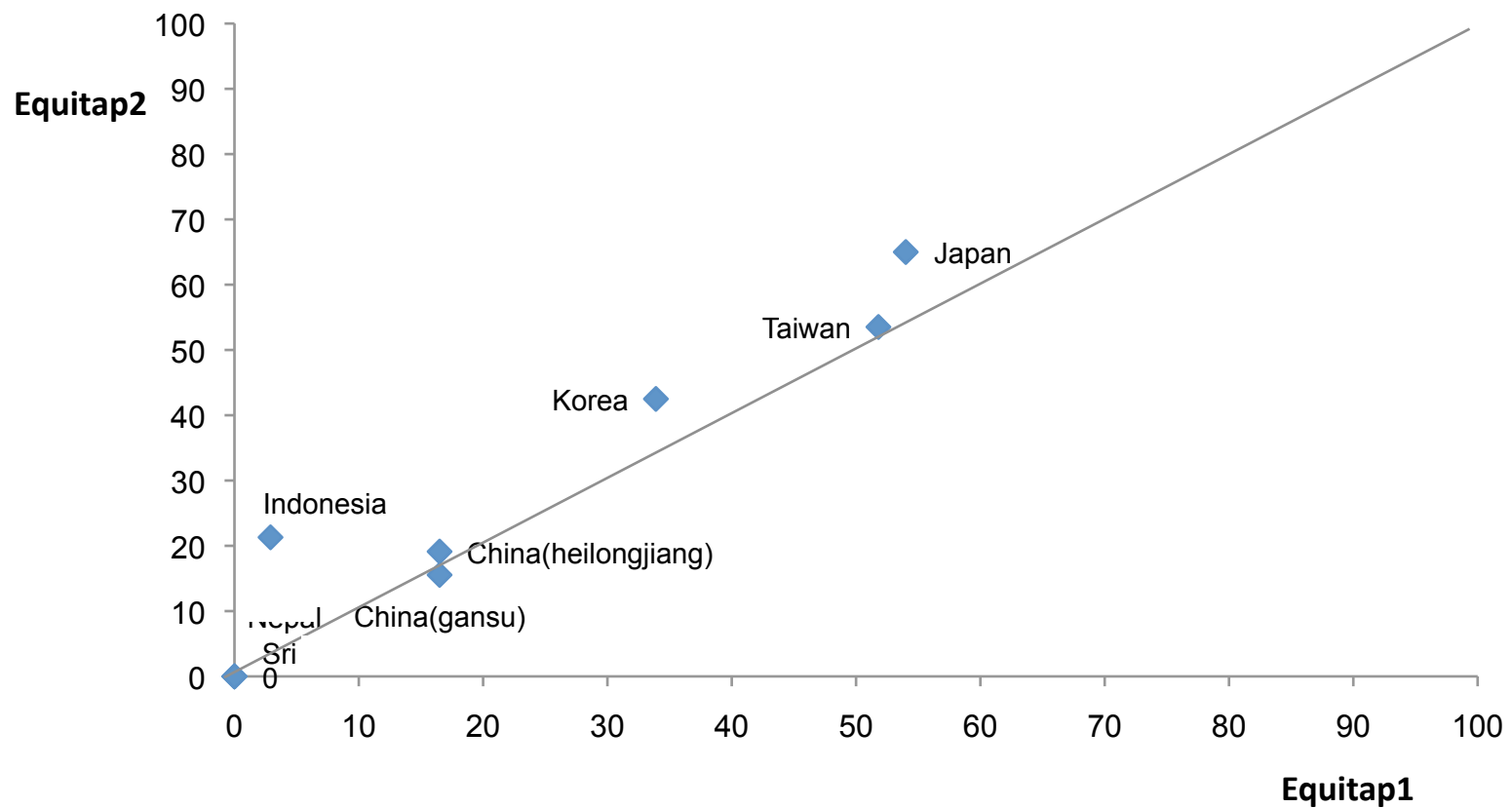
## Summary of results (2)

- Distribution of financing burden varies in low-/middle-income territories
- Proportionality-progressivity in Cambodia, China, Mongolia, Nepal & Vietnam
- Progressivity in Indonesia, Malaysia & Sri Lanka
- This distribution reflects high dependency on OOP (Cambodia, Nepal) or partial coverage of social insurance (Indonesia, Vietnam), which may imply that the poor go without health care

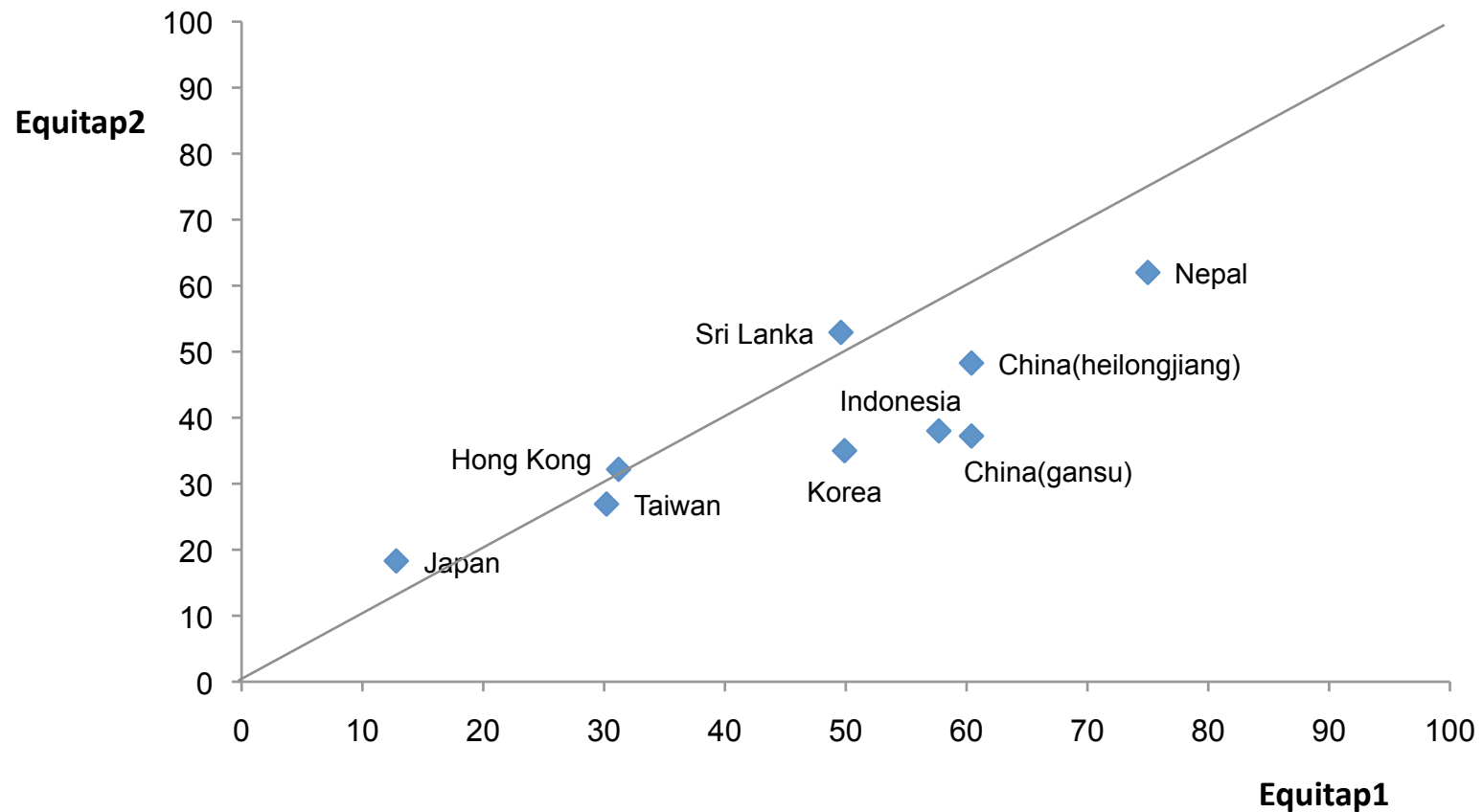
# Changes in the share of GGR



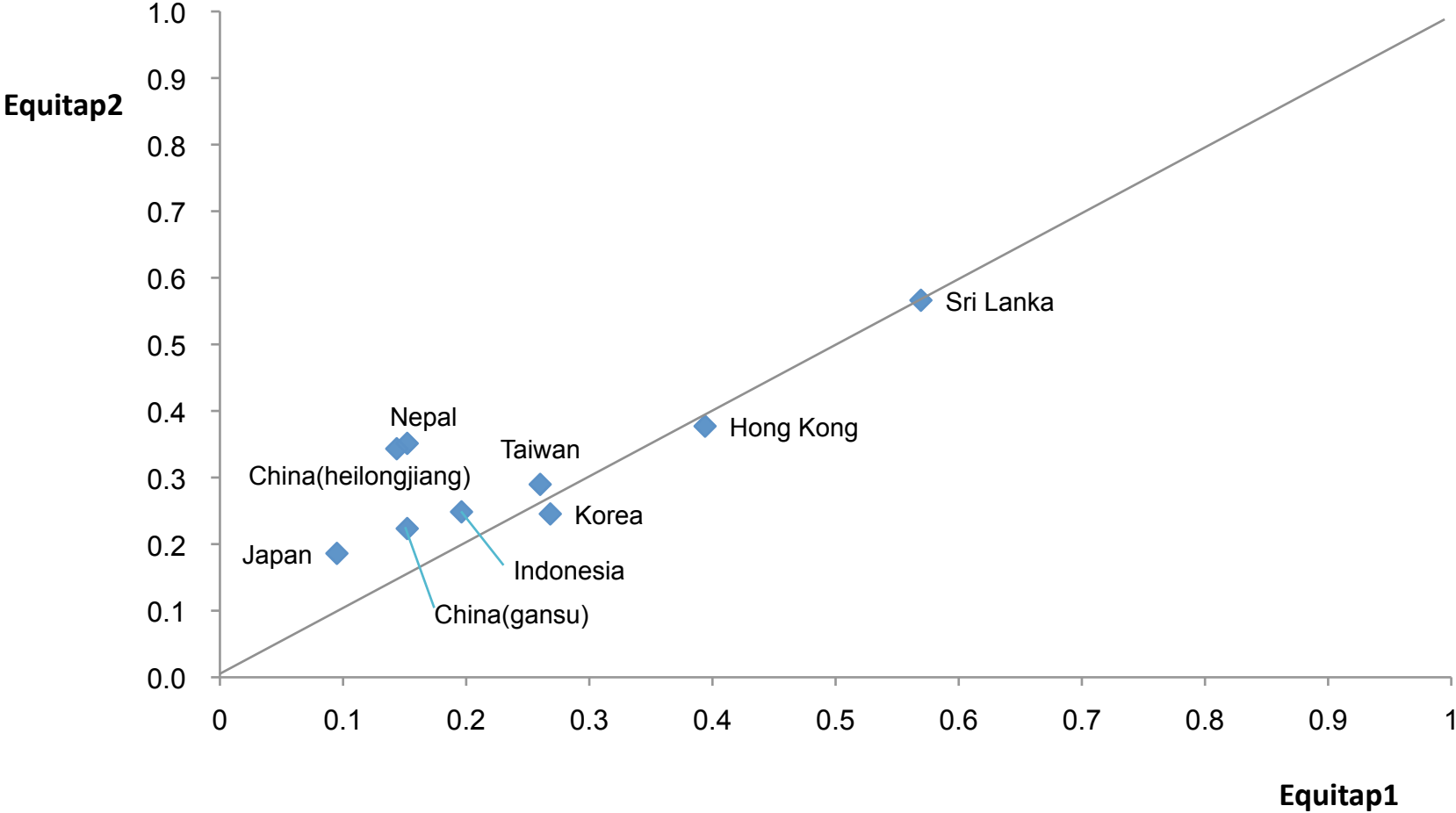
# Changes in the share of SI



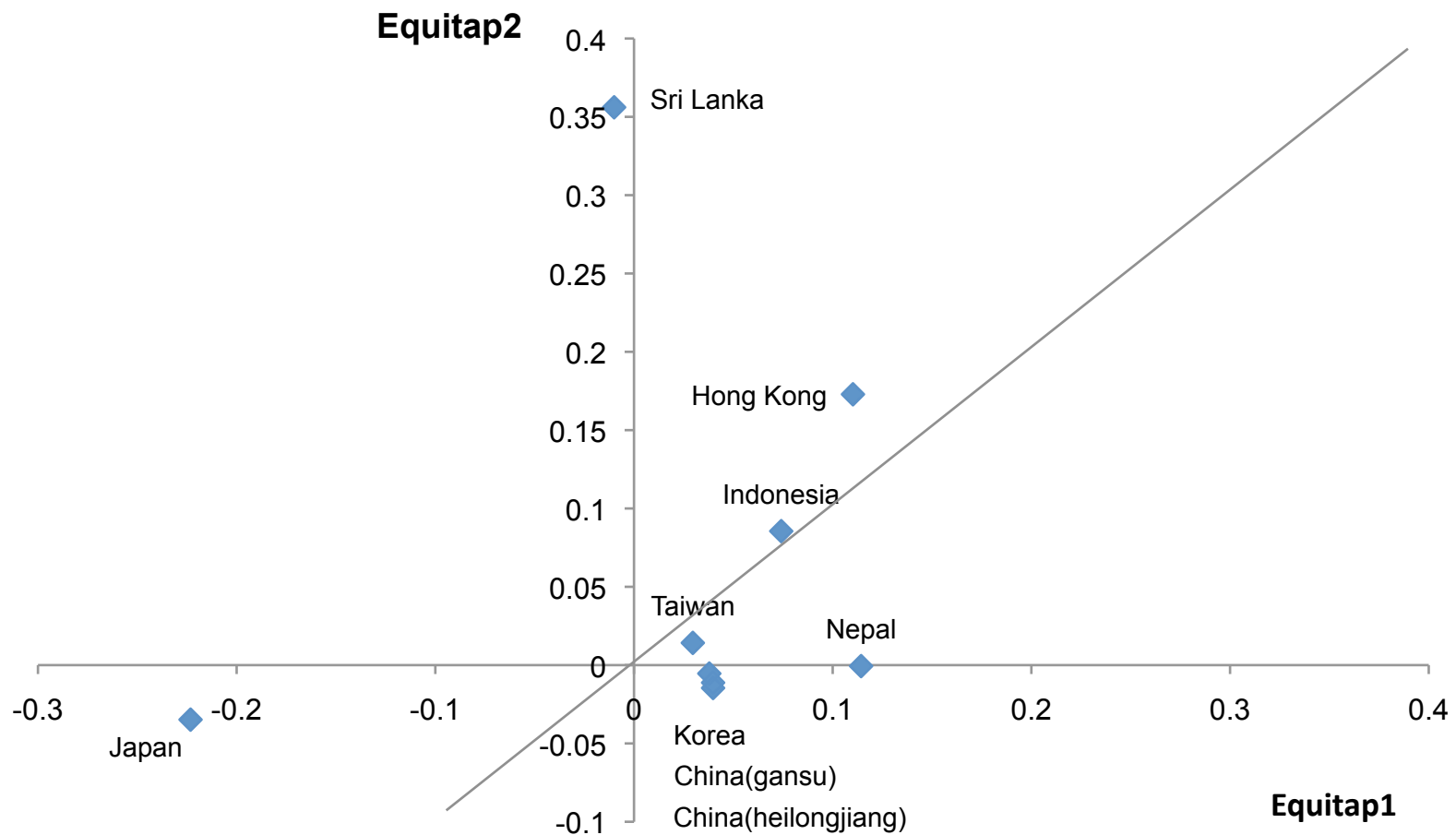
# Changes in the share of OOP



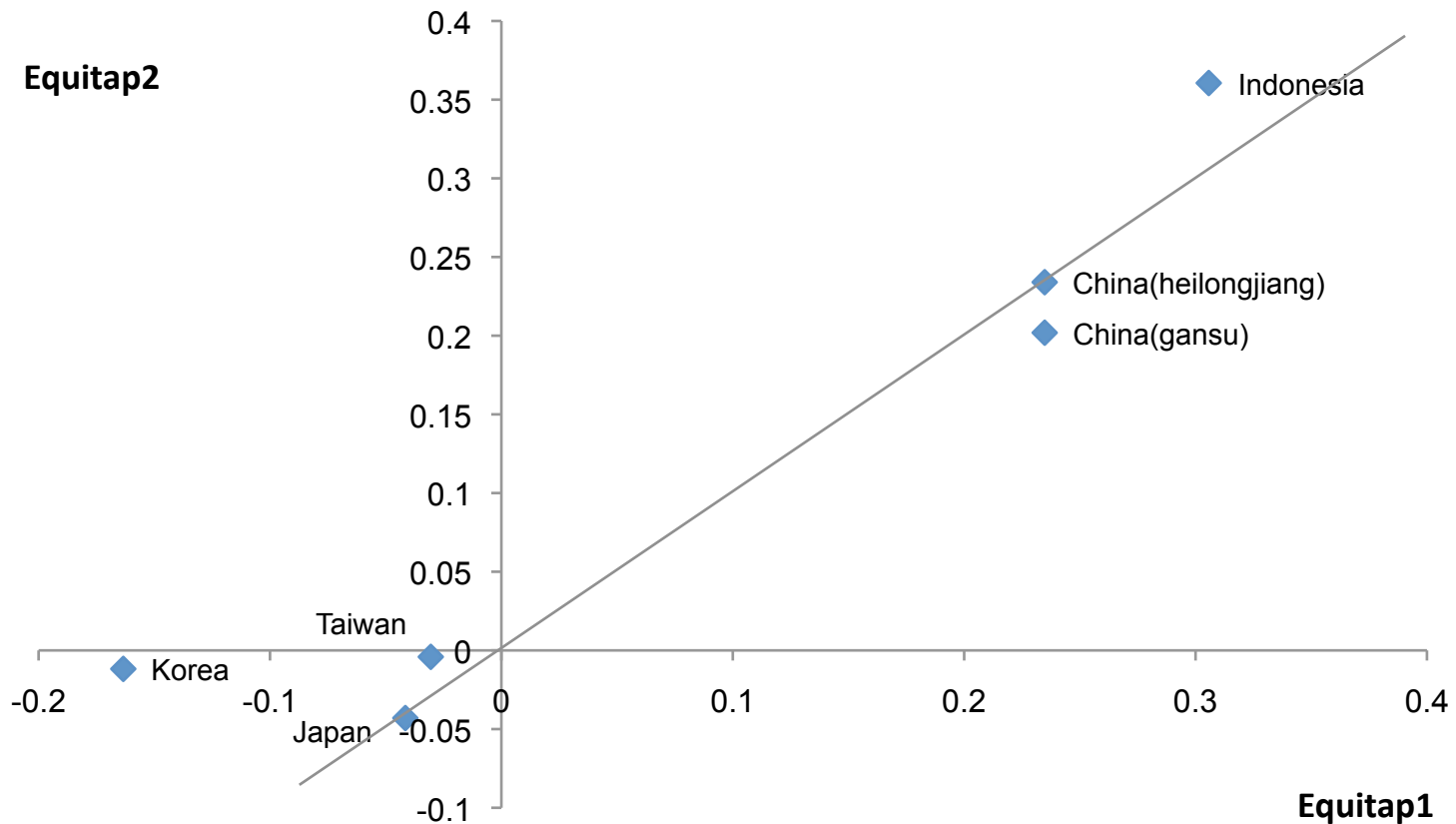
# Changes in Kakwani for direct tax



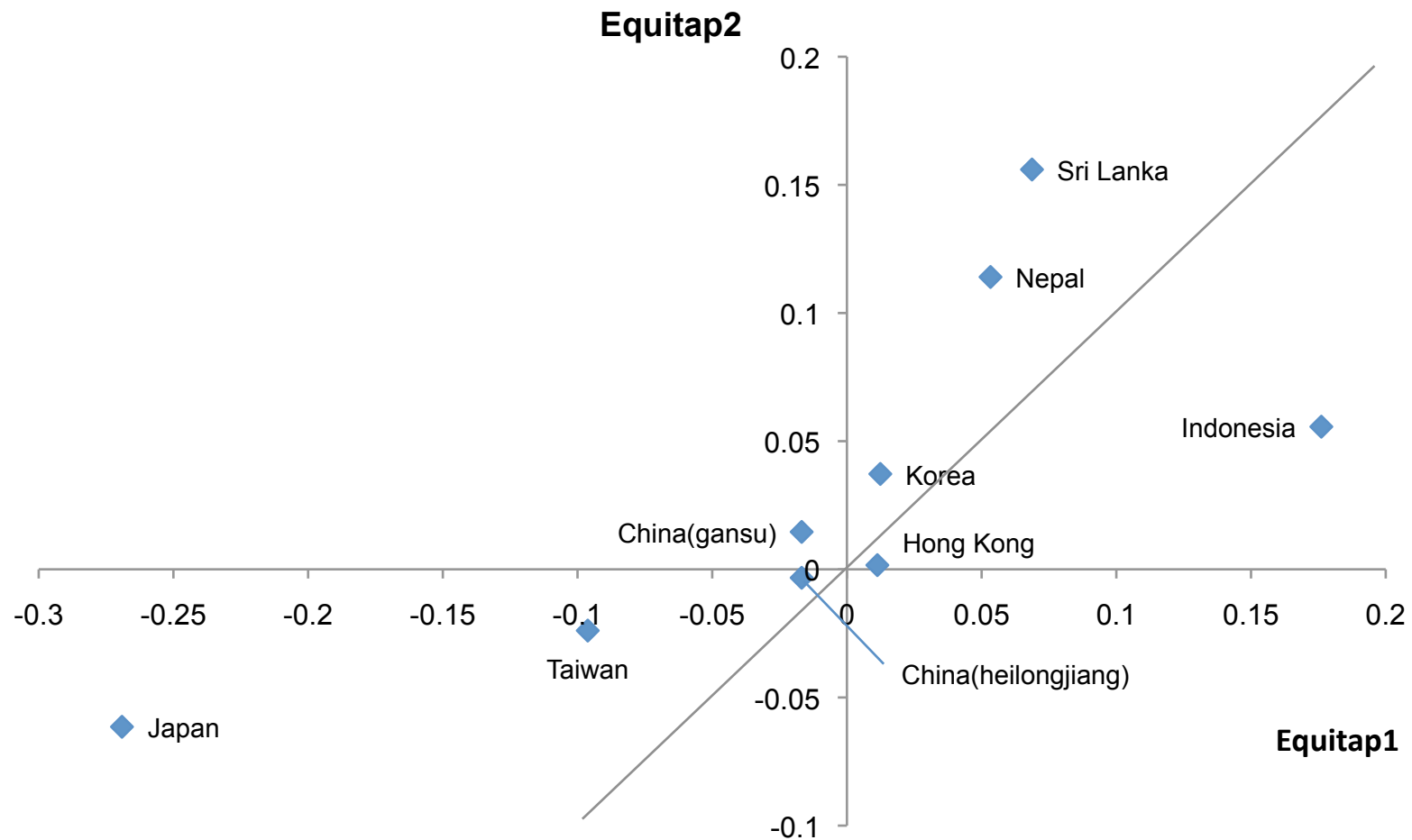
# Changes in Kakwani for indirect tax



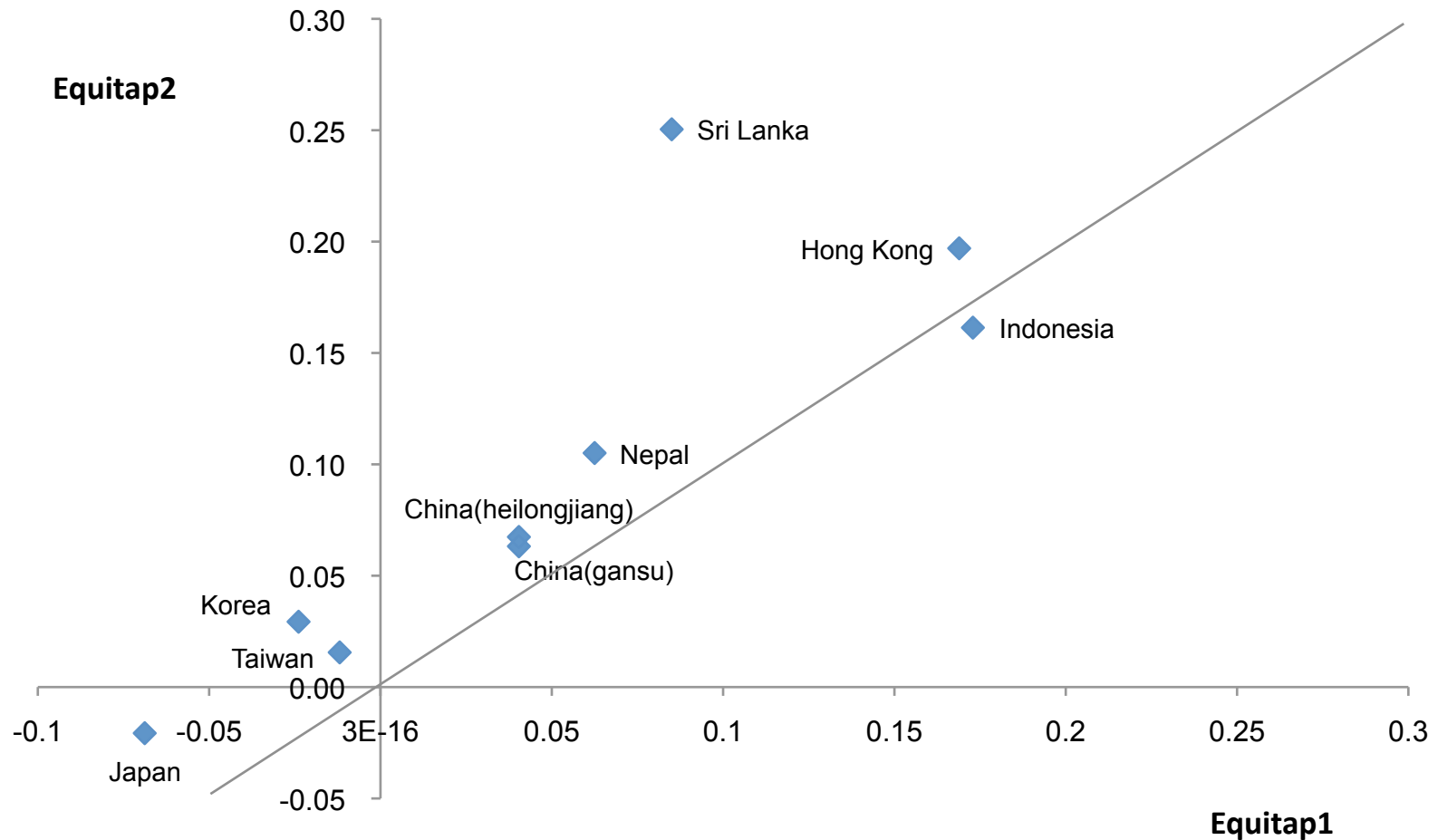
# Changes in Kakwani for social insurance



# Changes in Kakwani for OOP



# Changes in Kakwani for total health financing



# Summary of comparison

- What has happened to the equity in health financing in Asia over time?
- Compared to Equitap 1, distribution of health financing moved toward more progressivity and less regressivity in Equitap 2
- But need to look at changes in both financing mix and the progressivity of specific sources

# Summary of comparison

- Sri Lanka
  - Share of direct tax ↓, indirect tax ↑, OOP ↑
  - Kakwani of indirect tax and OOP ↑
  - Need to look at the distribution of utilization
- Indonesia
  - Share of social insurance ↑, OOP ↓
  - Considering partial population coverage, may imply better for the rich and still bad for the poor

# Summary of comparison

- Japan
  - Share of direct and indirect taxes ↓, social insurance ↑, OOP ↑
  - Kakwani indices show move toward less regressivity due to the improvement in distribution of indirect tax and OOP
- Korea & Taiwan
  - Share of direct and indirect taxes ↓, social insurance ↑, OOP ↓
  - Kakwani indices change from negative to positive

# Conclusions

- Differences in distribution of health financing burden result from differences in structure of financing as well as in distribution of given sources
- Structure of health finance tends to move from OOP to SI and indirect to direct taxation depending on the level of development
- Progressivity of specific sources also varies with GDP (direct tax and OOP less progressive at higher GDP)
- High OOP share in low-/middle-income territories can be financial disincentives to utilization of health care, with possibly greater effects on the poor