



# Boosting Infrastructure in Emerging Asia

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# Infrastructure is essential to support sustainable and equitable growth in Asia.

- Most countries in Asia experience **infrastructure bottlenecks**.



TRANSPORT



POWER



SANITATION

- Emerging and developing Asian countries need more infrastructure to **achieve Sustainable Development Goals (SDGs)**.



# Outline

## I. State of infrastructure and public investment in Emerging and Developing Asia (EDA)

*Why does Asia need more and better infrastructure spending?*

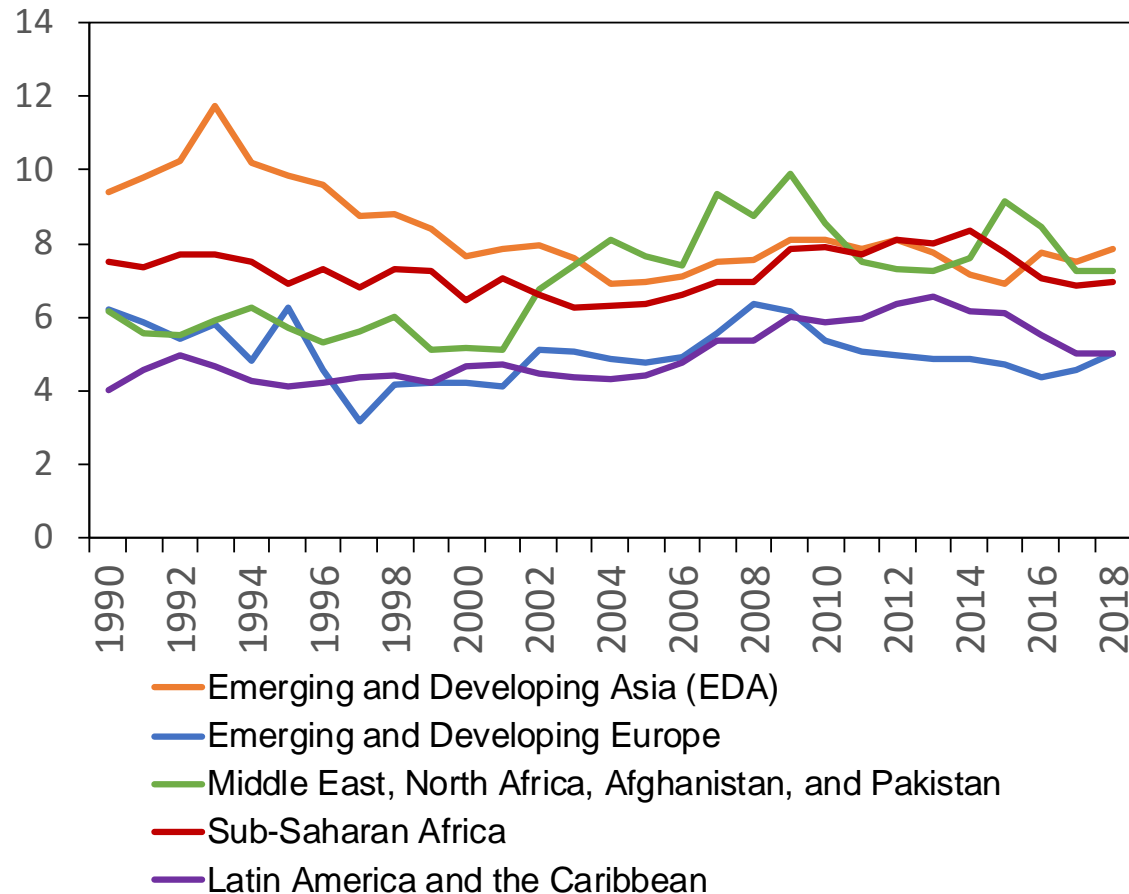
## II. How to meet the large infrastructure needs in Asia?

*Impact of different financing options and public investment efficiency on growth and debt*

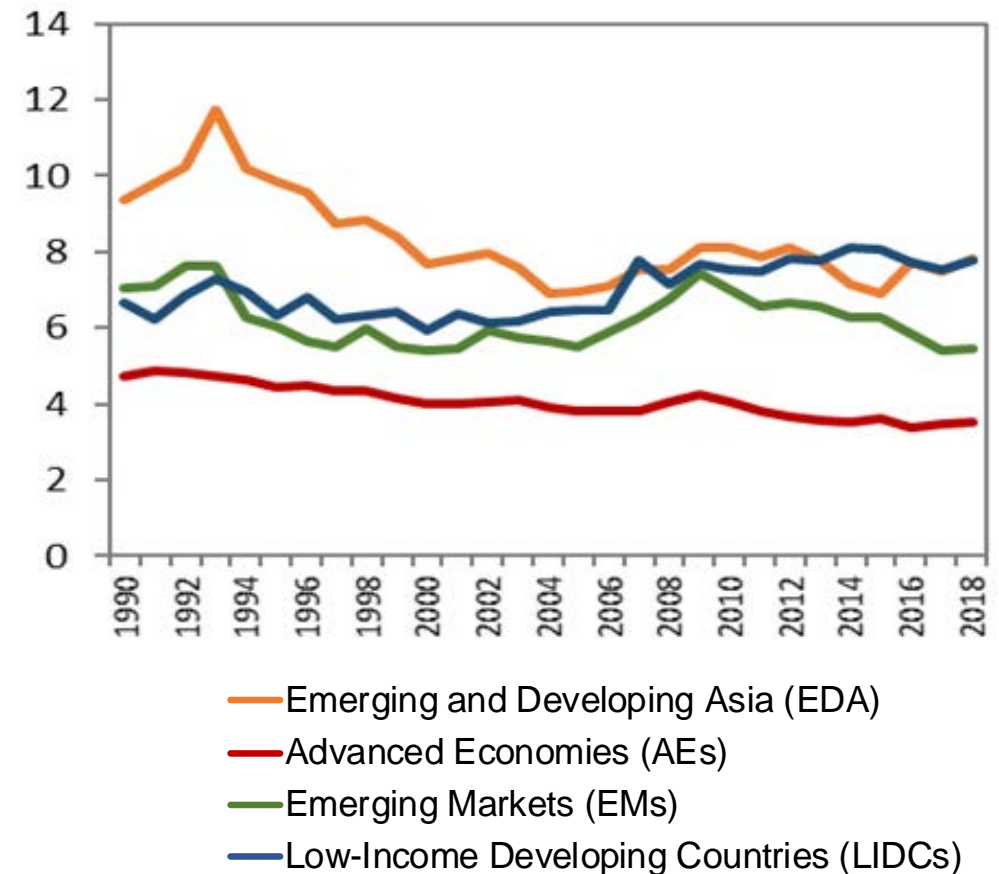
# **I. State of Infrastructure and Public Investment in Emerging and Developing Asia (EDA)**

# Public investment has been high in Asia relative to peers in the past 25 years.

General Government Investment by region  
(percent of GDP, WEO)



General government investment by income level  
(percent of GDP, IMF staff estimates)

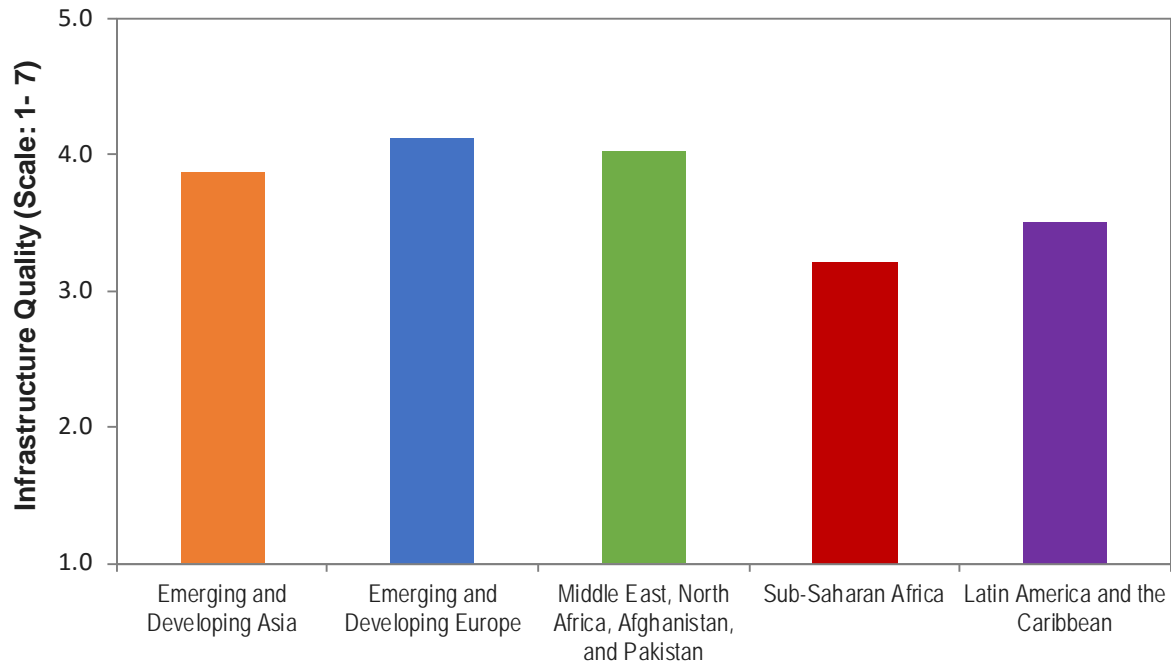


# However, infrastructure outcomes in emerging Asia are still lagging behind.

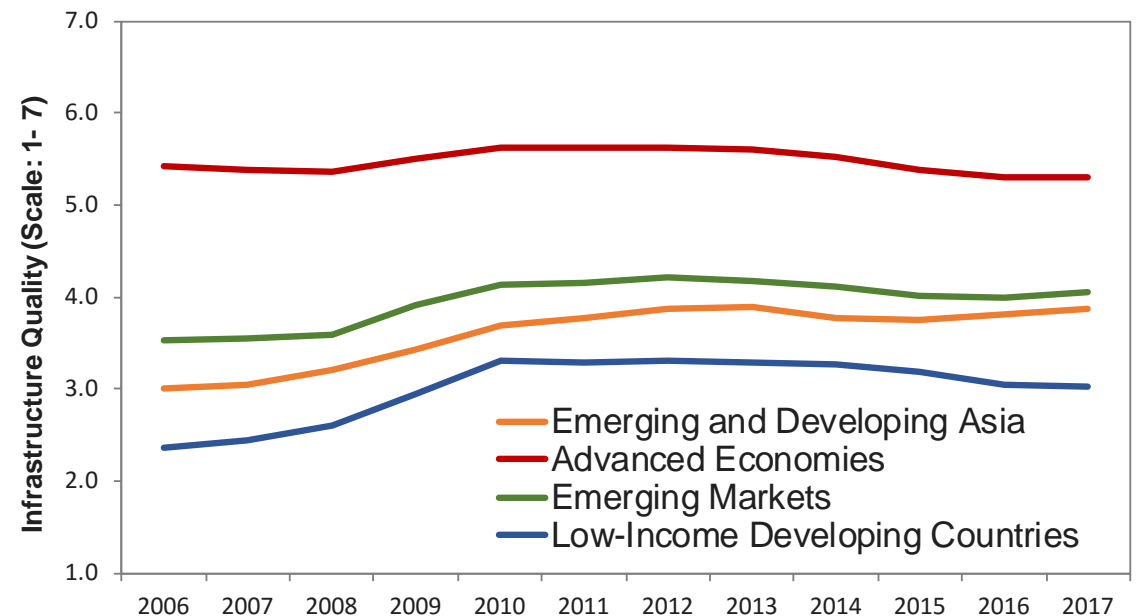
*The infrastructure quality score in emerging and developing Asia is below emerging and developing Europe and the Middle East and North Africa.*

*Perceptions of infrastructure quality have stagnated since 2012.*

**Perception of Infrastructure Quality by Region (2017, World Economic Forum)**



**Perception of Infrastructure Quality by Income (2006-2017, World Economic Forum)**



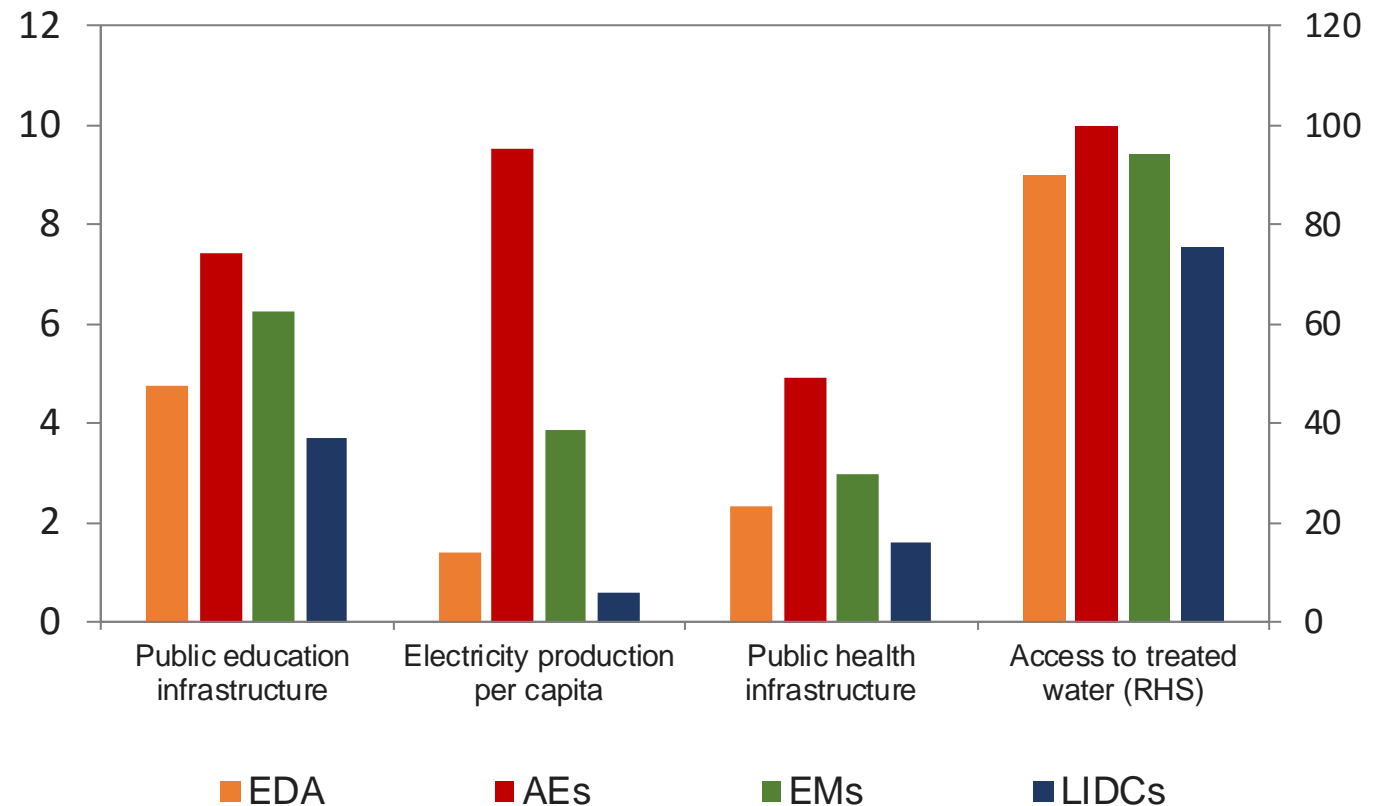
# However, infrastructure outcomes in emerging Asia are still lagging behind.

*Physical measures of access to infrastructure also suggest emerging and developing Asia still lags behind emerging markets on average.*

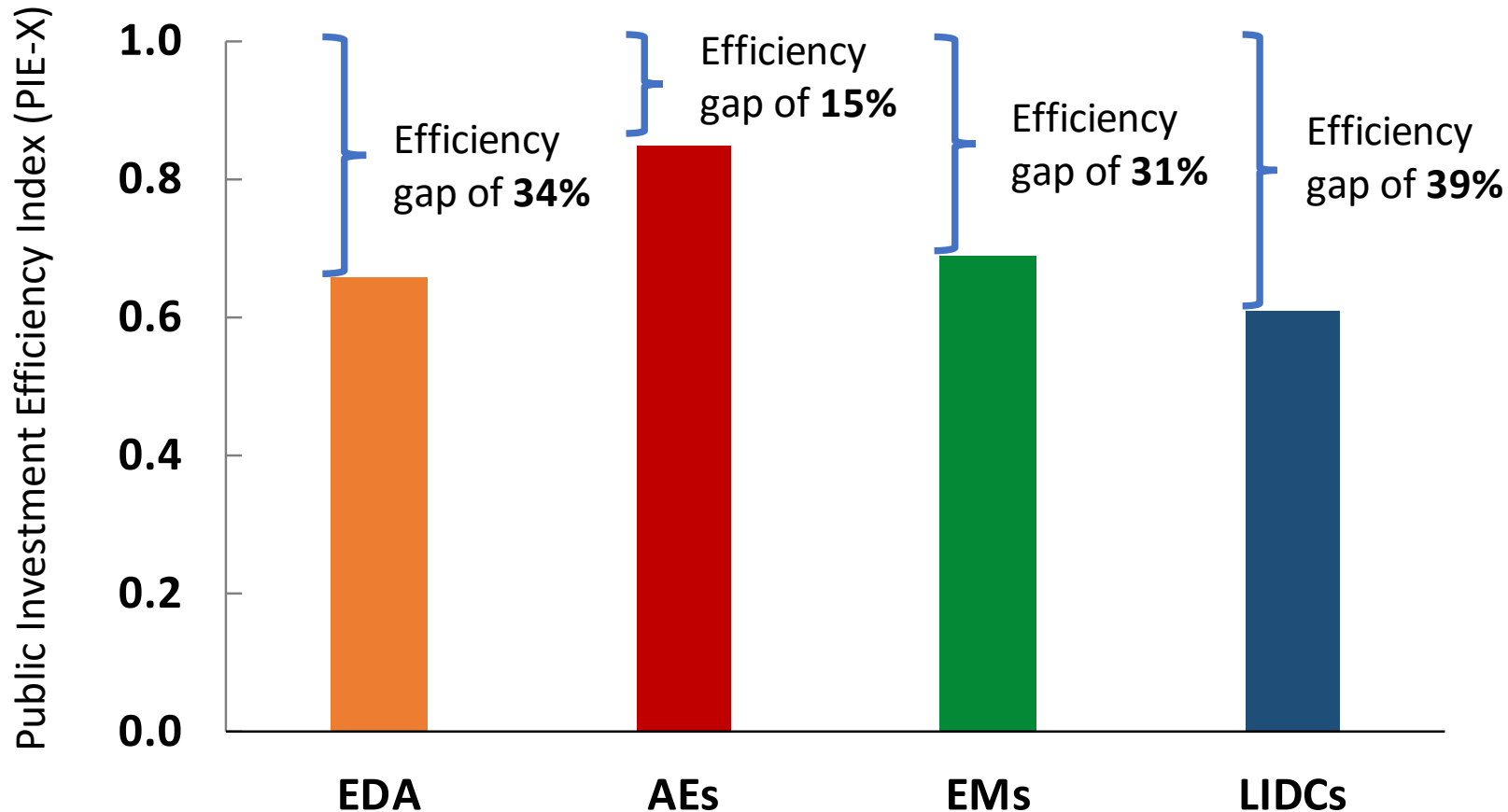
## Measures of Infrastructure Access (2017, World Development Indicators)

Left hand axis: education infrastructure is measured as secondary teachers per 1,000 persons; health infrastructure as hospital beds per 1,000 persons; and electricity production as kWh per 1,000 persons.

Right hand axis: access to water is measured as percent of population.



# Therefore, emerging and developing Asia would need to improve the infrastructure outcomes of public investment spending.



**Public Investment  
Efficiency Scores (IMF  
staff estimates)**

Note: the efficiency gap measures the relative difference between a country's performance and best performers.



## **II. How To Meet Asia's Large Infrastructure Needs?**

# How to meet Asia's large infrastructure needs?

More / Better  
infrastructure in  
emerging Asia

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graph TD; A[More / Better infrastructure in emerging Asia] --- B[Debt / tax financing]; A --- C[Private sector financing]; A --- D[Public investment efficiency gains];
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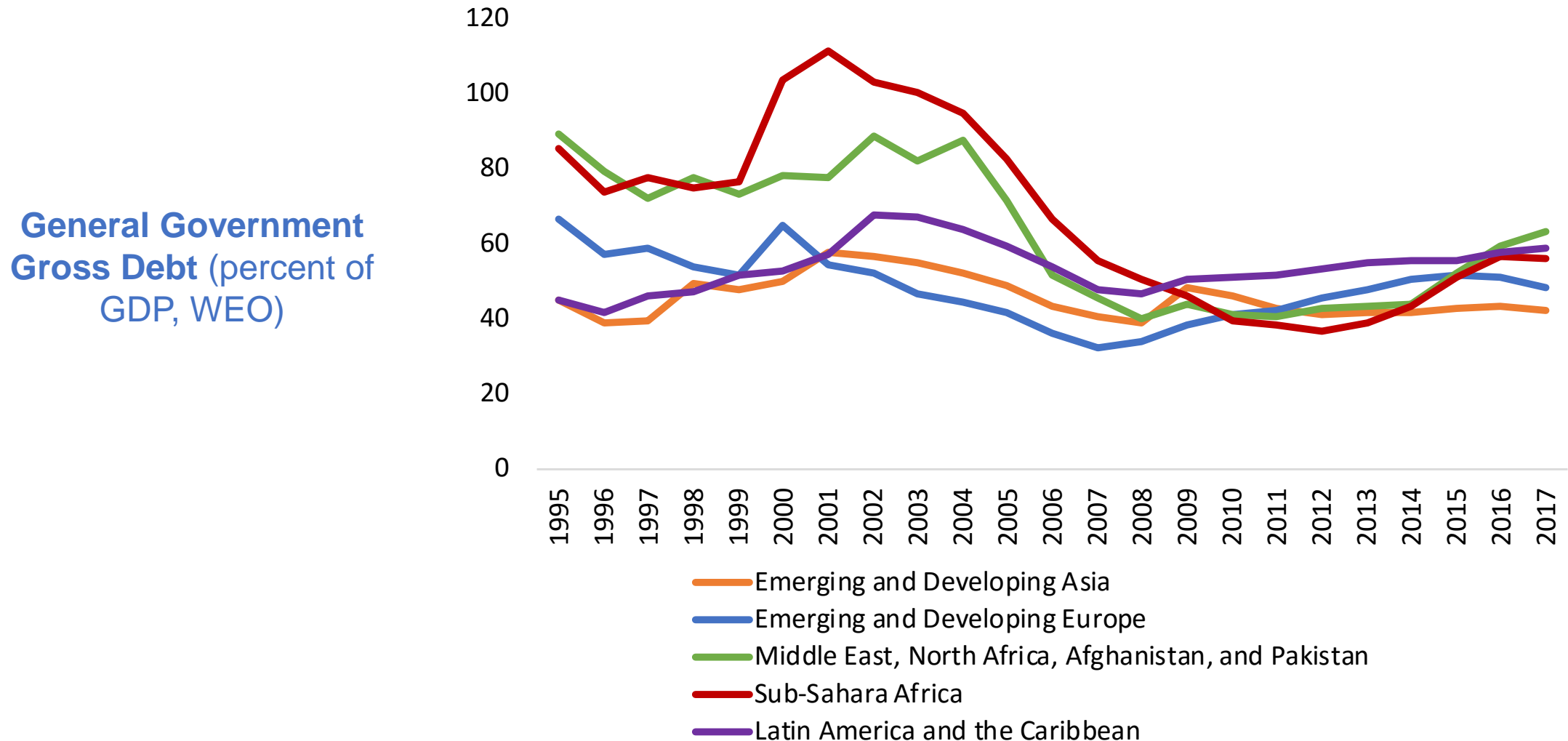
Debt / tax  
financing

Private sector  
financing

Public  
investment  
efficiency gains

## a. Debt / Tax financing

Public debt in emerging Asia has stagnated between 40 and 50% over the past two decades.



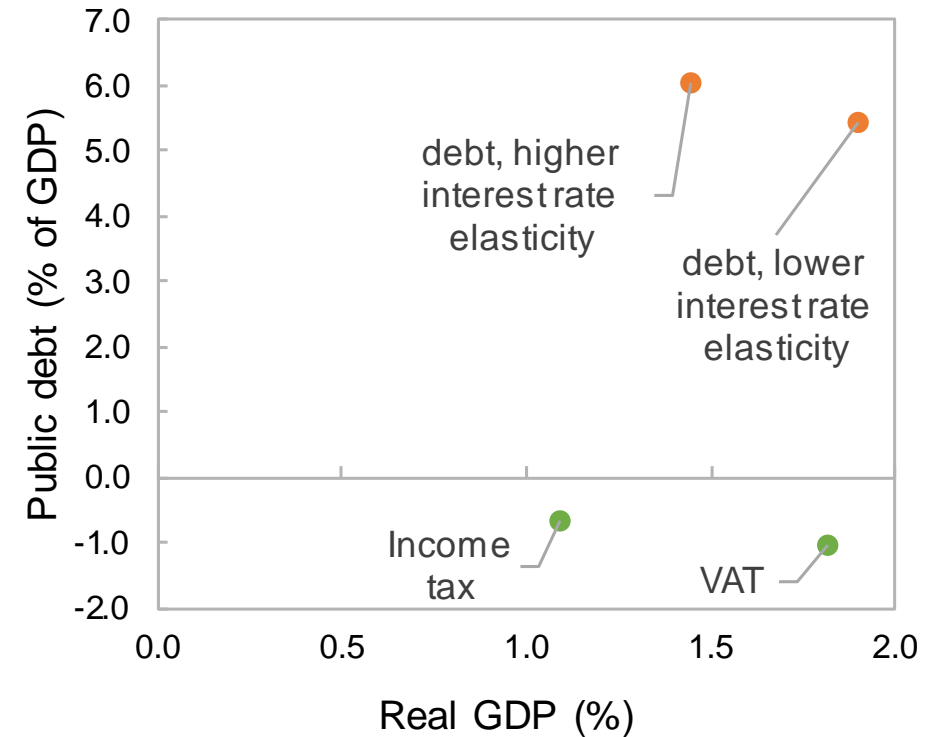
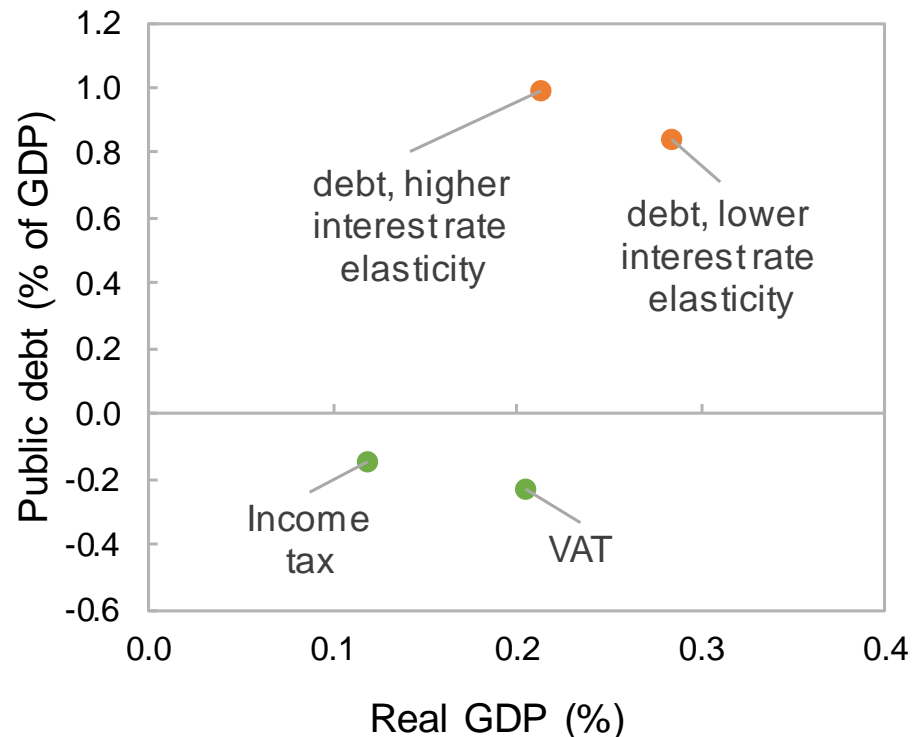
## a. Debt / Tax financing

### Should the boost in infrastructure spending be financed by **tax measures** or **borrowing**?

Impact of a Permanent One-Percent-Of-GDP Increase of Public Investment Phased In Over Five Years on Debt and Growth (average for six countries, IMF staff estimates)

**Short to medium term:** debt financing yields more growth than tax measures... but also more debt.

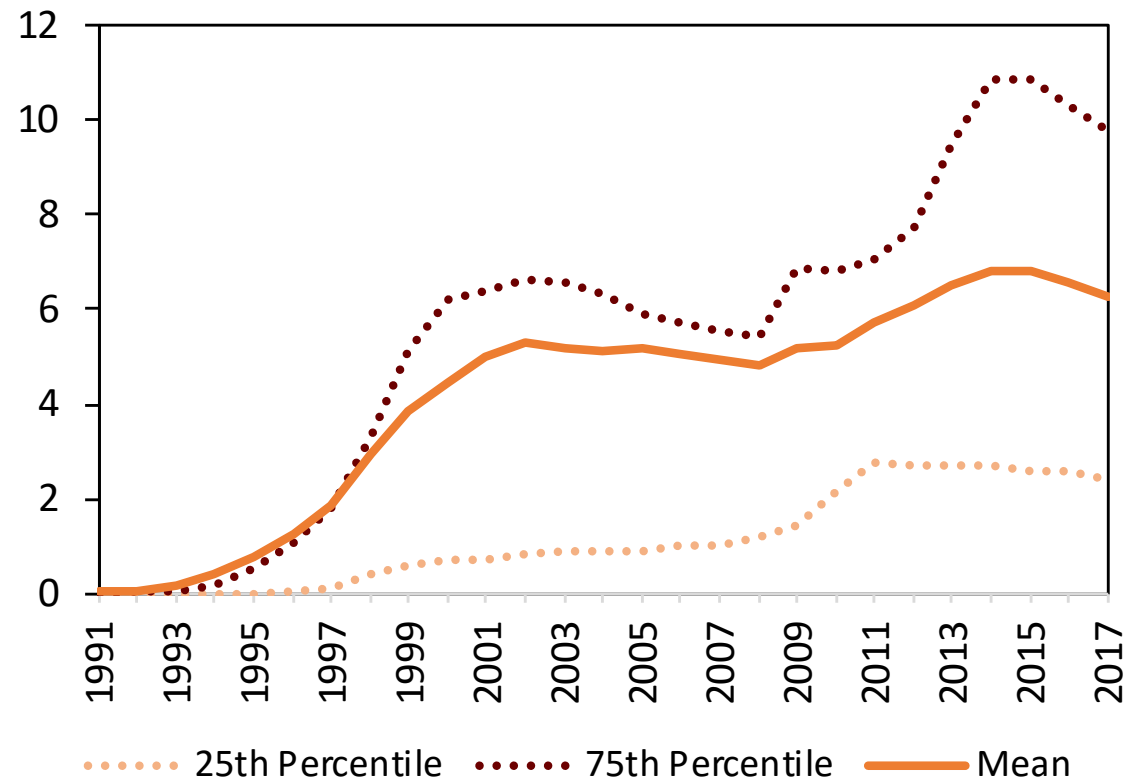
**Long term:** growth pickups are similar for borrowing and VAT... but borrowing significantly increases debt.



## b. Private sector financing

A growing proportion of infrastructure in Asia has been delivered through public private partnerships (PPPs).

**PPP Capital Stock in Emerging and Developing Asia** (excl. China and Lao PDR)  
(percent of GDP; WB and IMF staff estimates)

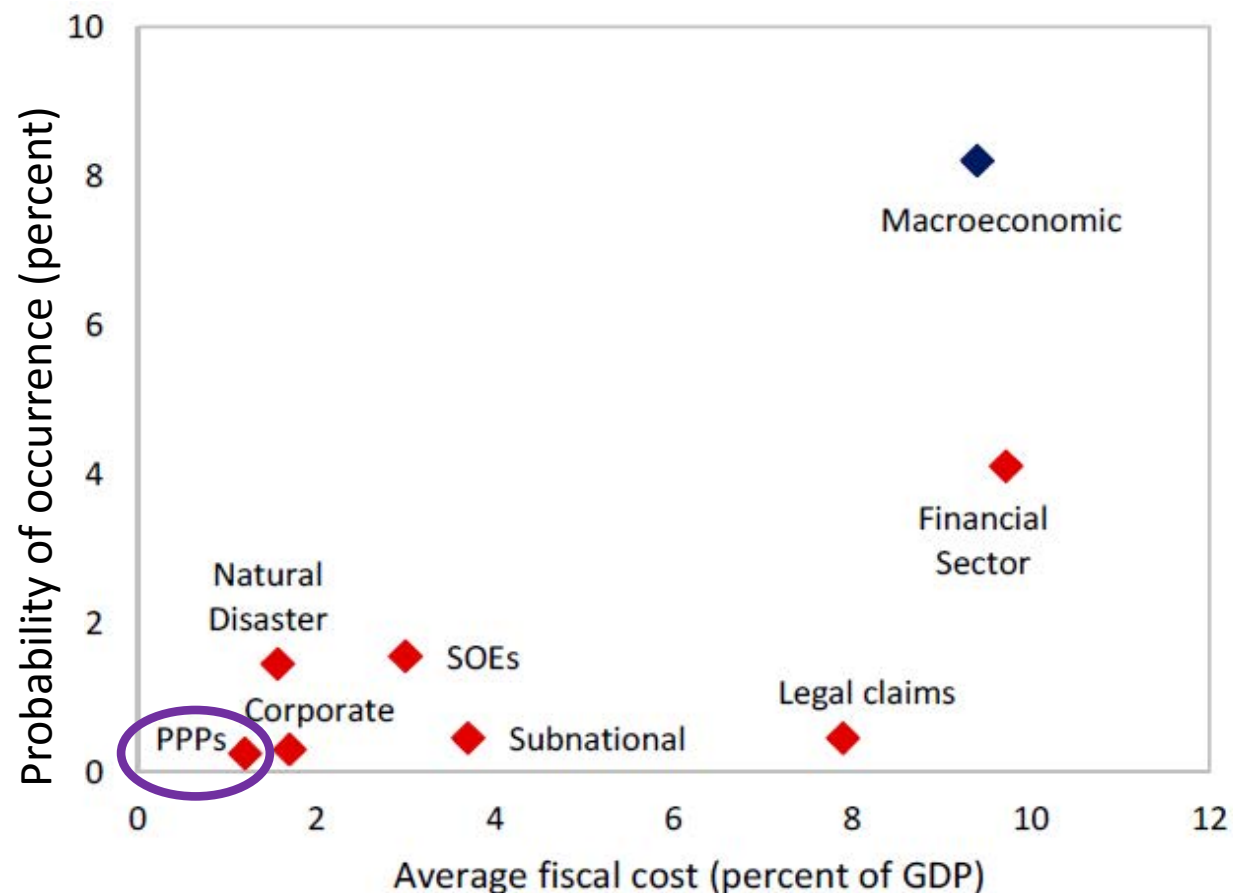


## b. Private sector financing

There are potentially significant fiscal risks associated with PPPs.

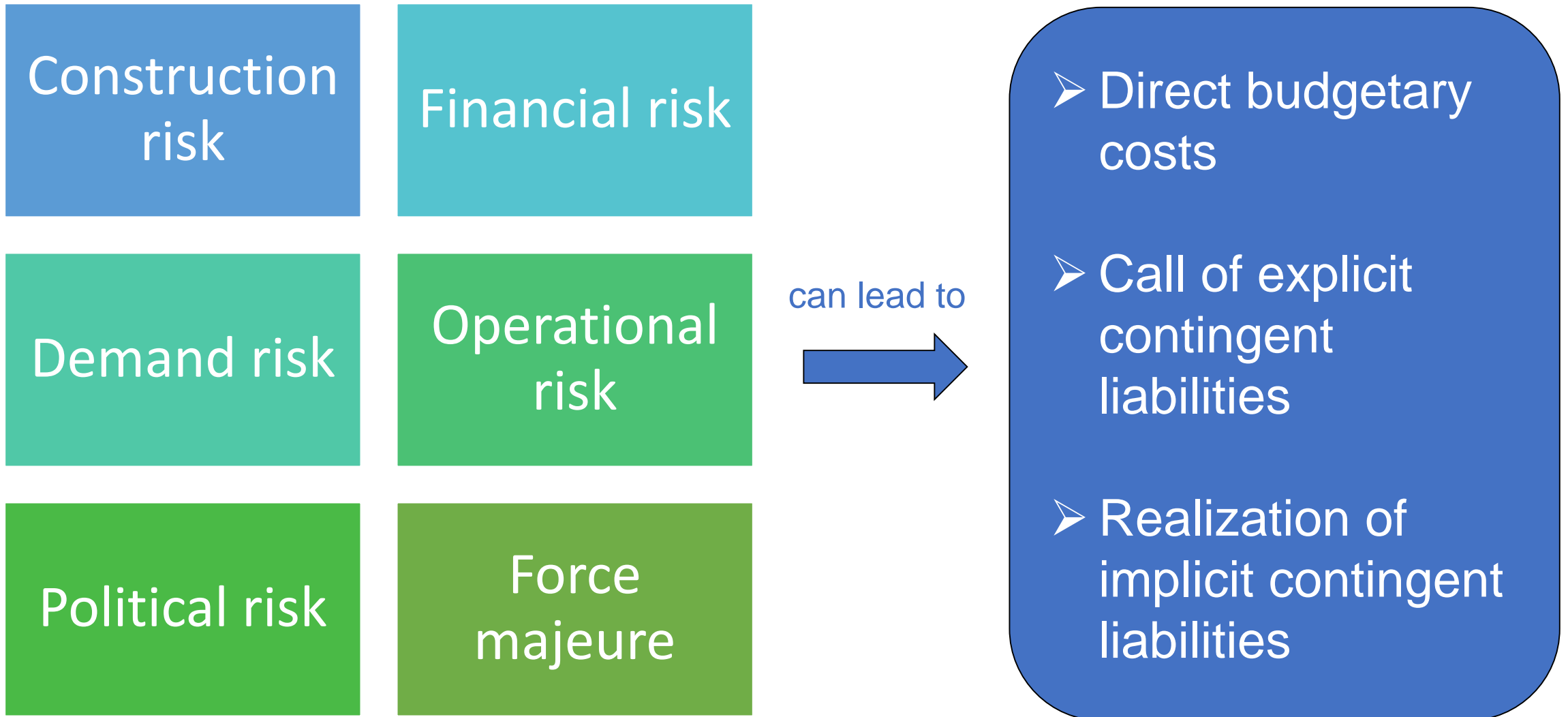
- **PPPs fiscal risks are potentially large:**
  - They are typically off-budget and they can bypass classic spending, deficit or debt controls
  - They reduce budget flexibility in the long term
  - They can threaten macro-fiscal sustainability
- **Occurrence has been limited so far...**
  - **... but there is potential for larger fiscal costs in the future.**

Cost and frequency of fiscal risks realization (1990-2014)  
(Bova et al, 2016)



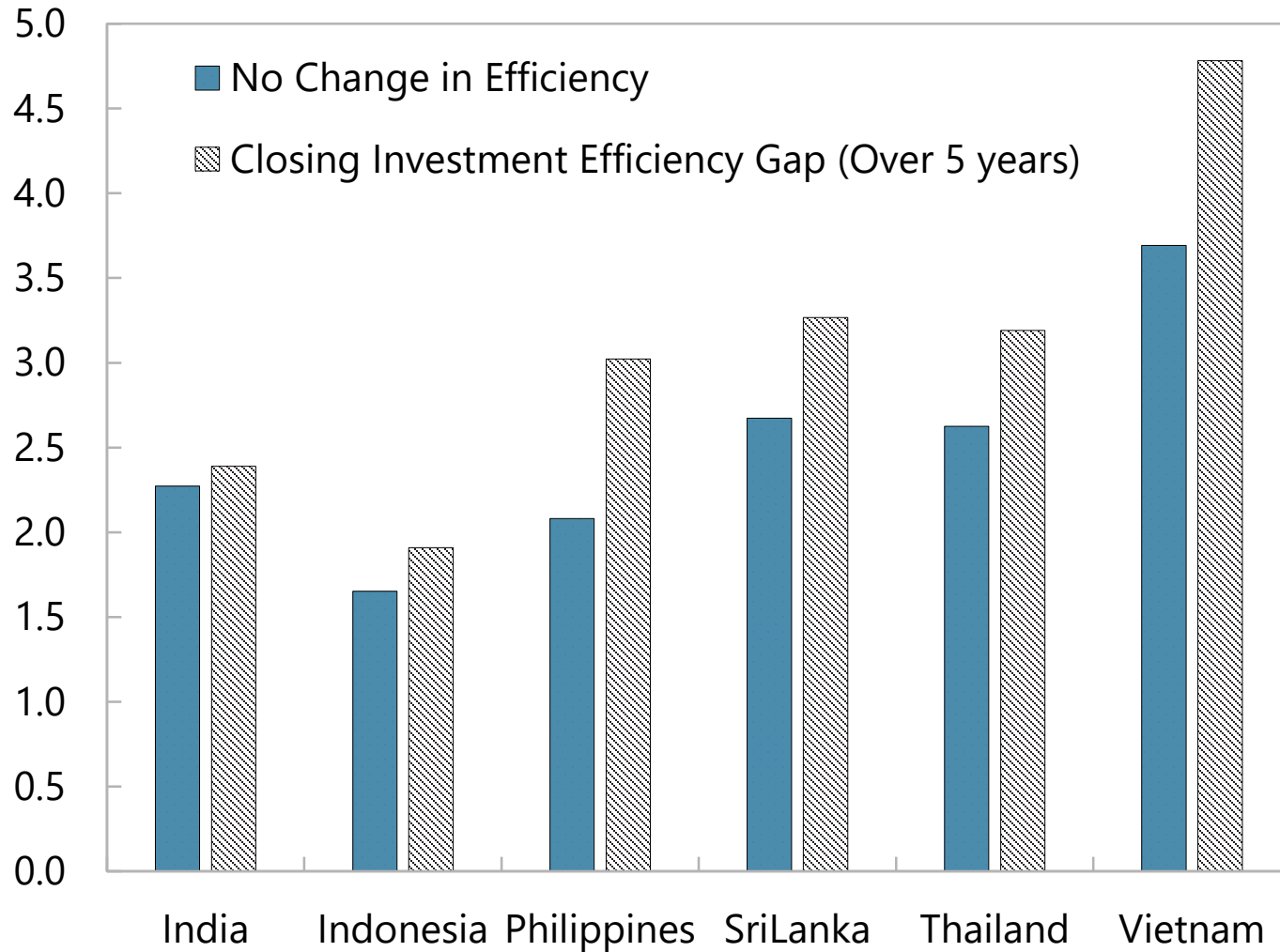
## b. Private sector financing

### Sources of fiscal risks associated with PPPs



## c. Public investment efficiency gains

Improving public investment efficiency could increase growth results.



Impact of the VAT-financing scenario on growth in 2030  
(percentage points of GDP; IMF staff estimates)



### c. Public investment efficiency gains

Twelve PIMAs have been conducted so far in the Asia-Pacific region.

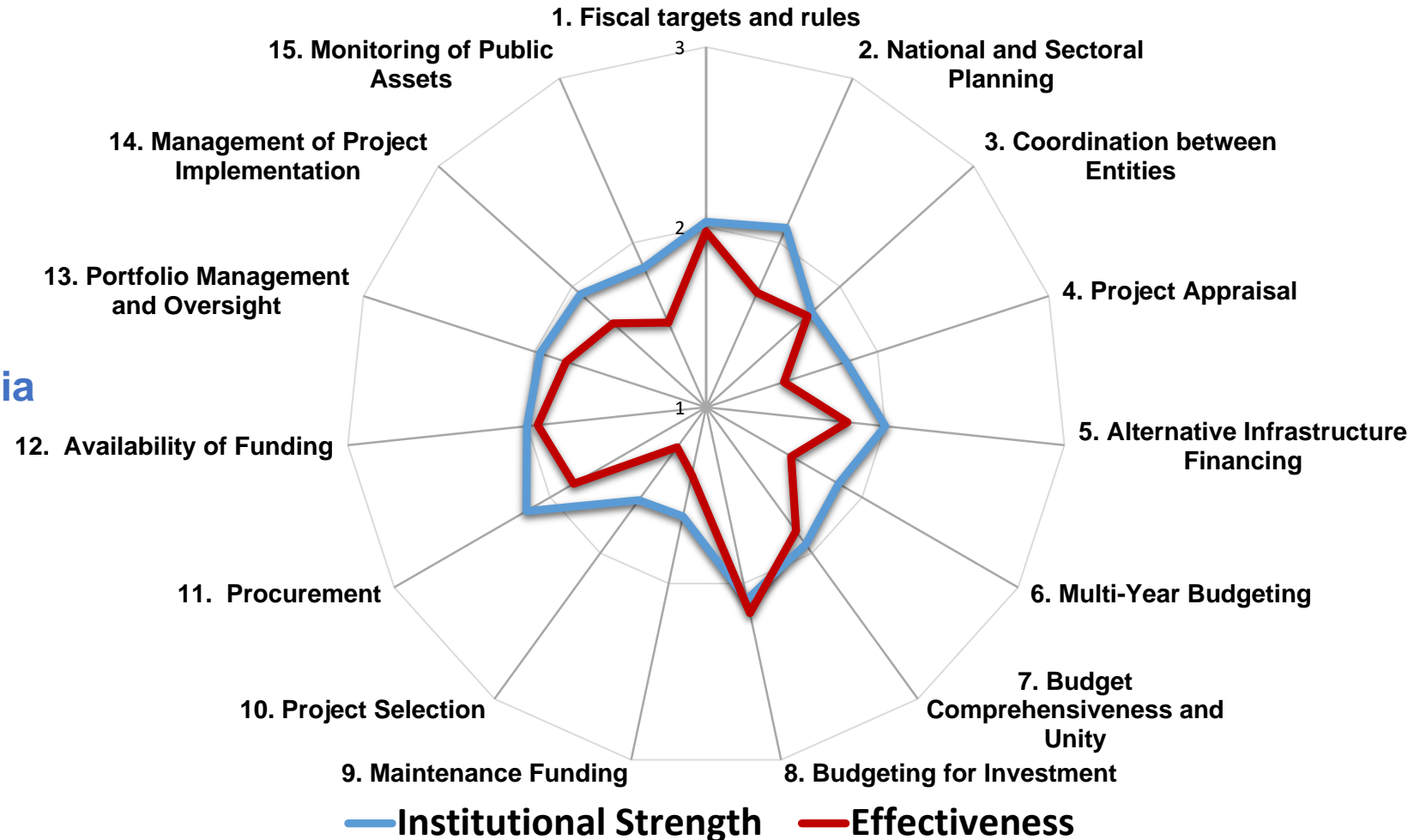


- Bangladesh
- Cambodia
- Indonesia
- Kiribati
- Malaysia
- Maldives
- Mongolia
- Philippines
- Sri Lanka
- Thailand
- Timor Leste
- Vietnam

## c. Public investment efficiency gains

There is potential to enhance public investment efficiency through better infrastructure governance.

Average PIMA scores in Emerging Asia  
(source: IMF; eleven countries)



## c. Public investment efficiency gains

**PIMA allows to identify the least effective infrastructure governance practices in Asia.**

PLANNING	FISCAL TARGETS AND RULES	
	NATIONAL AND SECTORAL PLANNING	
	COORDINATION BETWEEN ENTITIES	
	PROJECT APPRAISAL	
	ALTERNATIVE INFRASTRUCTURE FINANCING	
ALLOCATION	MULTIYEAR BUDGETING	
	BUDGET COMPREHENSIVENESS AND UNITY	
	BUDGETING FOR INVESTMENT	
	MAINTENANCE FUNDING	
	PROJECT SELECTION	
IMPLEMENTATION	PROCUREMENT	
	AVAILABILITY OF FUNDING	
	PORTFOLIO MANAGEMENT AND OVERSIGHT	
	MANAGEMENT OF PROJECT IMPLEMENTATION	
	MONITORING OF PUBLIC ASSETS	

### c. Public investment efficiency gains

Good IG practices developed in some countries are opportunities for peer-to-peer learning.



# Conclusion. Recommendations

- Asian countries need **more and better investment spending** to improve infrastructure outcomes and reach SDGs.
- In emerging Asia, financing an infrastructure spending boost with **higher indirect taxes** would be desirable in the long run in view of the growth-debt tradeoff.
- Emerging and developing Asian countries can benefit from **improving public investment efficiency**, which helps produce more and better-quality infrastructure for every unit of money spent on infrastructure investment.
- They could enhance public investment efficiency by **focusing reform efforts on their weakest and most critical practices** of public investment management.



Thank you!