Public Finance and Development

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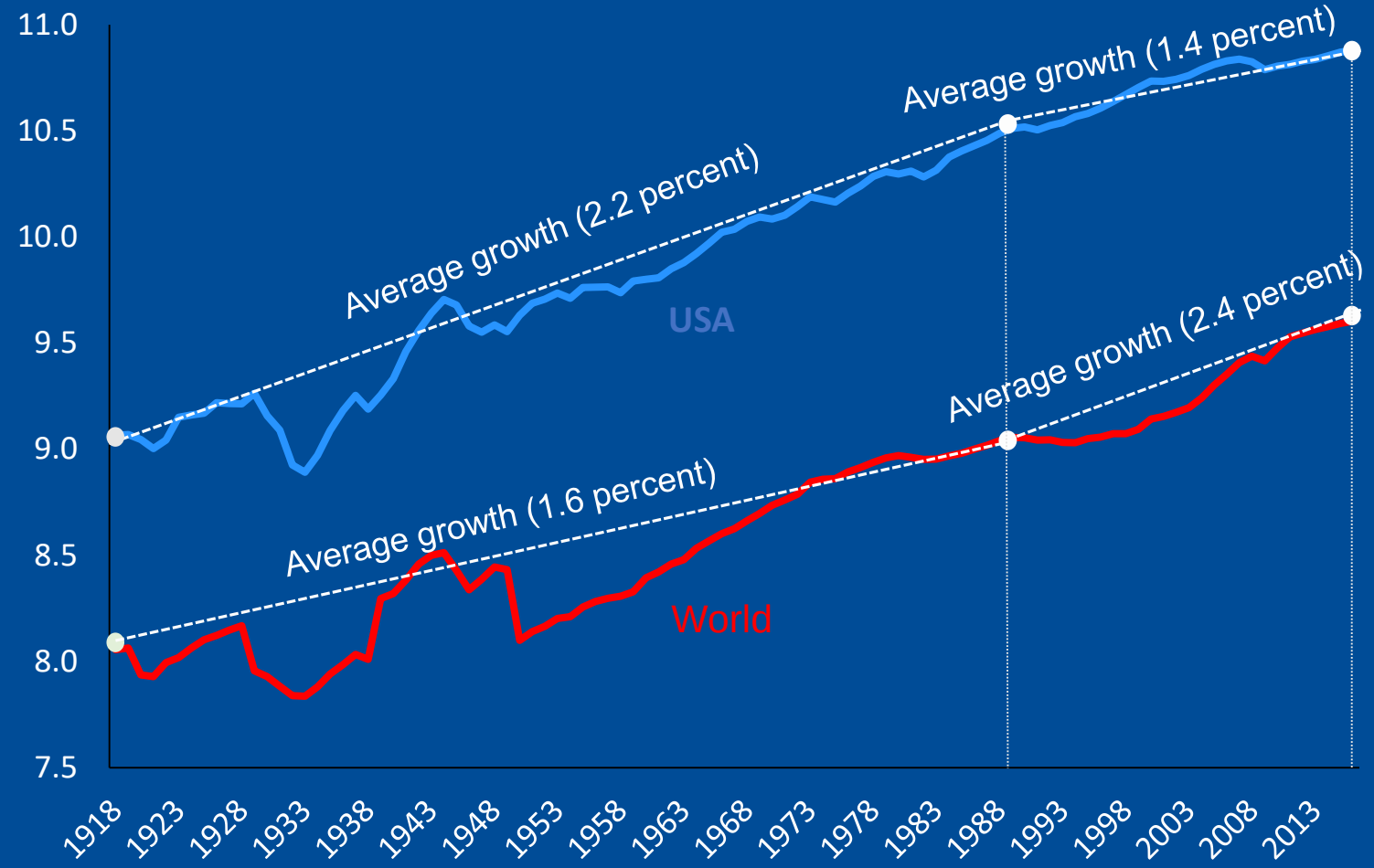
Fiscal Affairs Department

Outline

- State Capacity and Development
- Sustainable Development Goals
- Tax Capacity
- Other Contributing Factors
- Conclusions

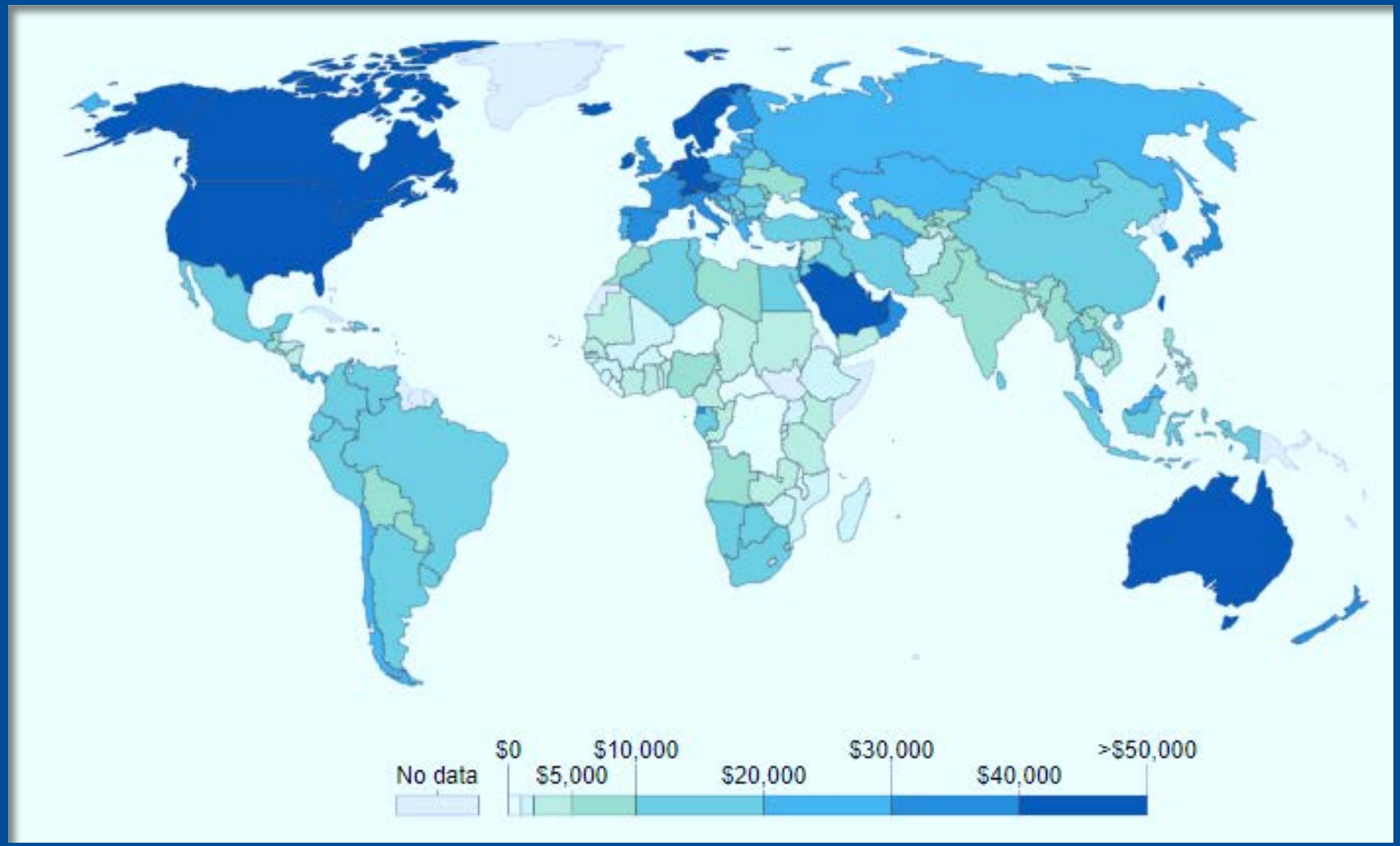
State Capacity and Development
Acceleration in Global Growth

World and US GDP per capita, 1918-2016 (in logs of 2011 US$)



Source: Maddison Project Database (2018).

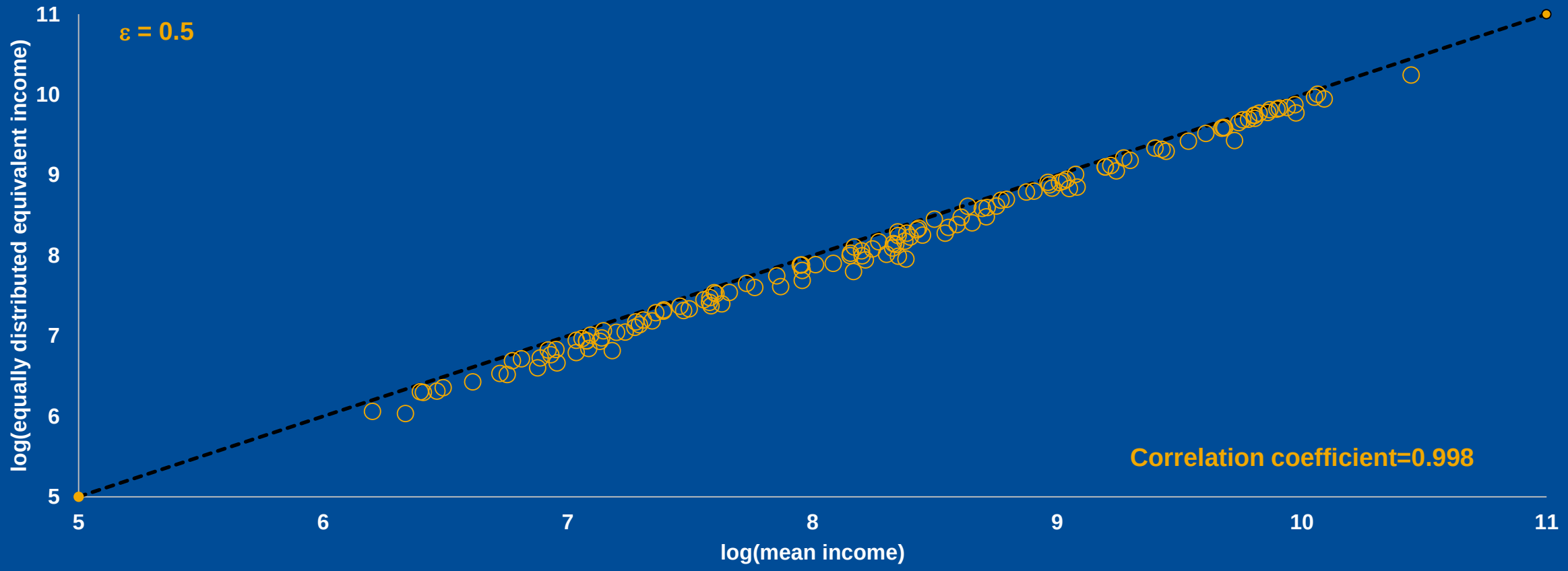
State Capacity and Development
GDP per Capita around the world, 2016



Source: Maddison Project Database (2018).

State Capacity and Development

Mean income vs. equally distributed equivalent income (2015, 139 countries)



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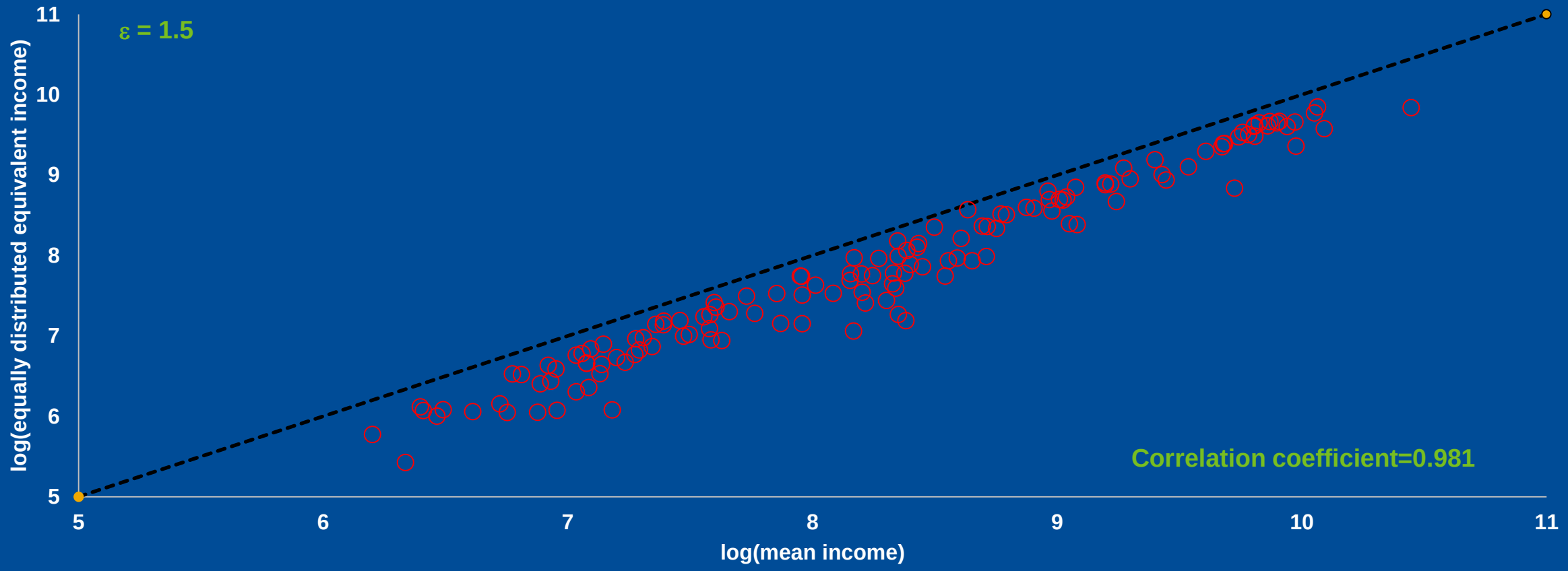

State Capacity and Development

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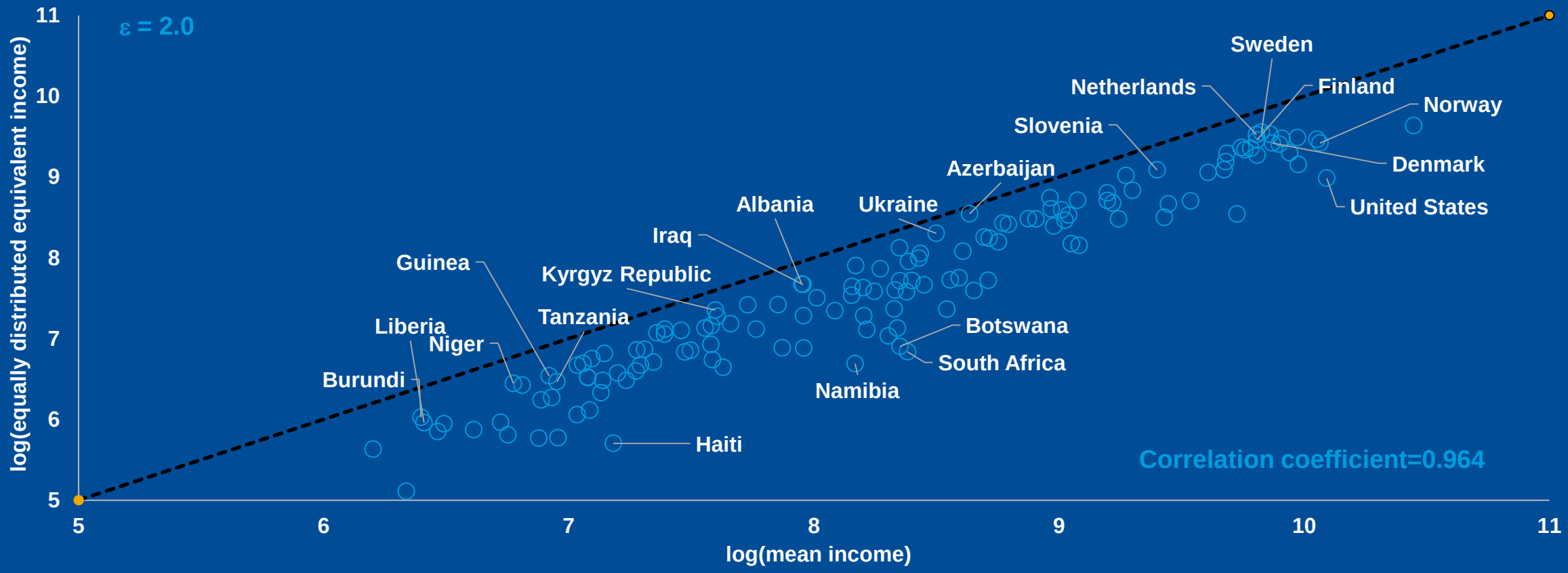
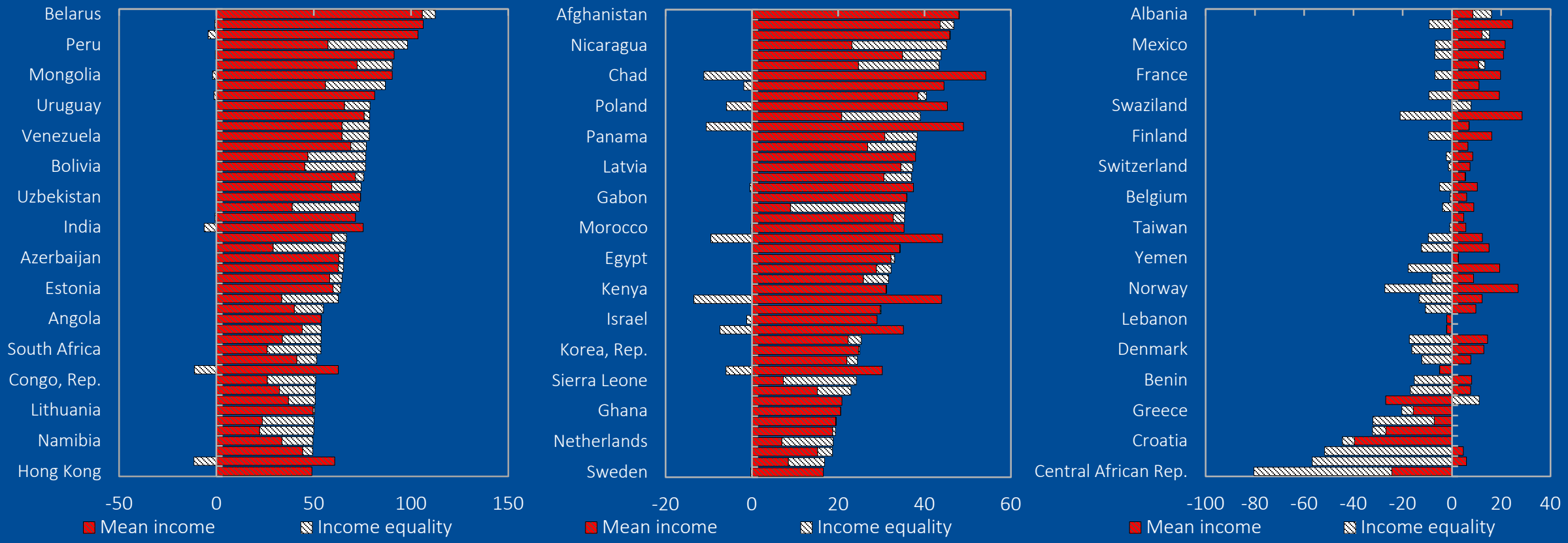


State Capacity and Development

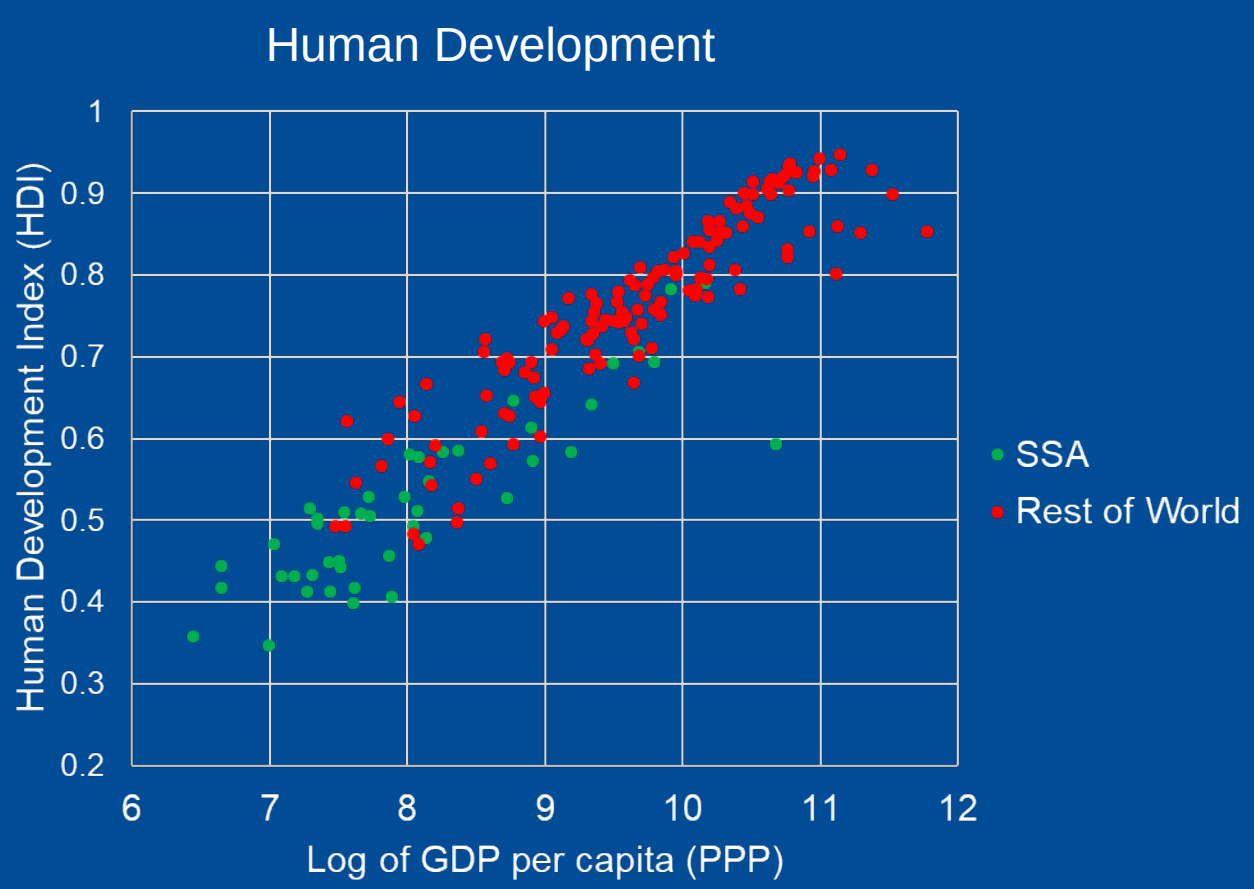
Empirically, changes in mean income dominate trends in social welfare (ε=2.0)



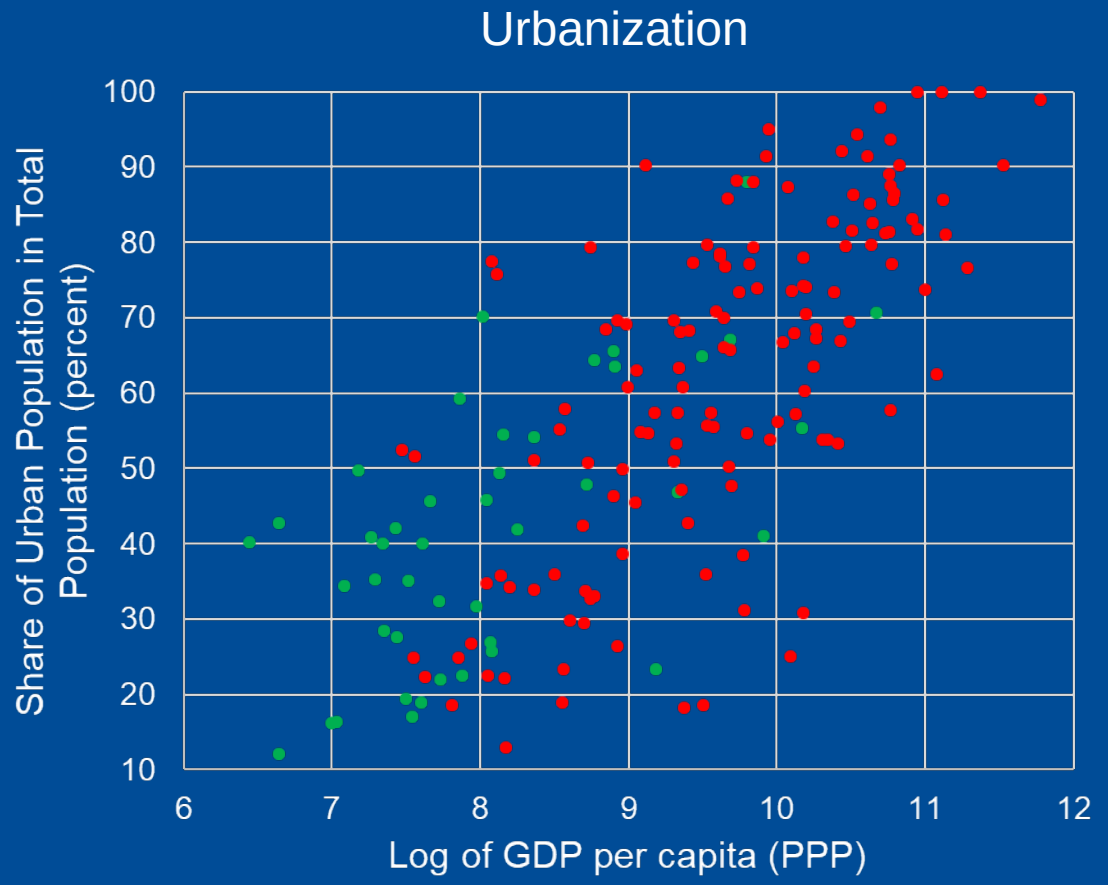
Source: *Hellebrandt and Mauro (2016) and IMF staff calculations.*

Note: Reported are contributions to changes between 2003-15 in the equally-distributed-equivalent income from mean income and inequality. ε=2.0. Mean incomes and EDEI are logarithms of 2011 U.S. international dollars (i.e., at purchasing power parity). Inequality is measured using the Atkinson index.

State Capacity and Development
Human Development and Urbanization



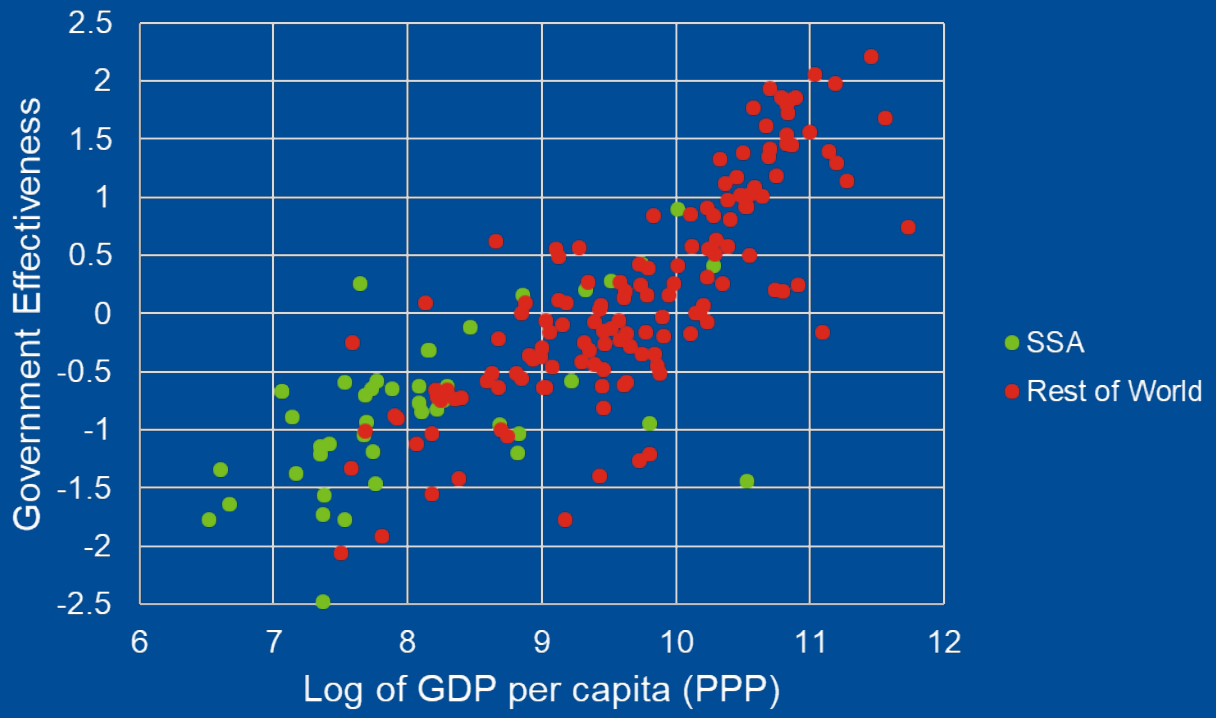
Sources: United Nations; and IMF WEO.



Sources: World Bank; and IMF WEO.

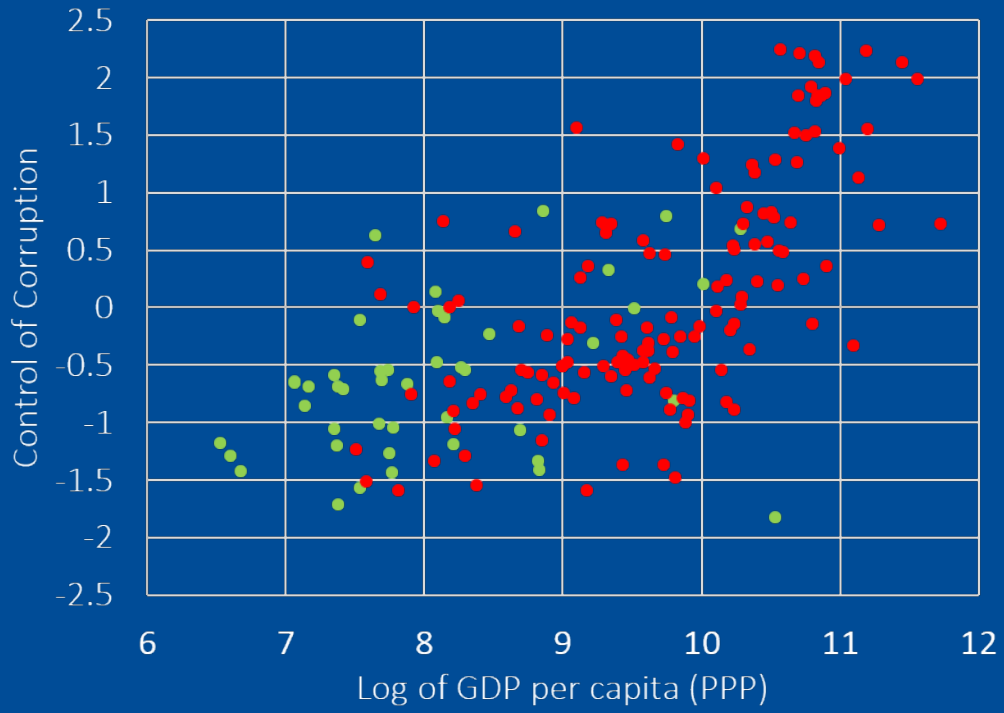
State Capacity and Development
Governance

Government Effectiveness



Sources: World Bank; and IMF WEO.

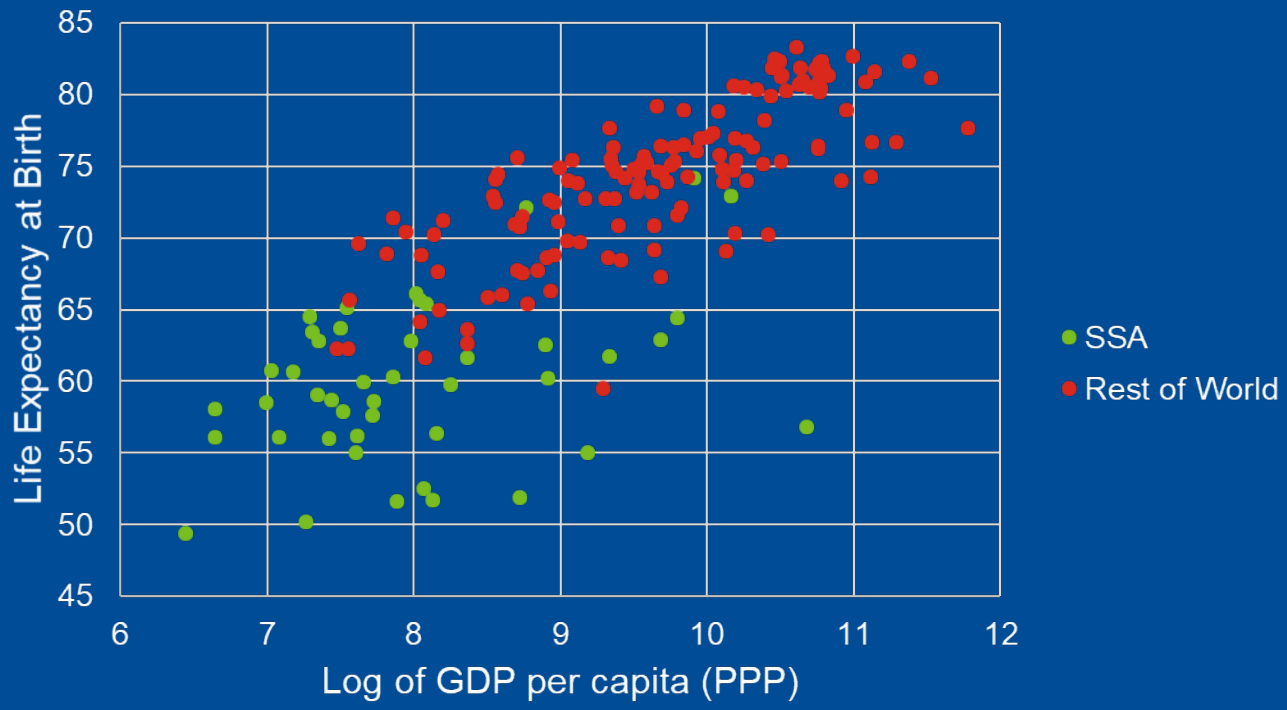
Control of Corruption



Sources: World Bank; and IMF WEO.

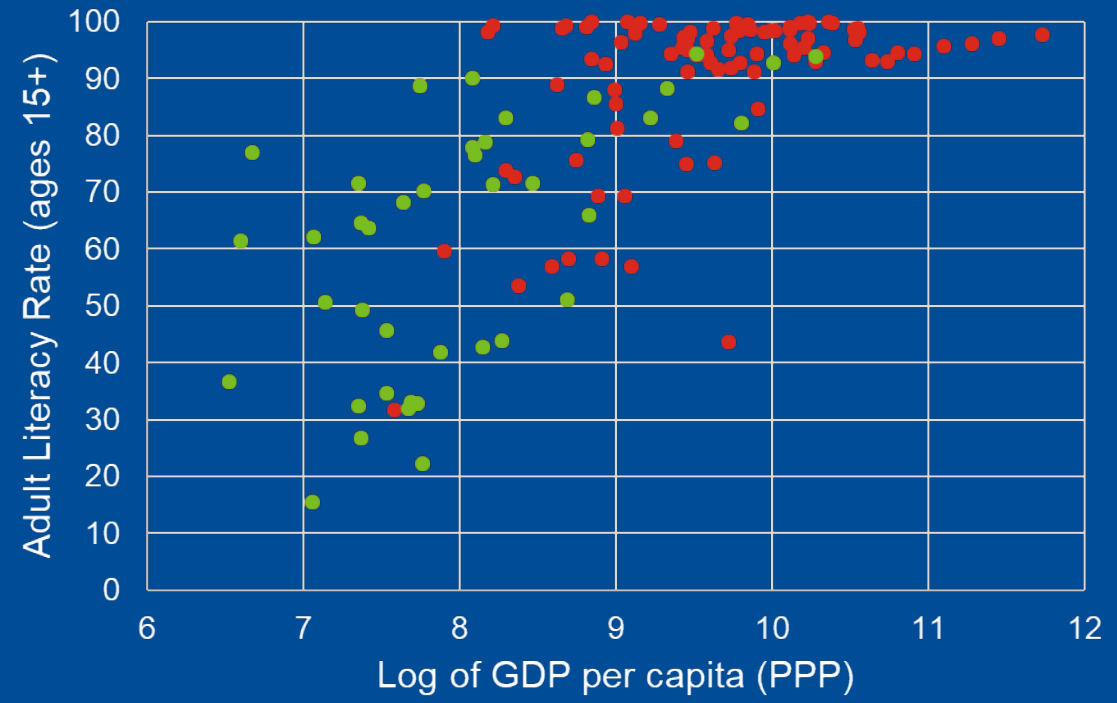
State Capacity and Development
Health and Education

Life Expectancy



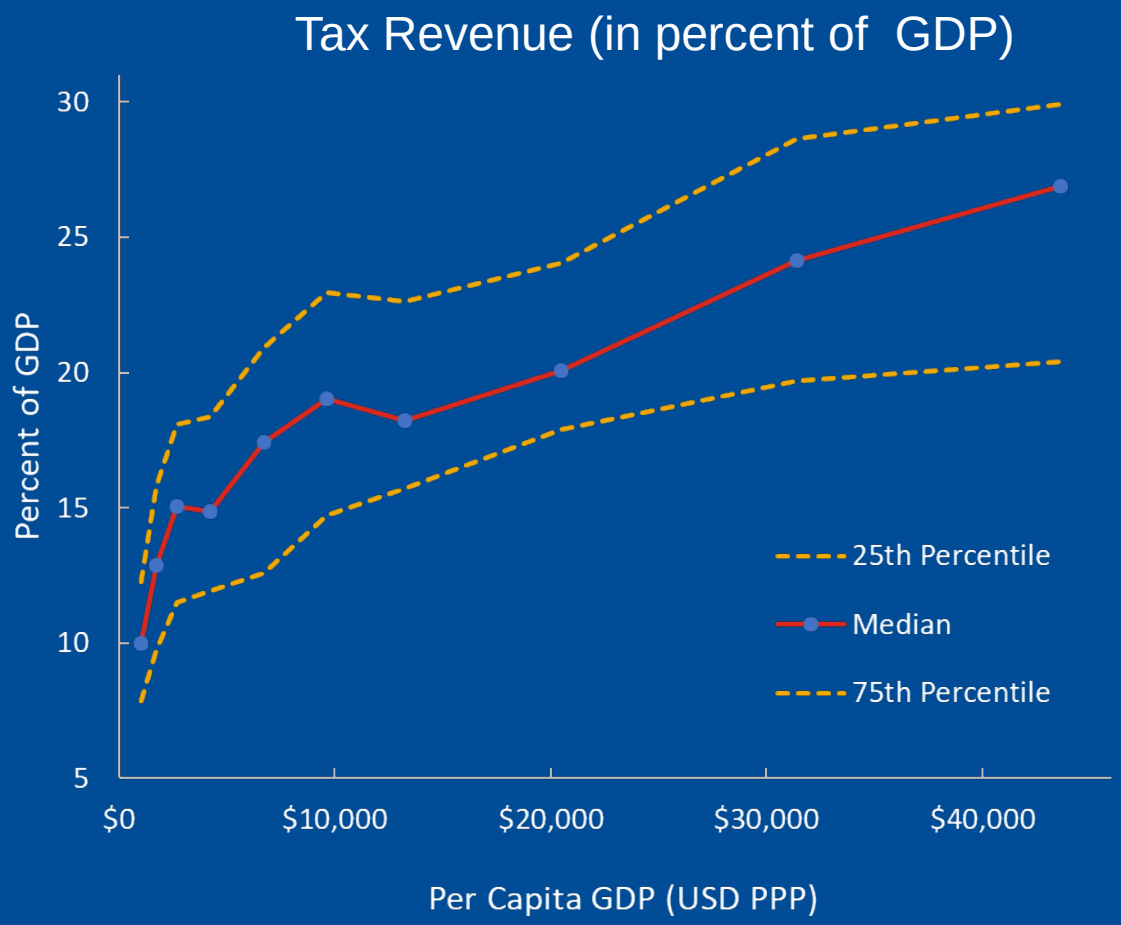
Sources: United Nations; and IMF WEO.

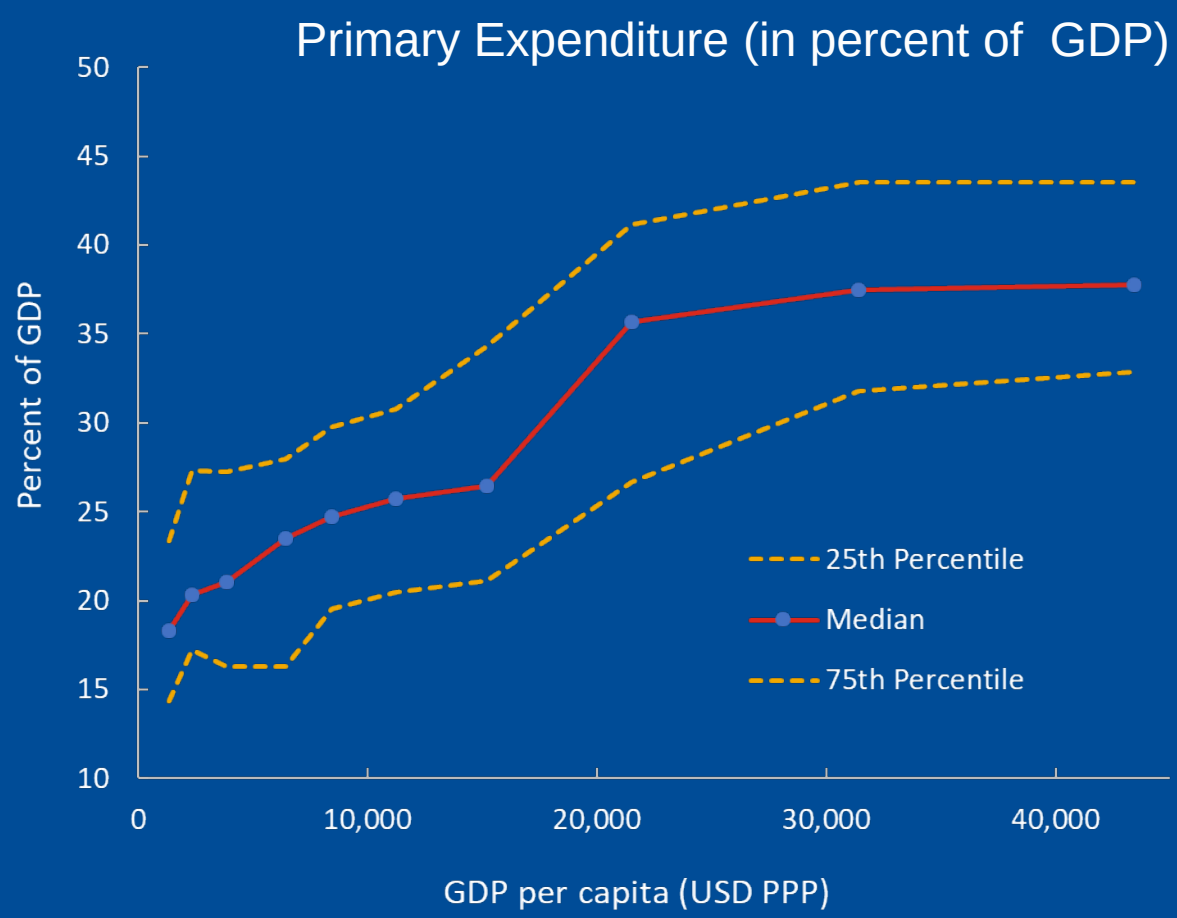
Adult Literacy



Sources: World Bank; and IMF WEO.

State Capacity and Development
Size of Government

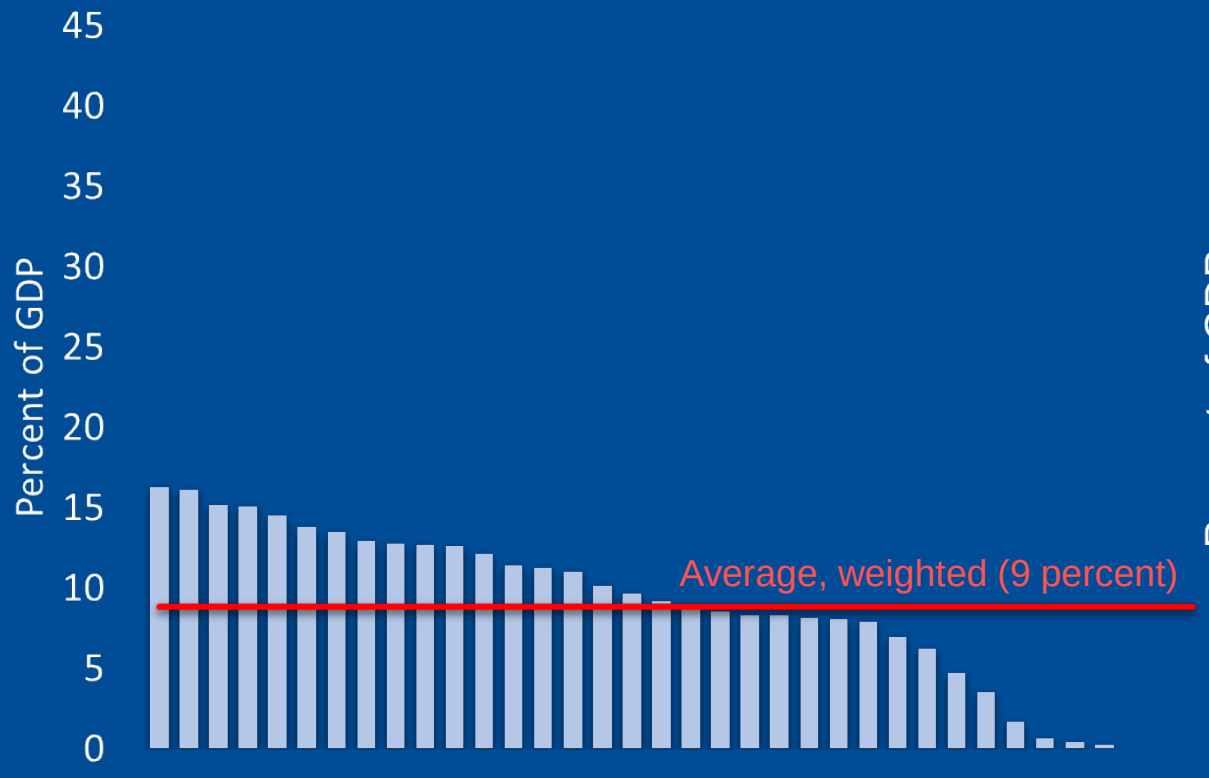




Sources: IMF WoRLD, WEO; and IMF Staff Estimates.
Note: The dots represent median values for each income decile, and the red dotted lines 25 and 75 percentile bounds.

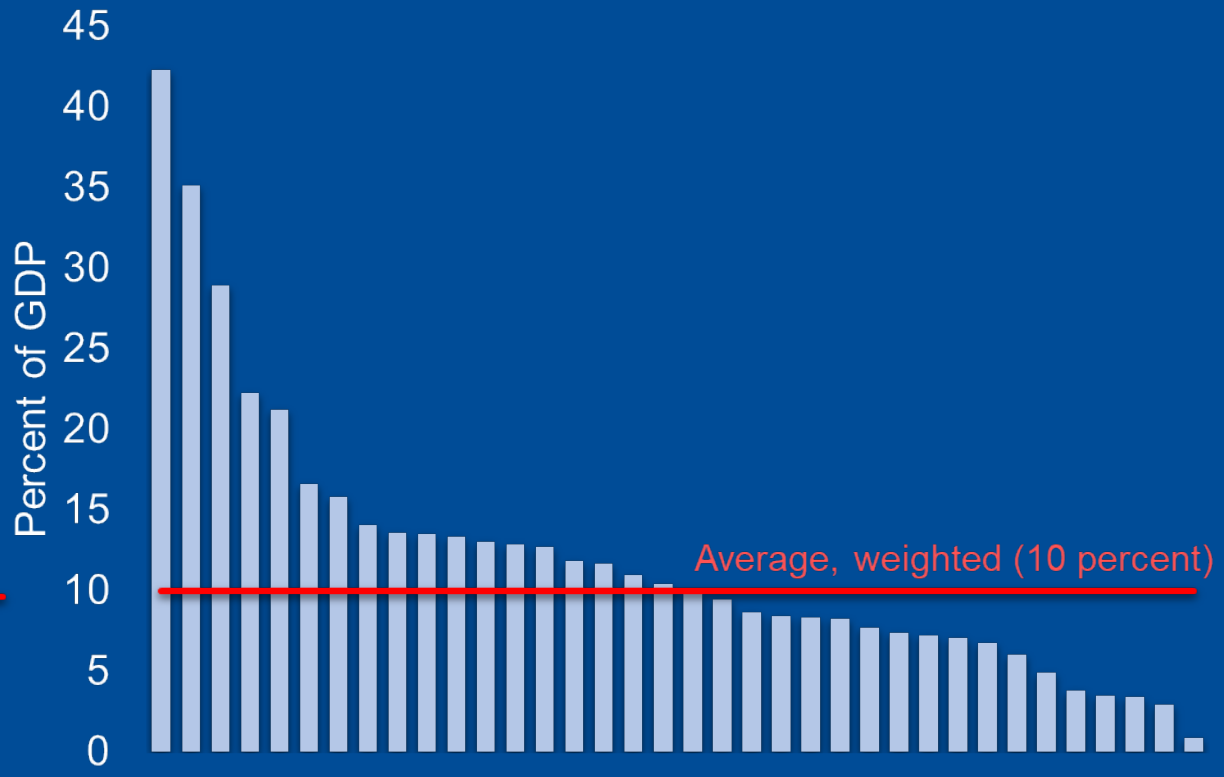
Sustainable Development Goals
Annual Additional Spending Needs in 2030

Additional Spending in ***Human*** Capital in SSA
(in percent of 2030 GDP)



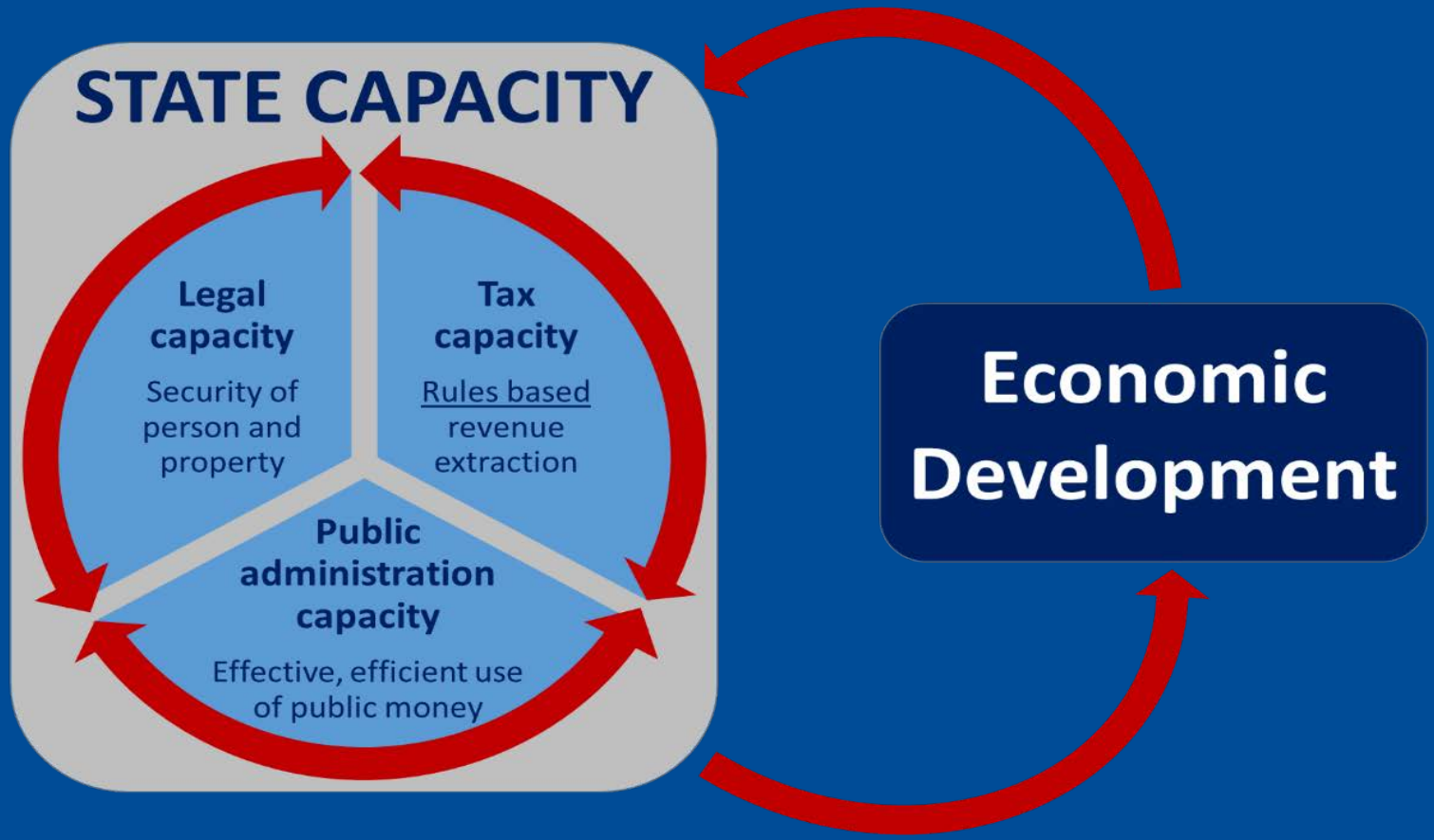
Source: IMF staff estimates.

Additional Spending in ***Physical*** Capital in SSA
(in percent of 2030 GDP)

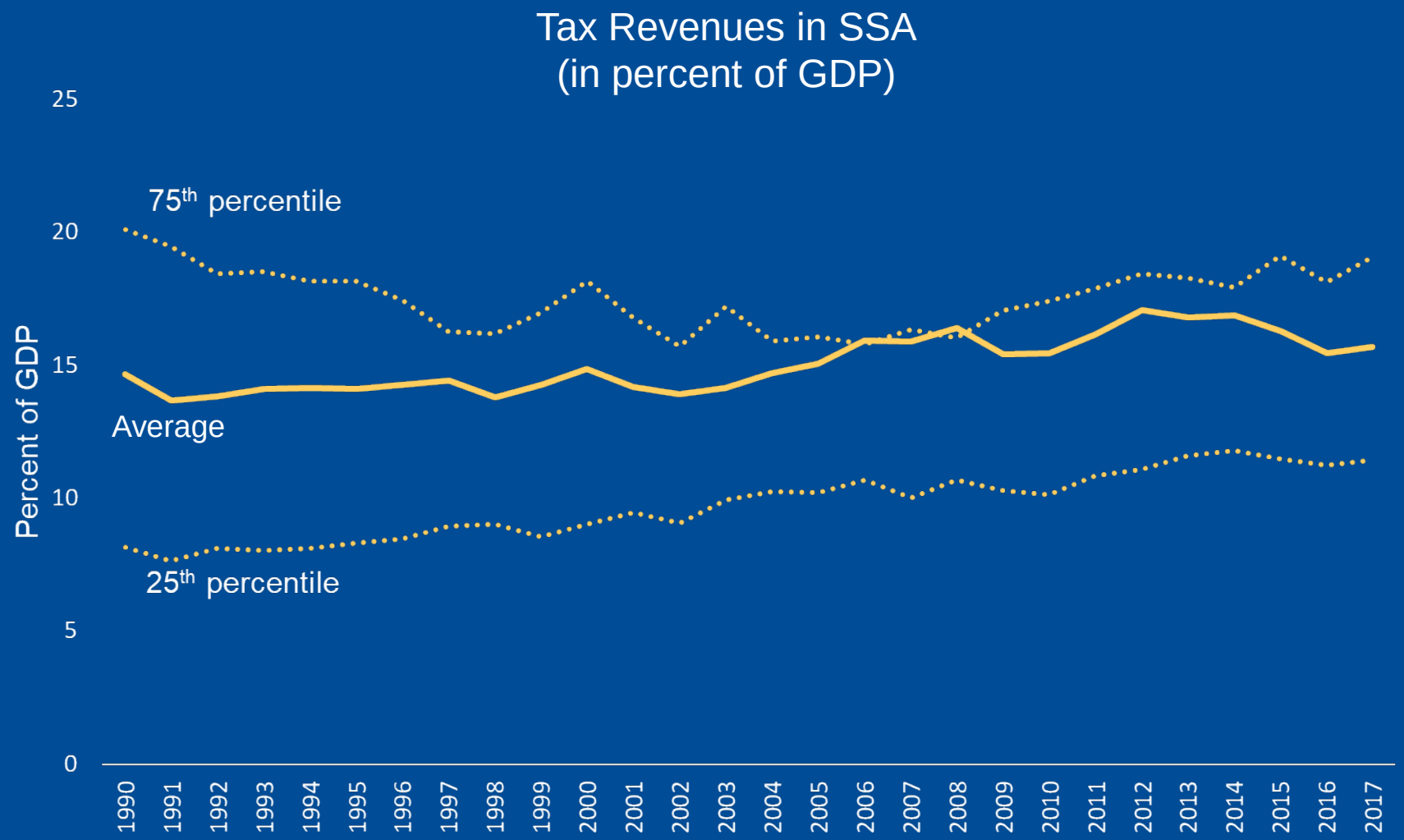


Source: IMF staff estimates.

Tax Capacity
Tax capacity for State Capacity

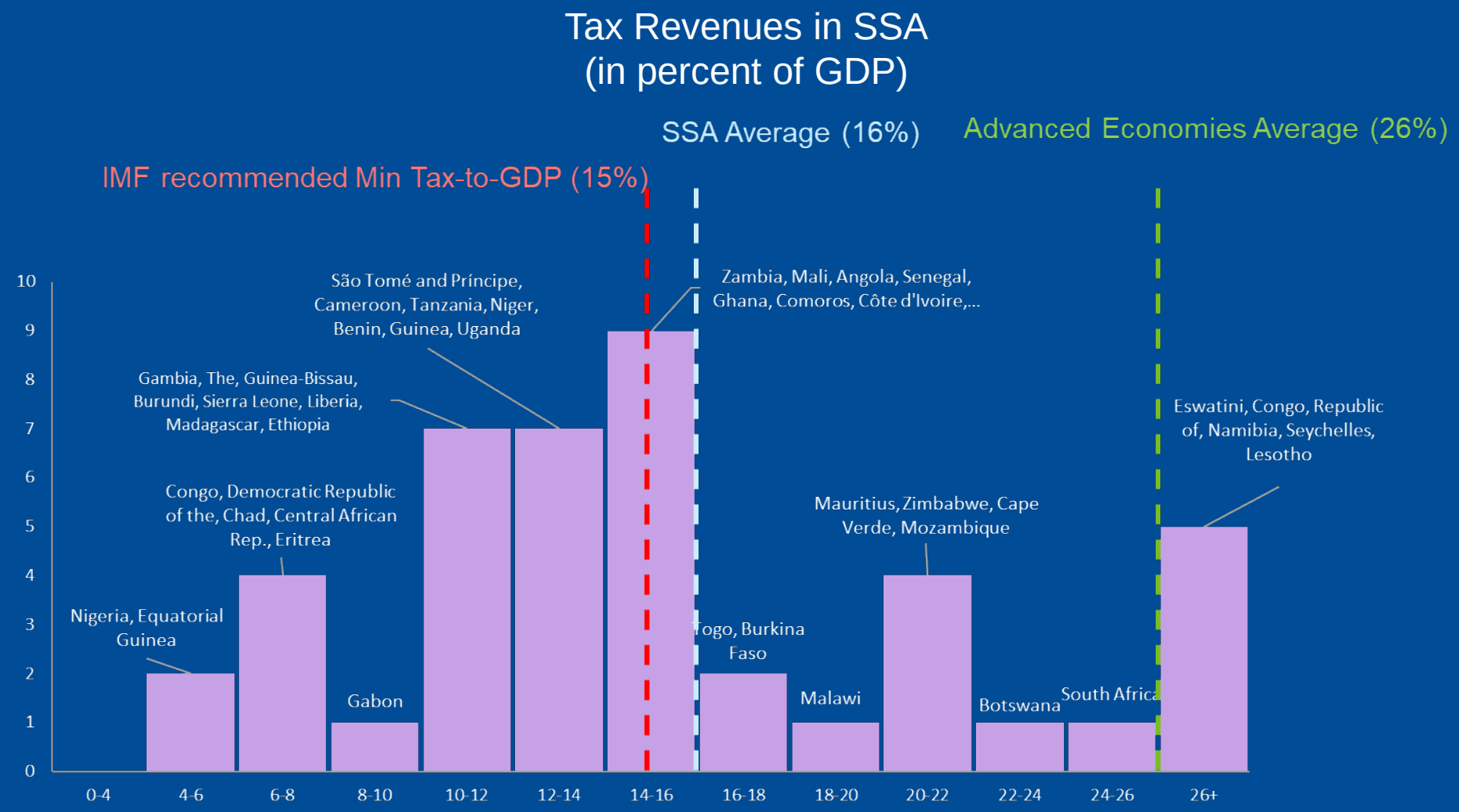


Tax Capacity
Tax Revenues on the Rise in SSA



Sources: IMF WoRLD, WEO; and IMF Staff Estimates.

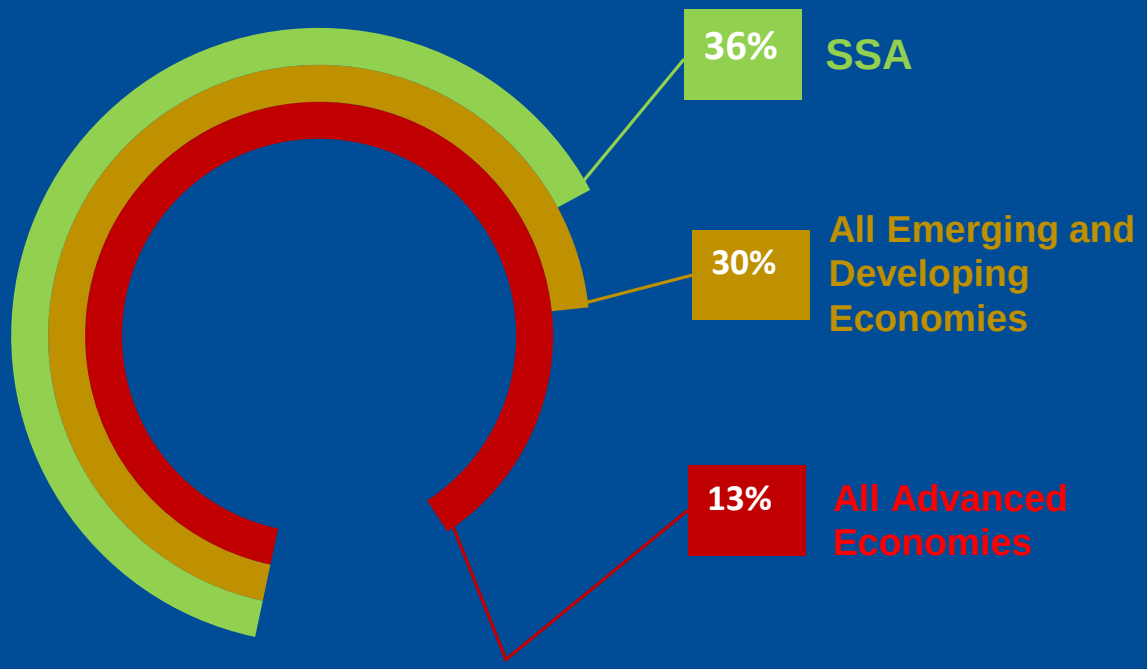
Tax Capacity
Low Revenues in Many Countries



Sources: IMF WoRLD, WEO; and IMF Staff Estimates.

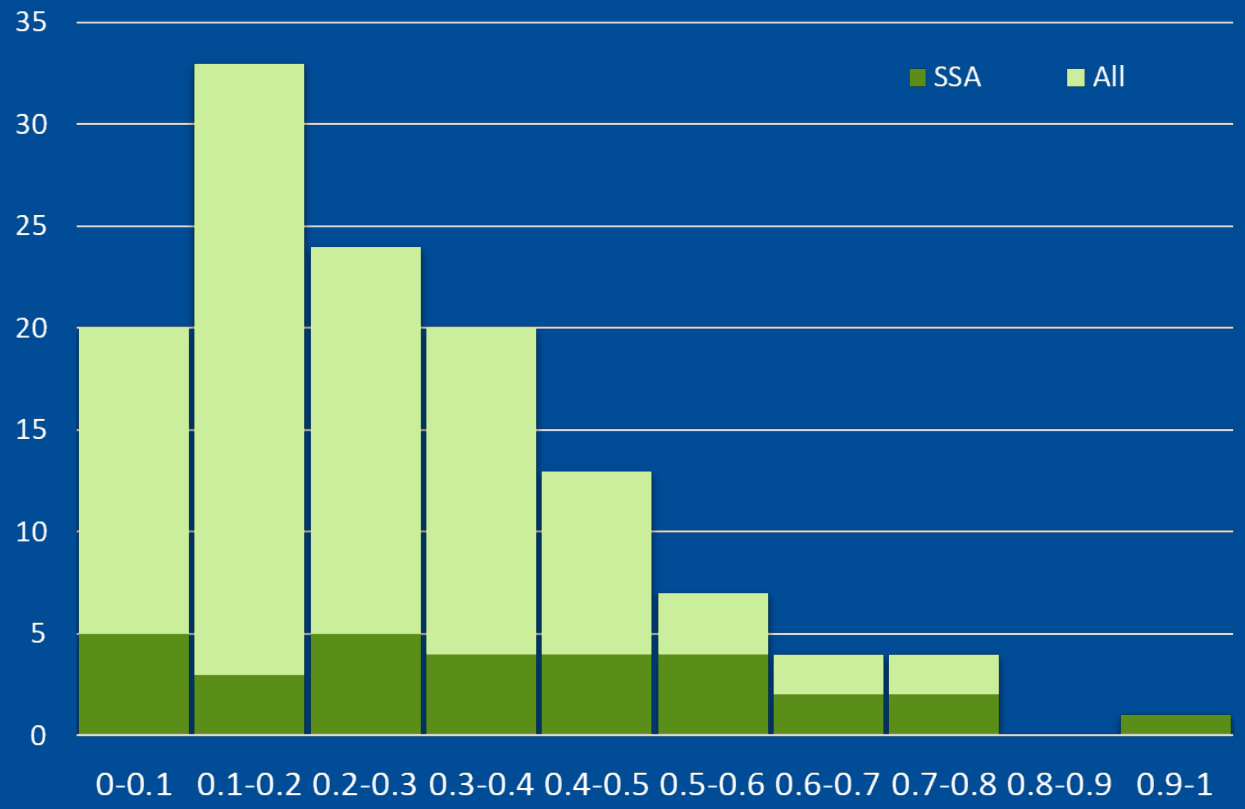
Other Contributing Factors
Physical Capital—Efficiency of Public Investment

Average Spending Efficiency Gaps (percent)



Source: IMF, *Making Public Investment More Efficient*, 2015.

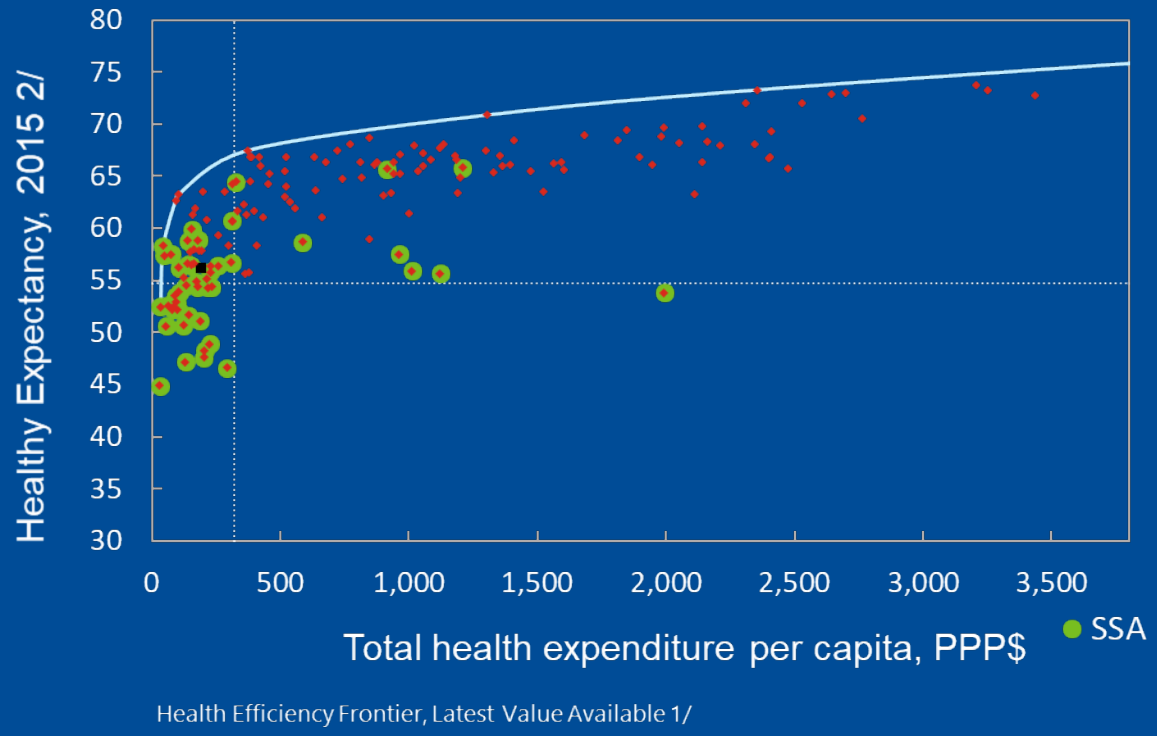
Distribution of Spending Efficiency Gaps



Source: IMF, *Making Public Investment More Efficient*, 2015.

Other Contributing Factors
Human Capital—Efficiency of Spending

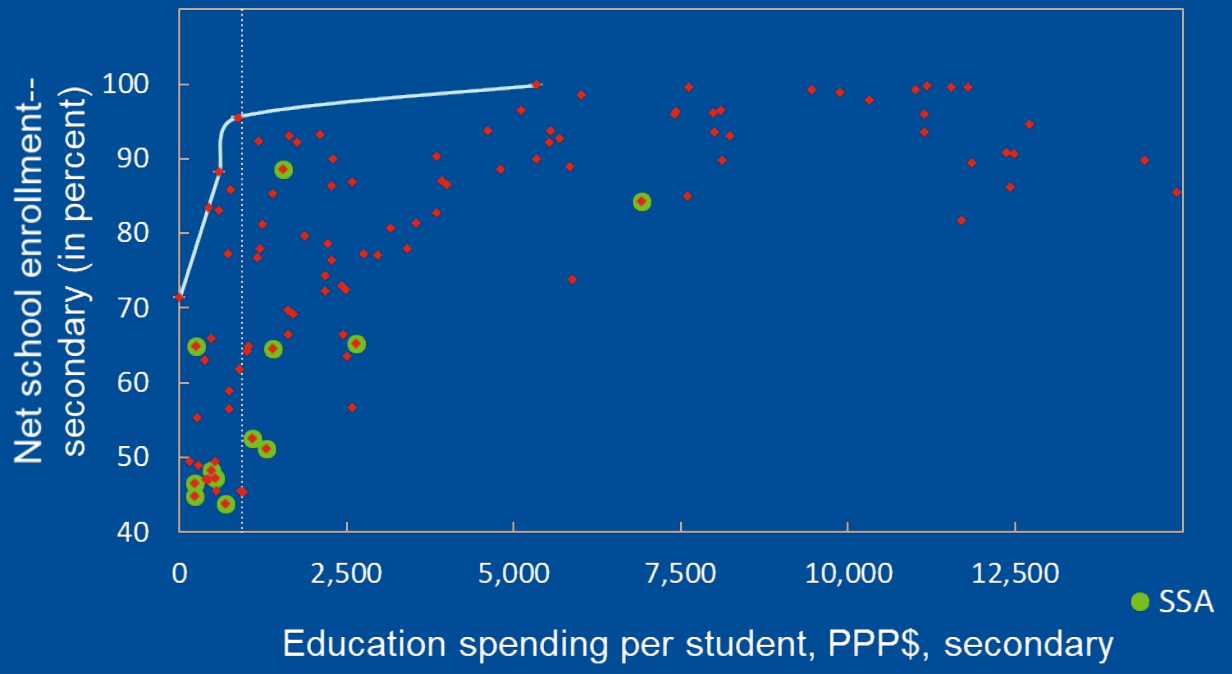
Health Efficiency Frontier



Health Efficiency Frontier, Latest Value Available 1/

Source: IMF FAD Expenditure Assessment Tool (EAT).

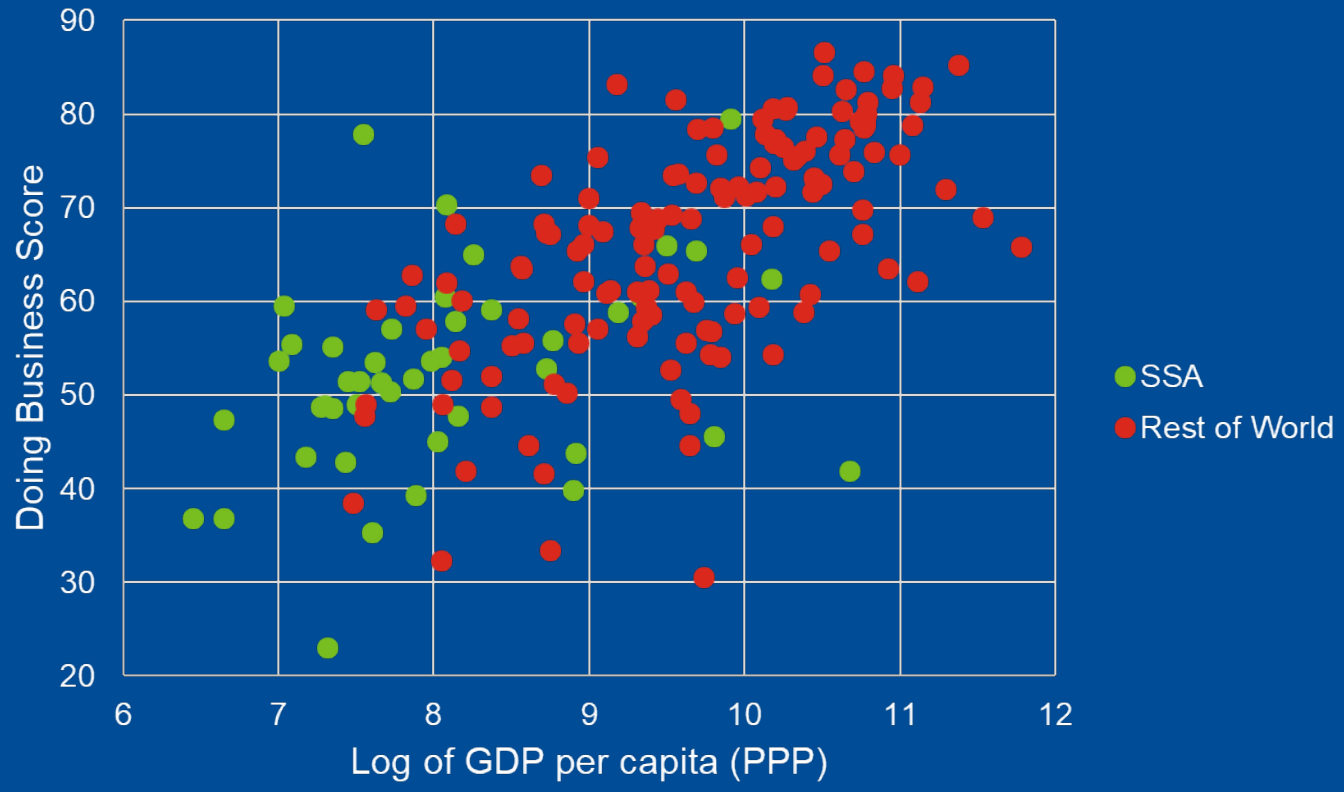
Education Efficiency Frontier



Source: IMF FAD Expenditure Assessment Tool (EAT).

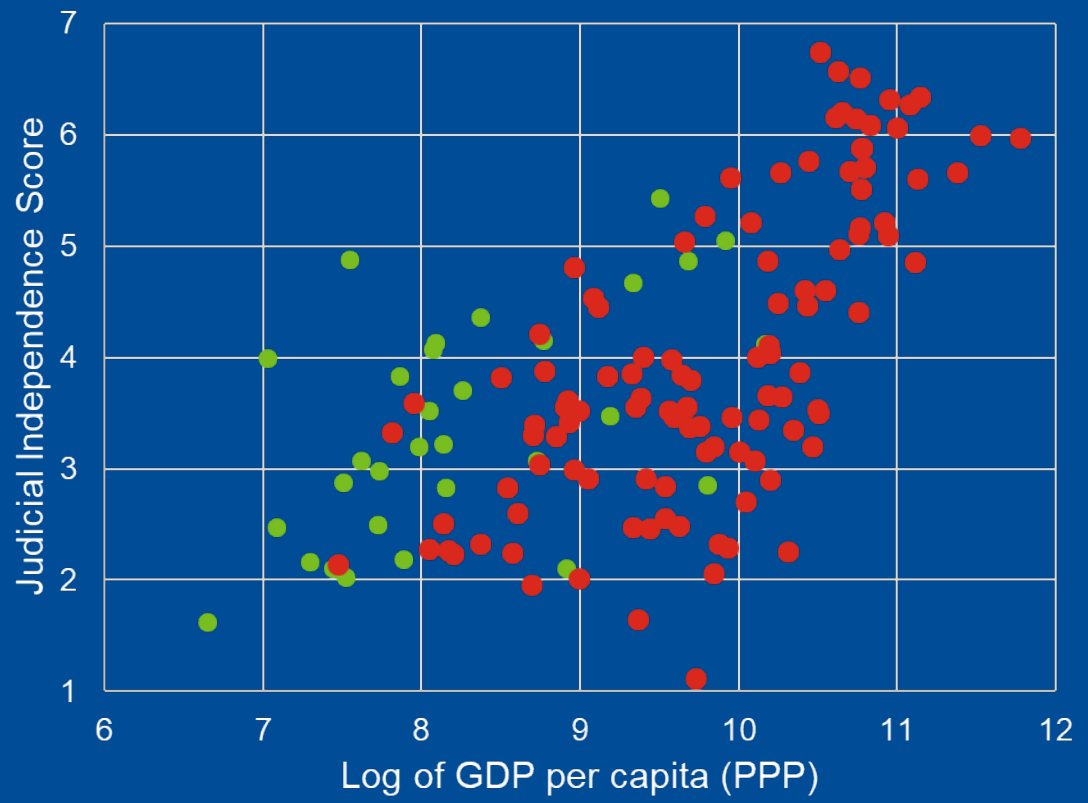
Other Contributing Factors
Enabling Private Sector Investments

Doing Business Score



Sources: World Bank; and IMF WEO.

Judicial Independence



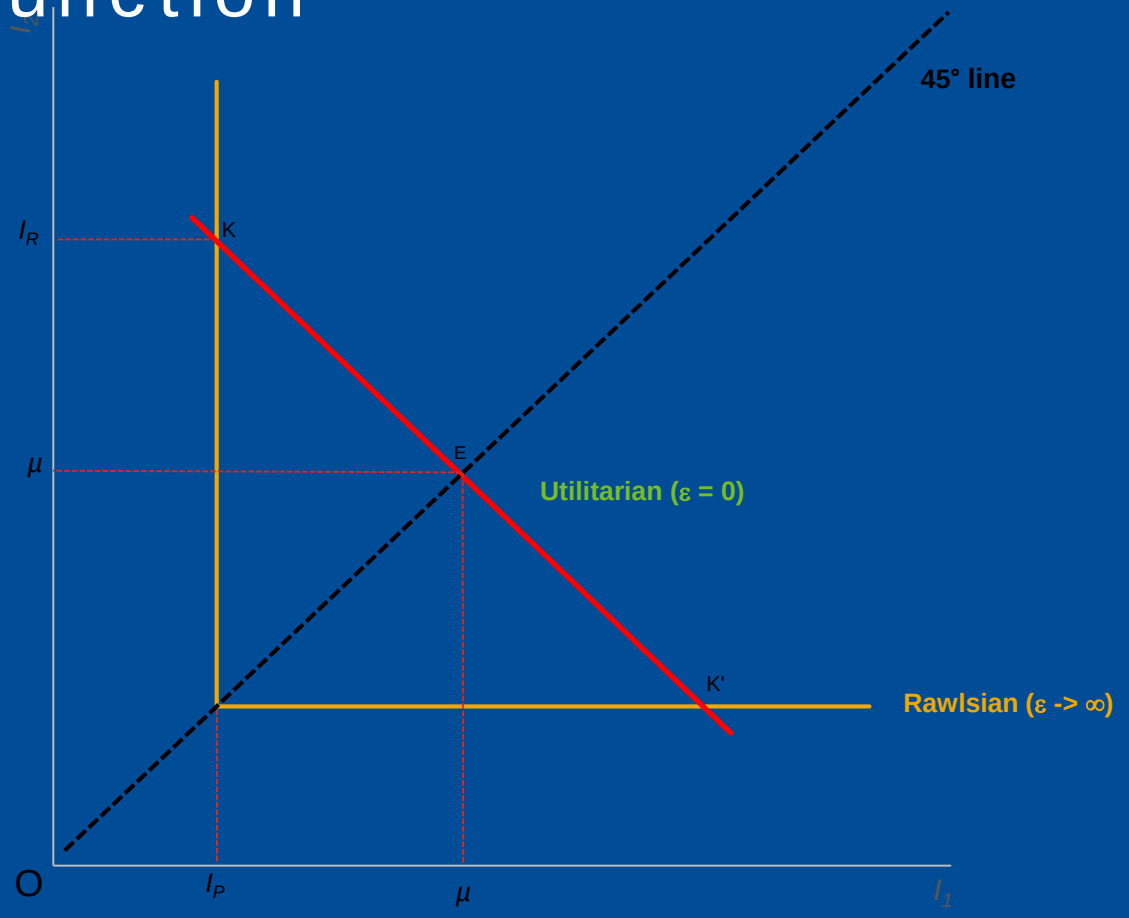
Sources: World Bank; and IMF WEO.

Conclusions

- Economic Growth is Critical to Overall Development.
- The State Plays a Key Role in Long-term Inclusive Growth.
- Tax Capacity is the Foundation of State Capacity.

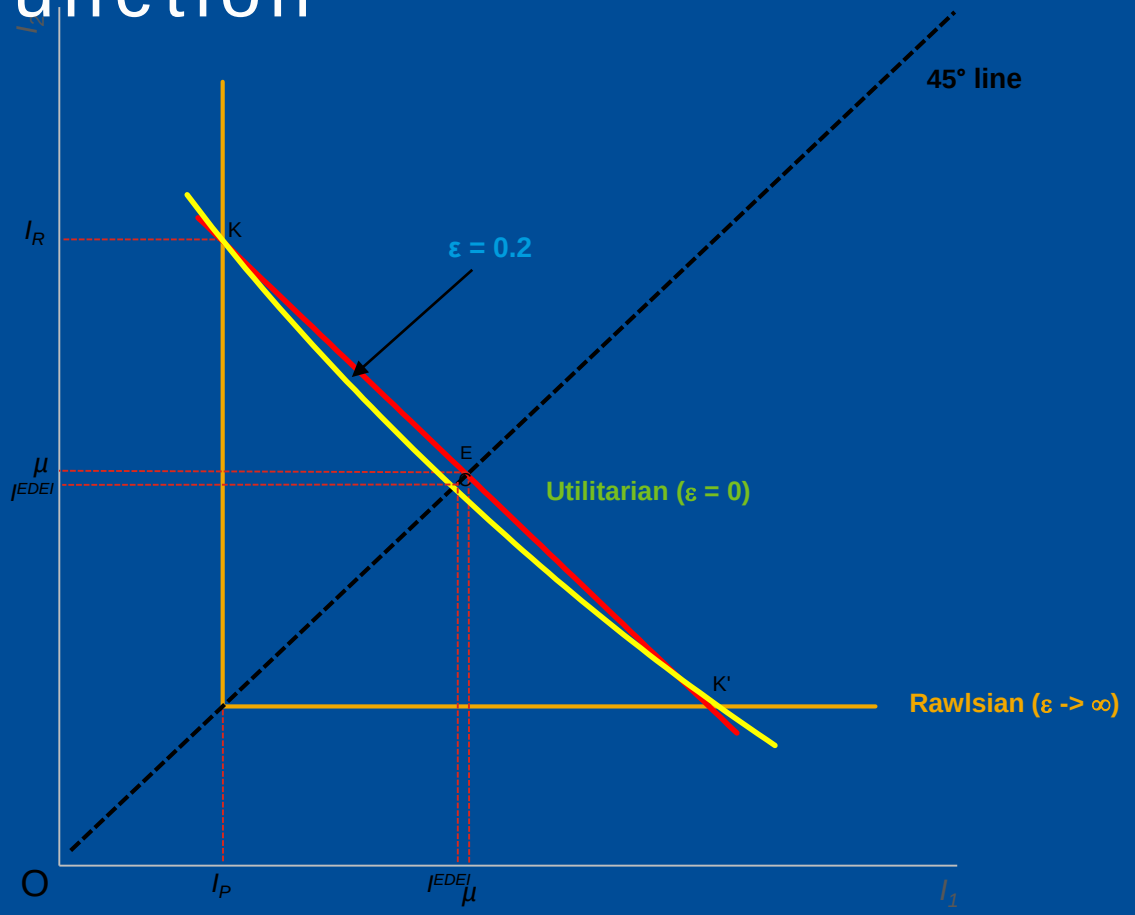
Background Slides

Social welfare function



Note: I_1 and I_2 denote the incomes of households 1 and 2, respectively. In the initial situation, $I_1=I_P$ and $I_2=I_R$. Mean income is $\mu=(1/2)(I_P+I_R)$. The external observer considers $I_1=I_2=\bar{I}$ to be just as desirable as the initial situation.

Social welfare function



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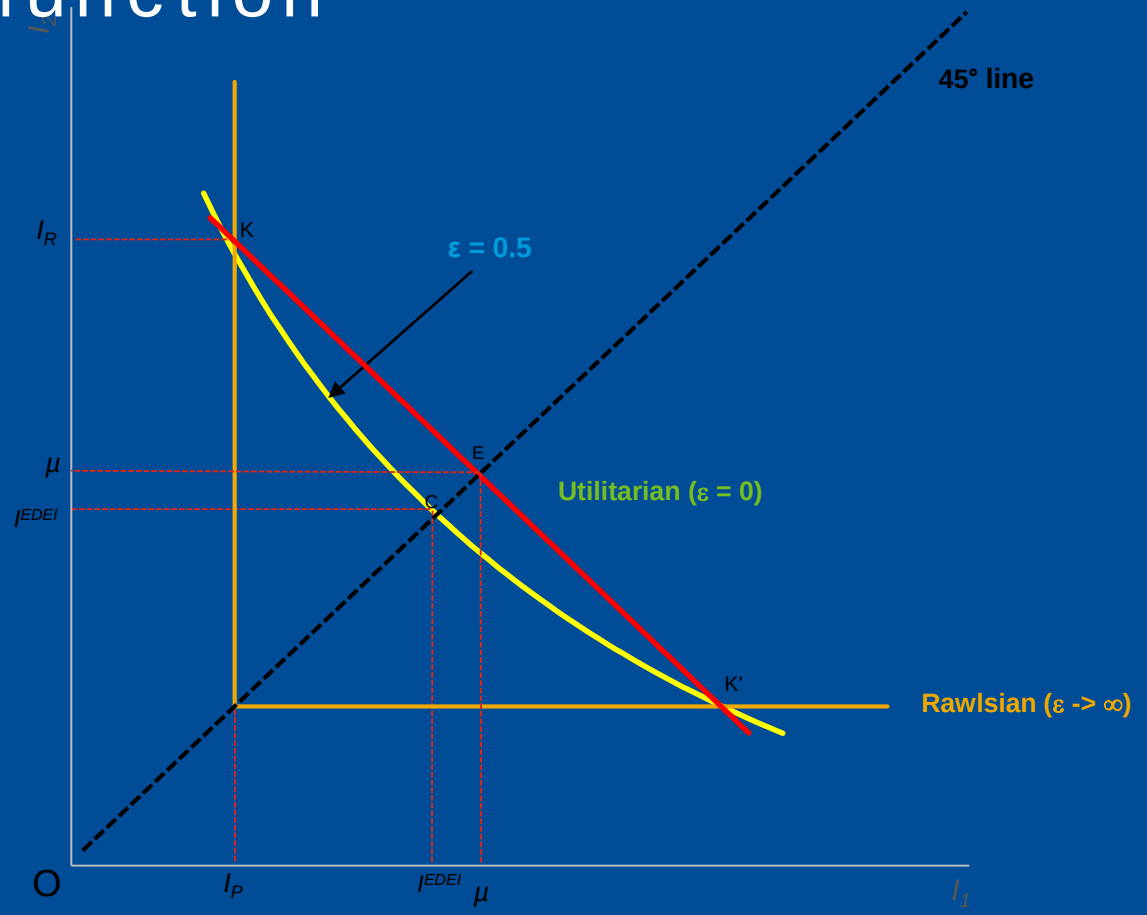

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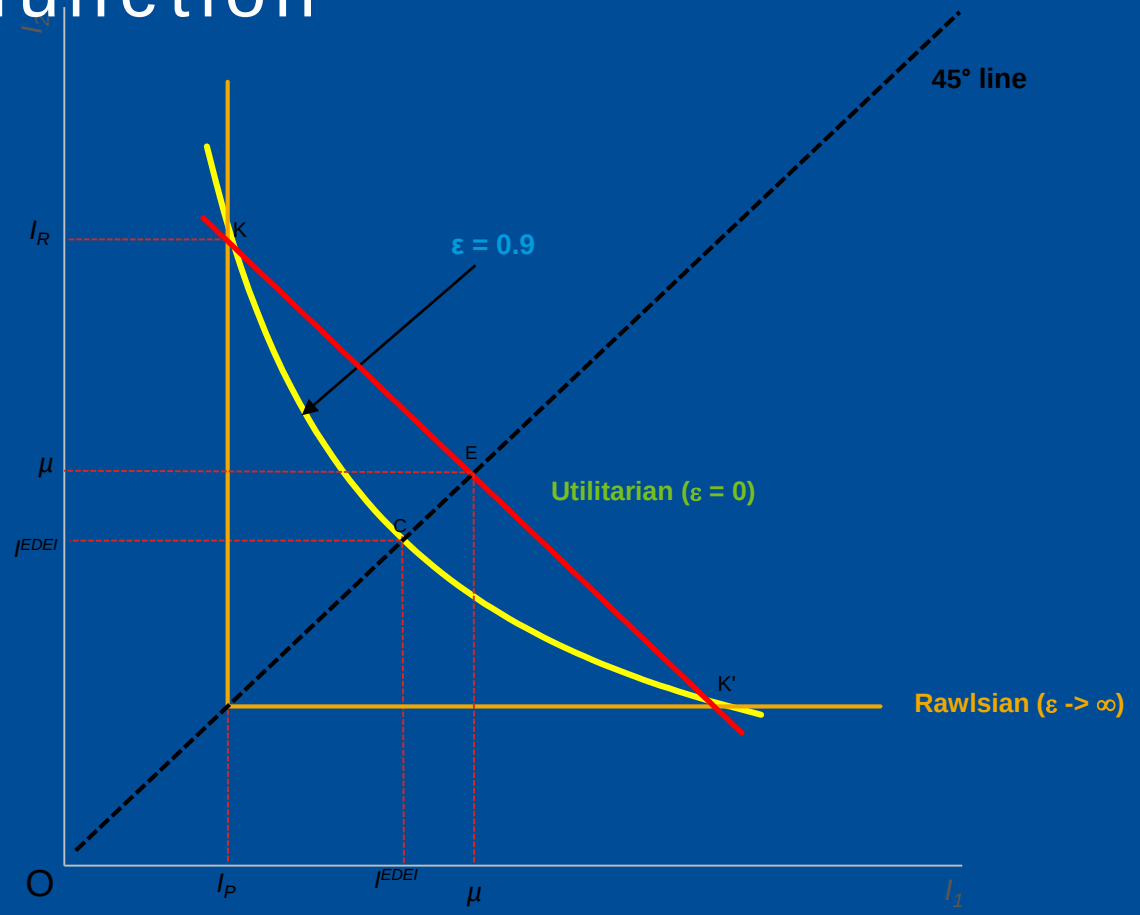
Social welfare function



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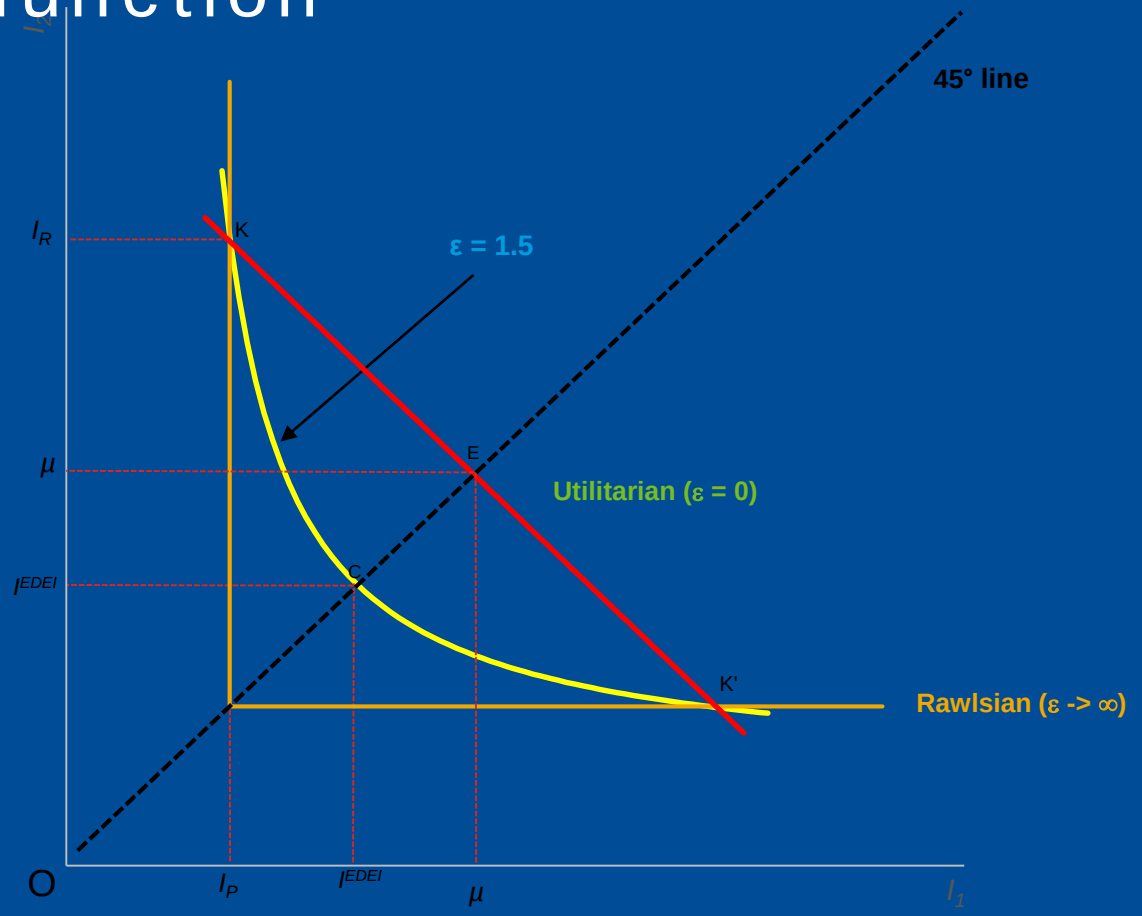

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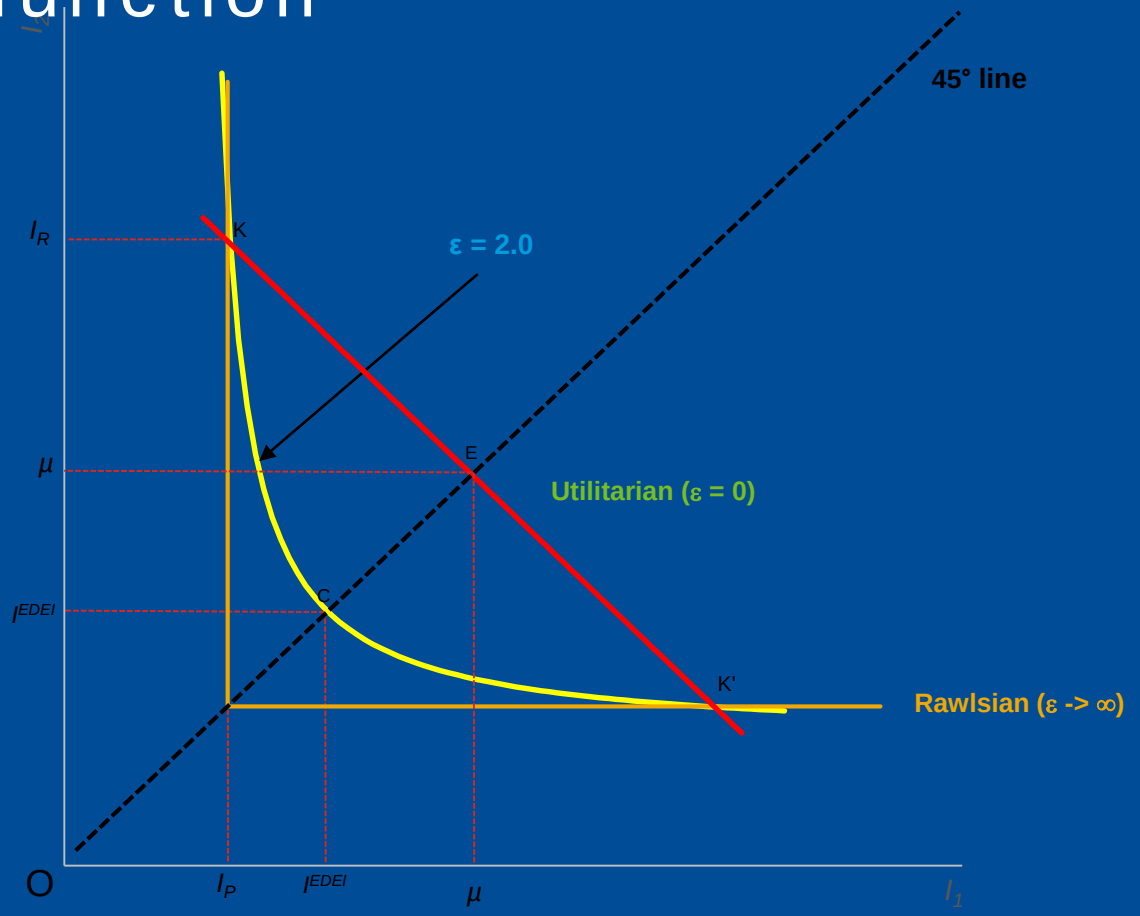

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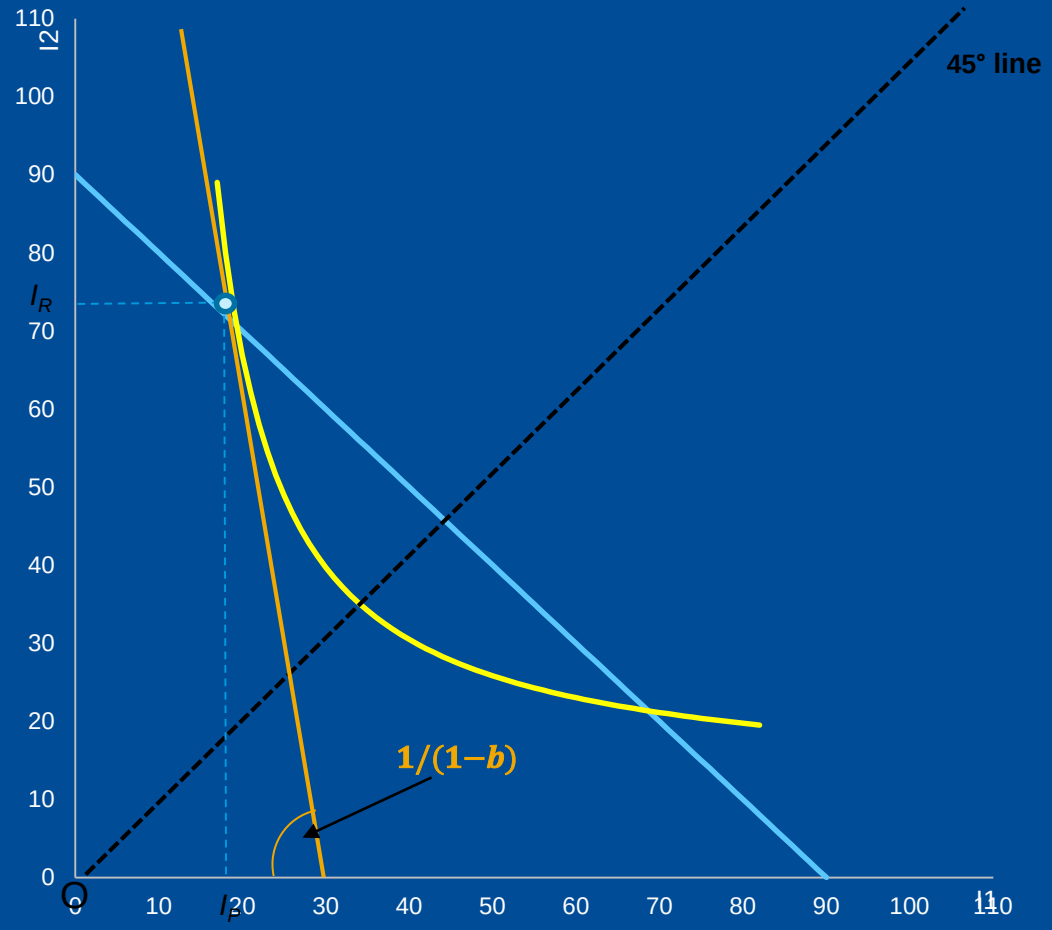
Okun's "leaky bucket"



Note: I_1 and I_2 denote the incomes of households 1 and 2, respectively. I_R is the income of the rich household, I_P is the income of the poor household. b is the leakage (0<b<1).

Maximum acceptable leakage, inequality aversion, and ratio of incomes

I_R/I_P	2	3	4	5	10	25
ε						
0.2	0.13	0.20	0.24	0.28	0.37	0.47
0.5	0.29	0.42	0.50	0.55	0.68	0.80
1.0	0.65	0.81	0.88	0.91	0.97	0.99
2.0	0.75	0.89	0.94	0.96	0.99	0.998

Note: The table reports the maximum acceptable share of the amount transferred from the rich household that leaks out before reaching the poor household (b). I_R/I_P is the initial income of the rich household divided by the initial income of the poor household. The coefficient of aversion to inequality is ε.

Social welfare function (SWF)

Under minimal assumptions of additivity and homotheticity, the SFW takes the following form (Blinder 1982)

$$SWF = \sum_{j=1}^{N} (A + B \frac{{I_j}^{1-\varepsilon}}{1-\varepsilon})$$

where I_j is the income of individual j, ε is the coefficient of inequality aversion, and A and B are constants

SWF can be measured using the equally distributed equivalent income (I^{EDEI}), which is expressed in monetary units and allows ranking welfare across countries (Atkinson 1970)

$$I^{EDEI} = \mu * (1 - A(\varepsilon))$$

where μ is the mean income and $A(\varepsilon)$ the Atkinson's index of inequality

Which ε should policymakers use?

Useful References

- De Mooij, Ruud, Suahasil Nazara and Juan Toro, “Implementing a Medium-Term Revenue Strategy”, 2018, chapter 6, in the book Realizing Indonesia’s Growth Potential, International Monetary Fund.
- International Monetary Fund, Fiscal Monitor, “Tackling Inequality”, October 2017.
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