Modelling the economic impact of the China Belt and Road Initiative on East Africa

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Cartagena de la Indias

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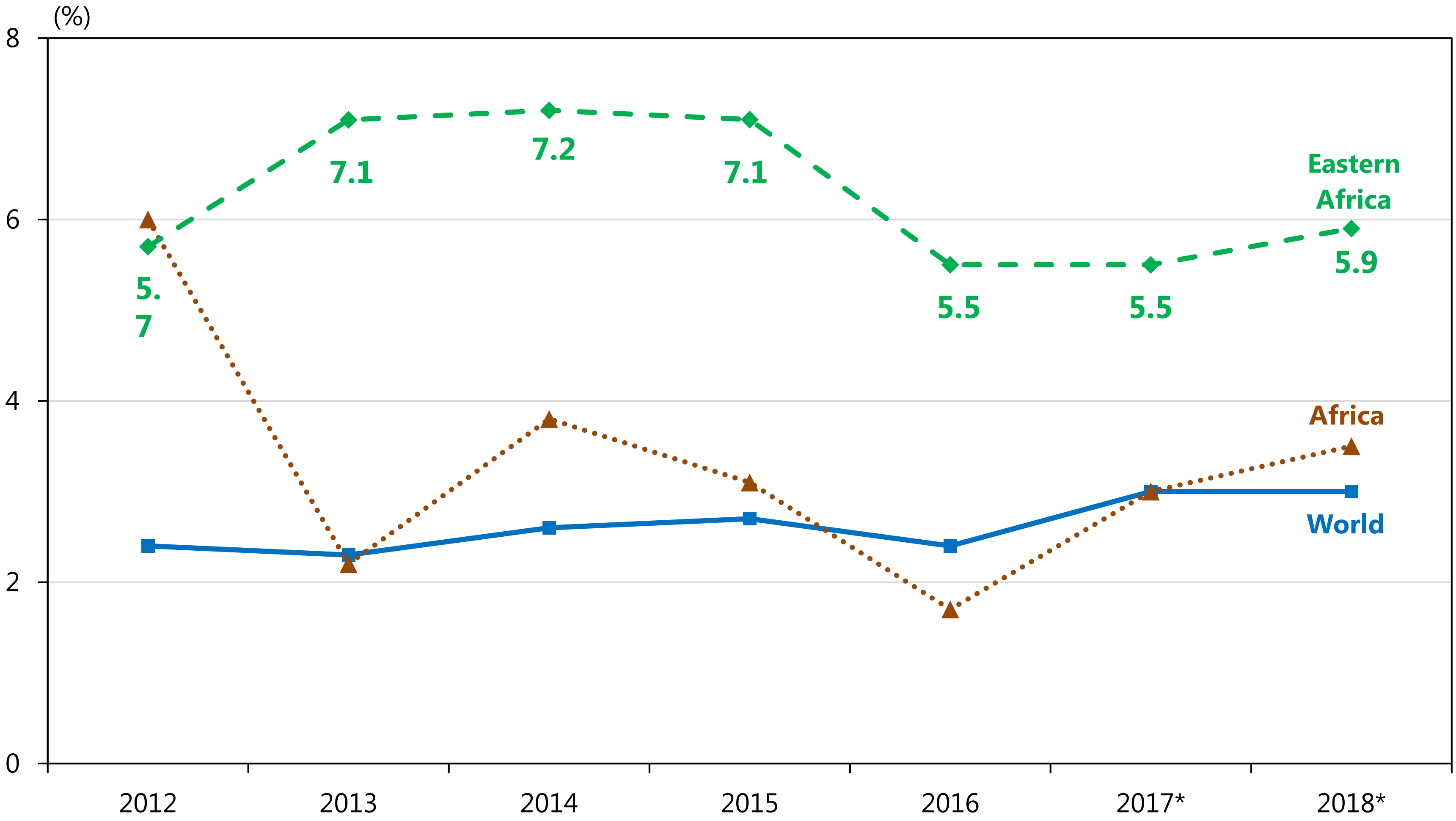
Economic growth moderated since 2016…



Notes: (*) Forecast.
Data for Eastern Africa is the weighted average (based on current prices GDP figures) of the 12 countries (excluding Somalia and South Sudan).
Sources: National Statistics Offices, UNDESA, IMF, and UNECA calculations.

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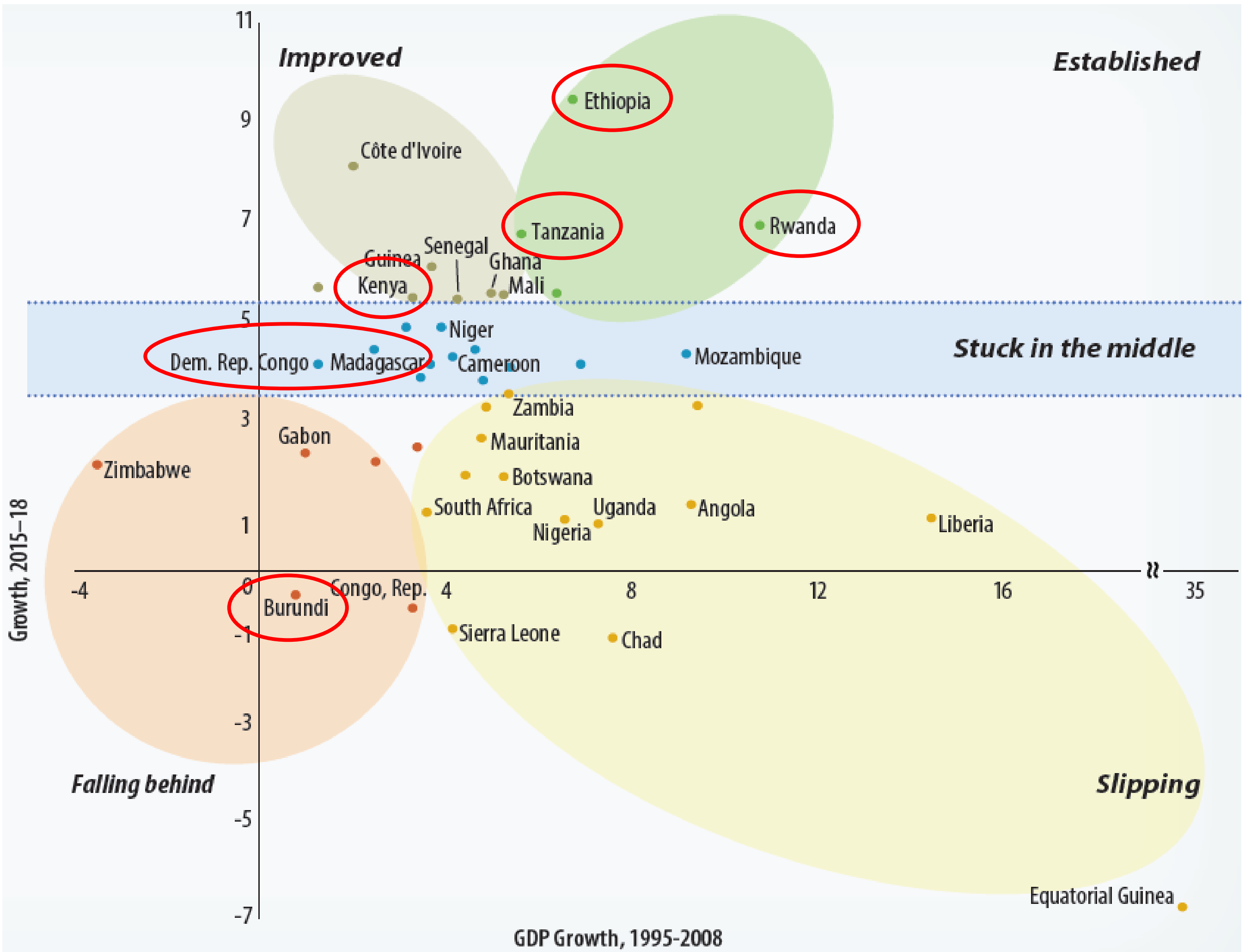
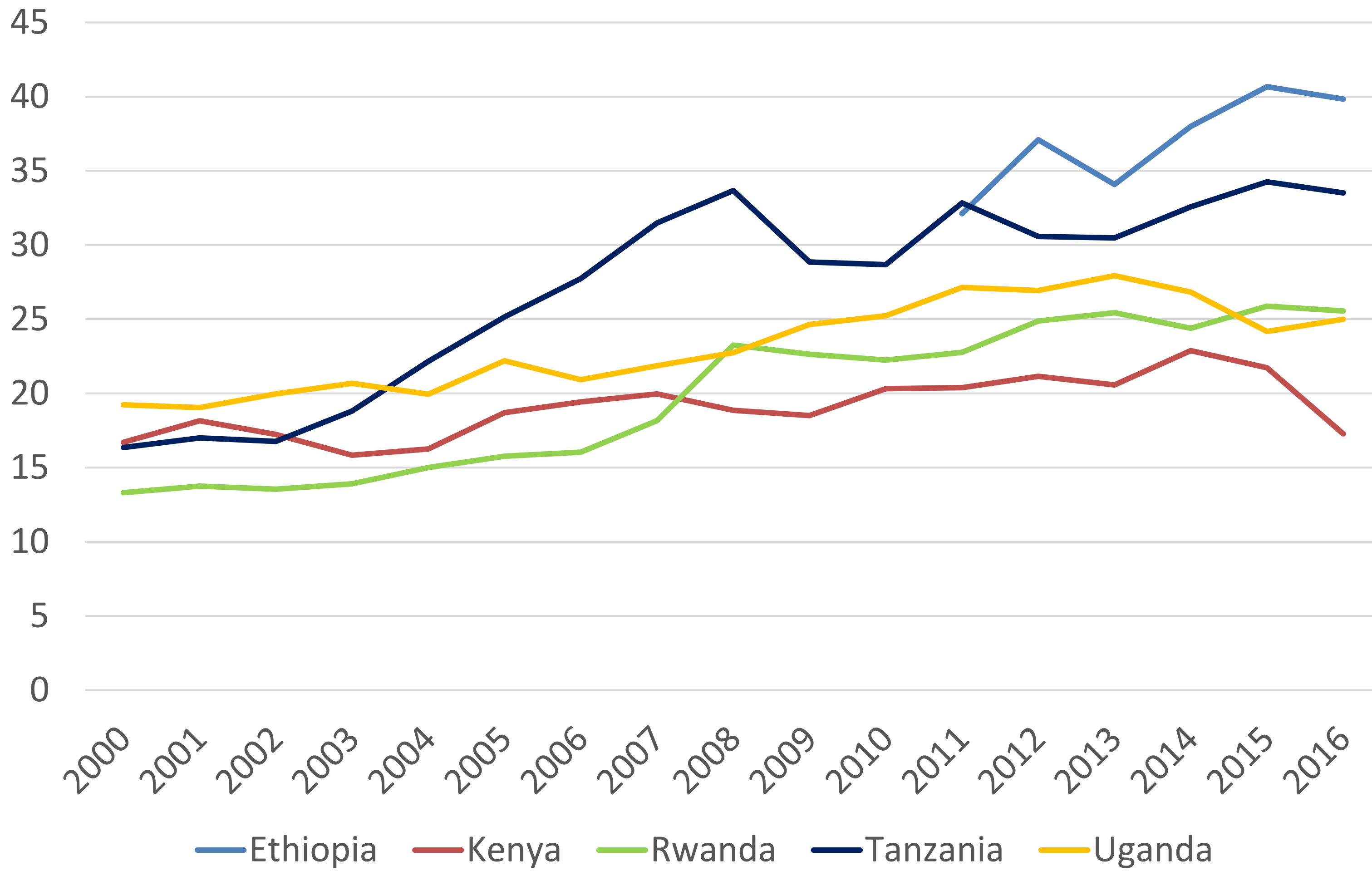
Ethiopia, Rwanda and Tanzania as the high-performing African countries



Source: World Bank.

Background

...accompanied by rising rates of investment



Source: World Bank.

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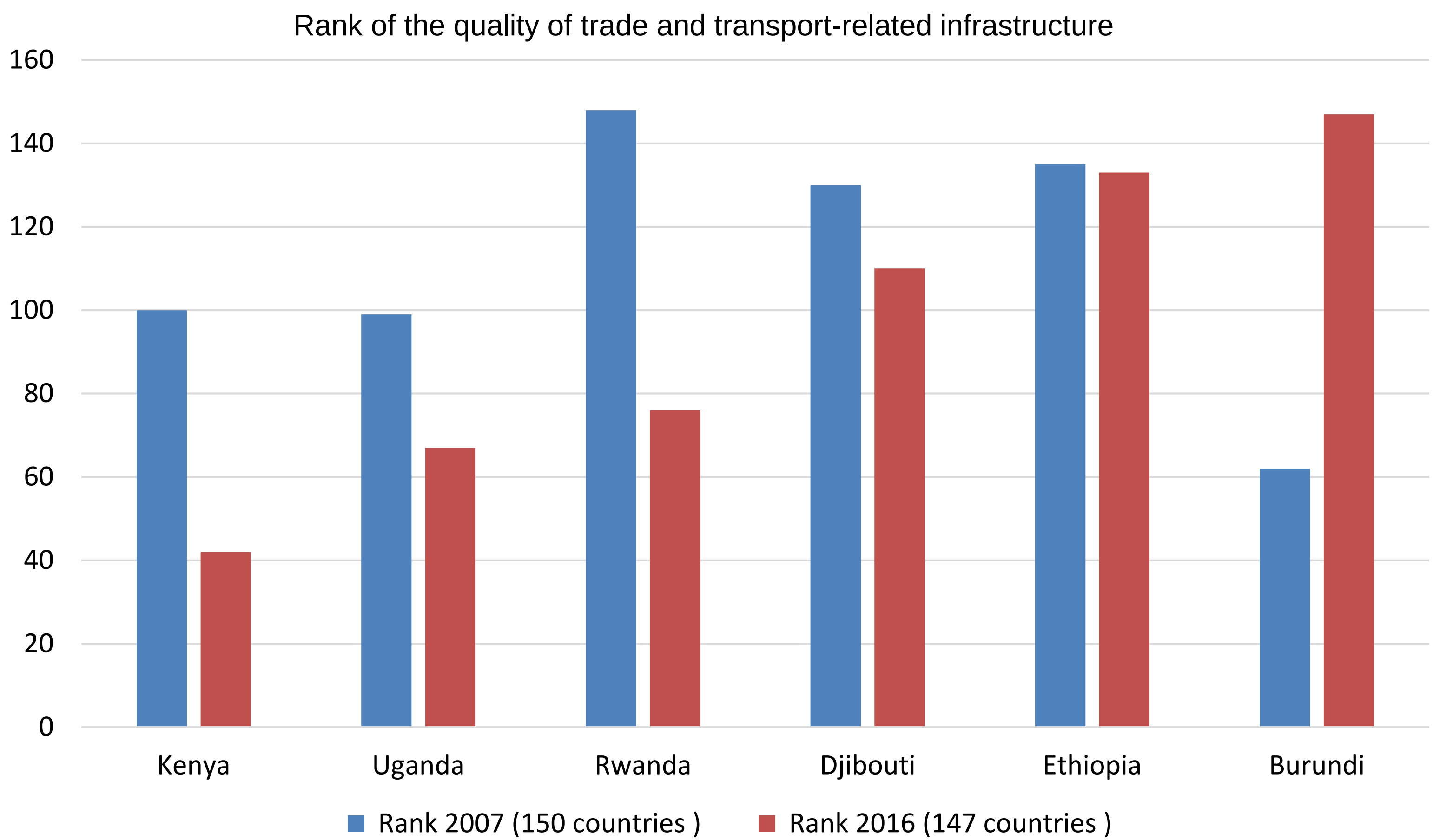
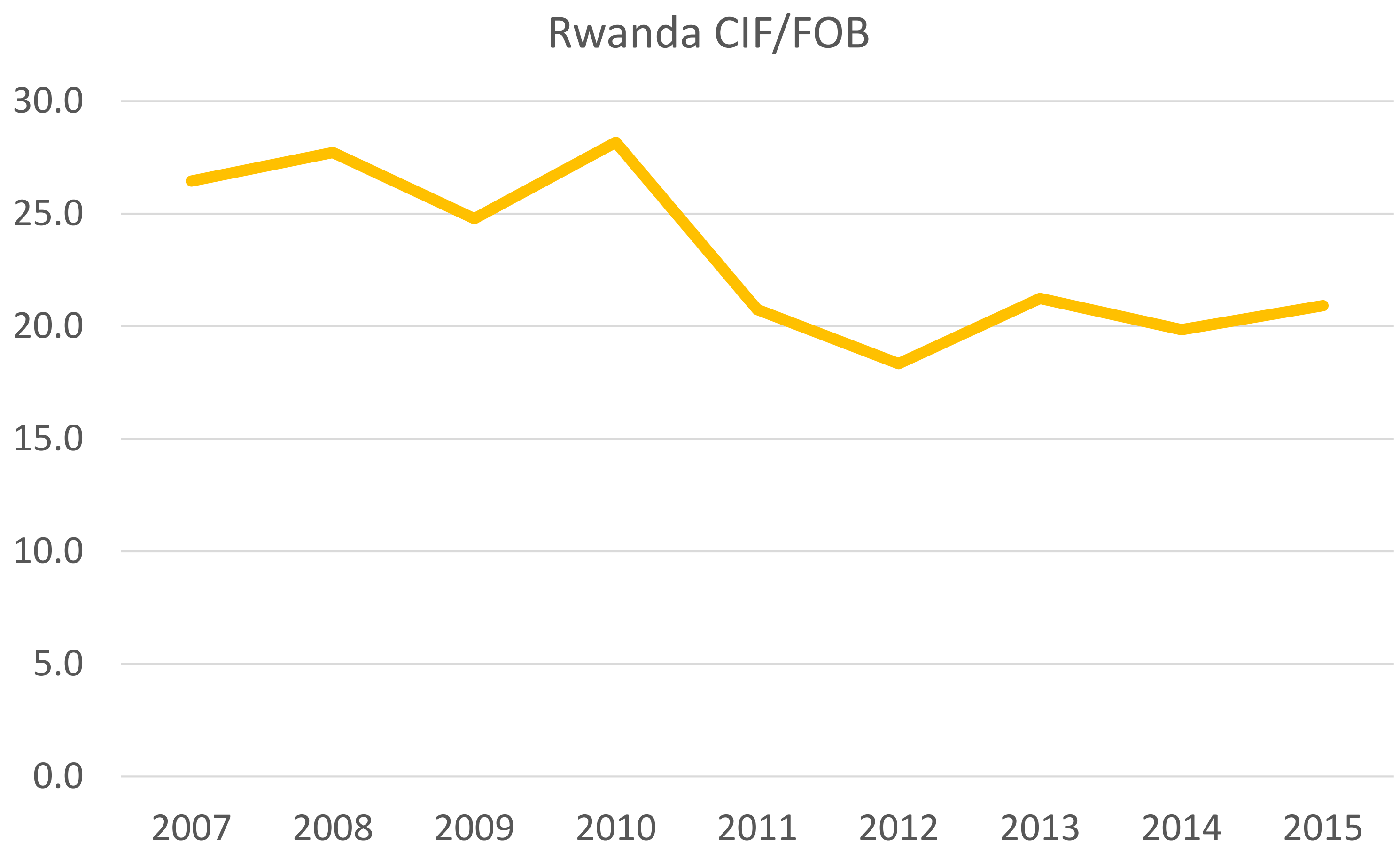
Improvements in infrastructure quality in recent years…



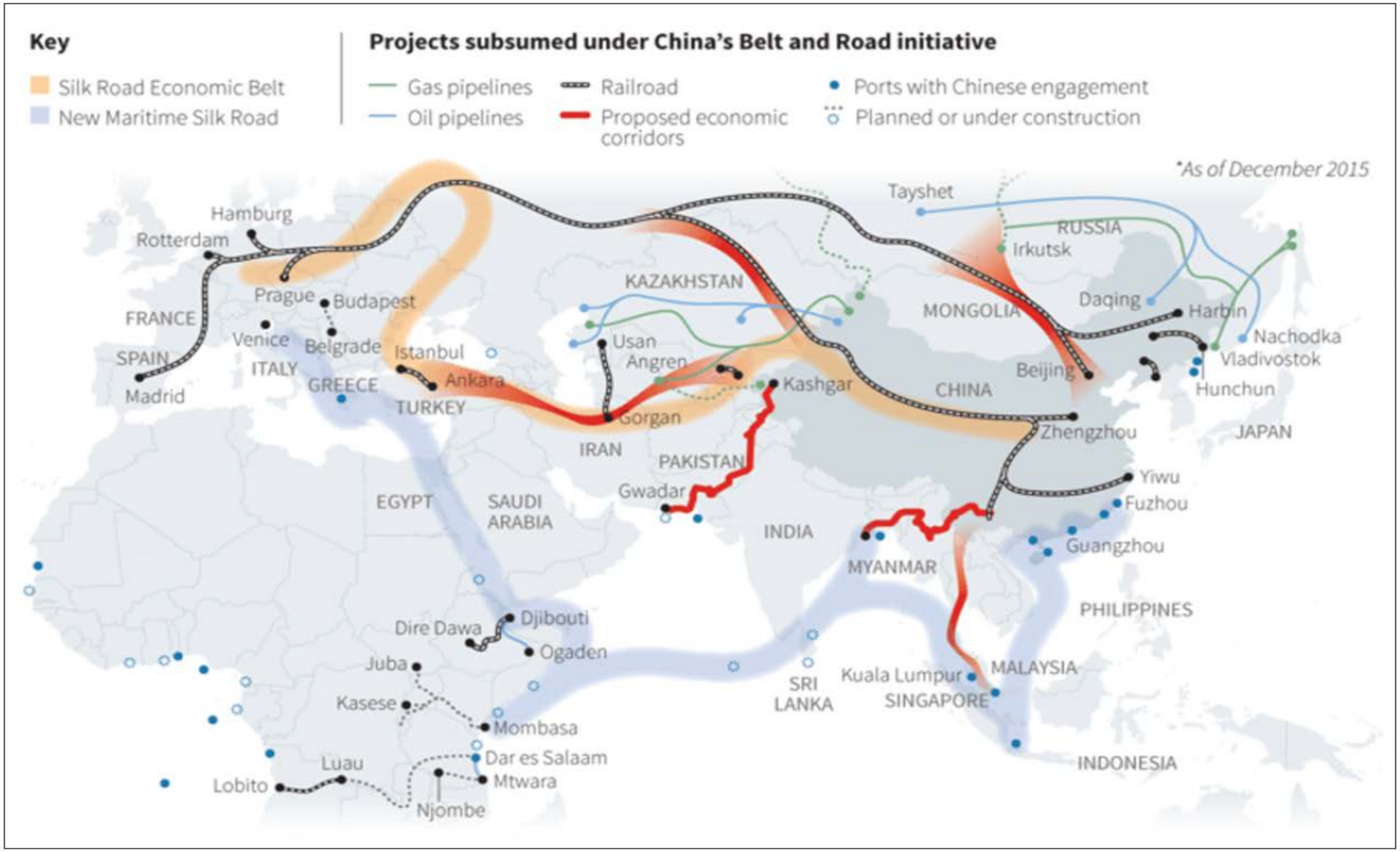
Note: The higher the ranking, the lower the quality of infrastructure
Source: World Bank 2018.

Yet High Trade Costs Handicap Regional Development



Source: Own elaboration from MINECOFIN data.

China's Belt and Road Initiative- A new impetus ?



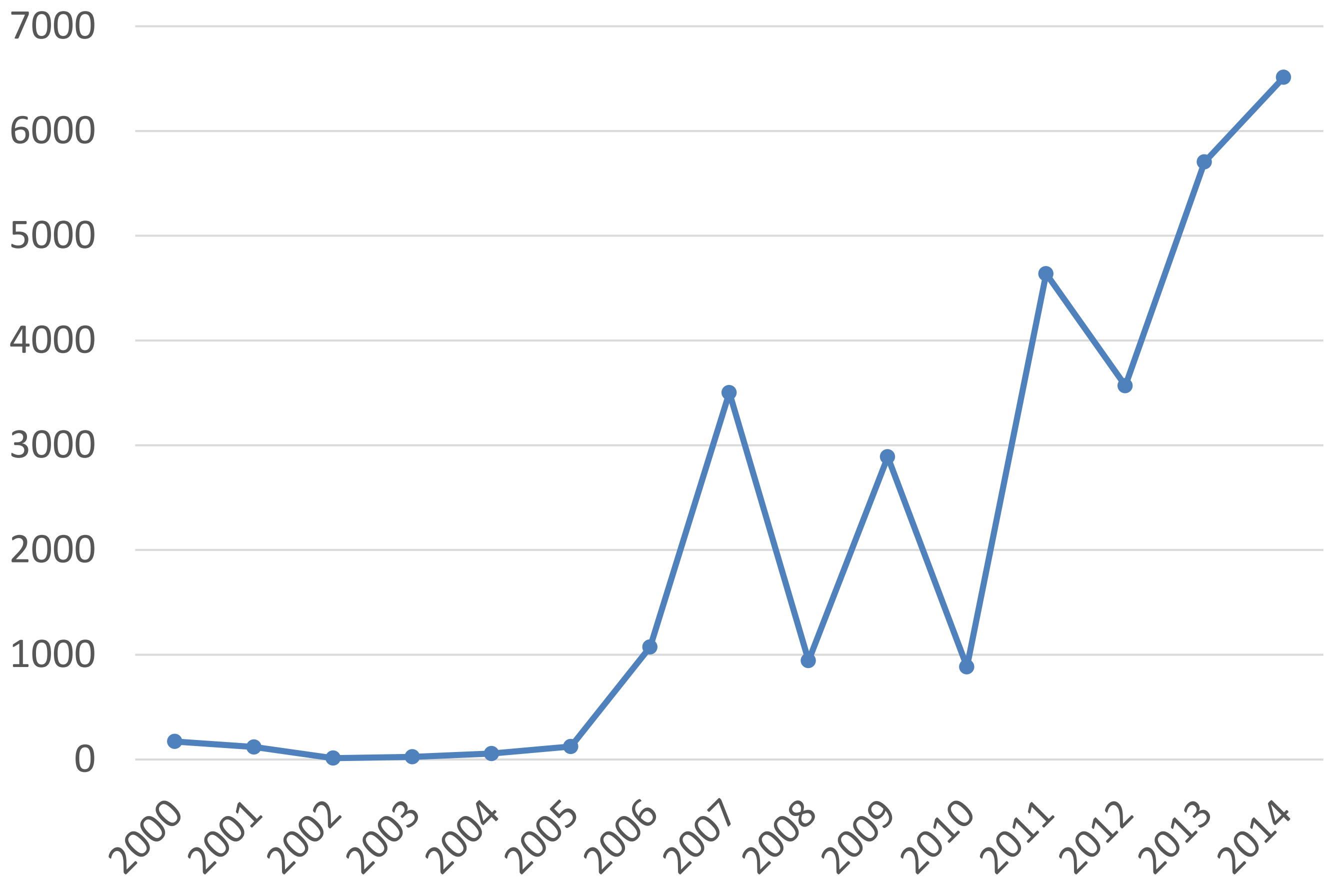
Source: Mercator Institute for China Studies 2017.

China is financing some major projects…

Country	Financier	USD millions	Purpose
Kenya	Eximbank	1,500	SGR phase II Nairobi to Malaba sub-phase 1, Nairobi to Naivasha section 120.4km
Uganda	Eximbank	1,445	Karuma hydropower project 600MW with transmission lines and substations
Ethiopia	ICBC	700	Omo-Quraz sugar plant-5
DRC	Eximbank	660	Busanga hydropower project-Sicomines
Djibouti	Eximbank & CCECC	596	Hasan Gouled Aptidon International Airport & Ahmed Dini Ahmed International Airport in Obock
Kenya	ICBC	900	Lamu coal power station, 1,050MW, between Karuma and Soyo

Source: Mercator Institute for China Studies 2017.

And a rapid rise in commitments to infrastructure



Source: ChinaAid

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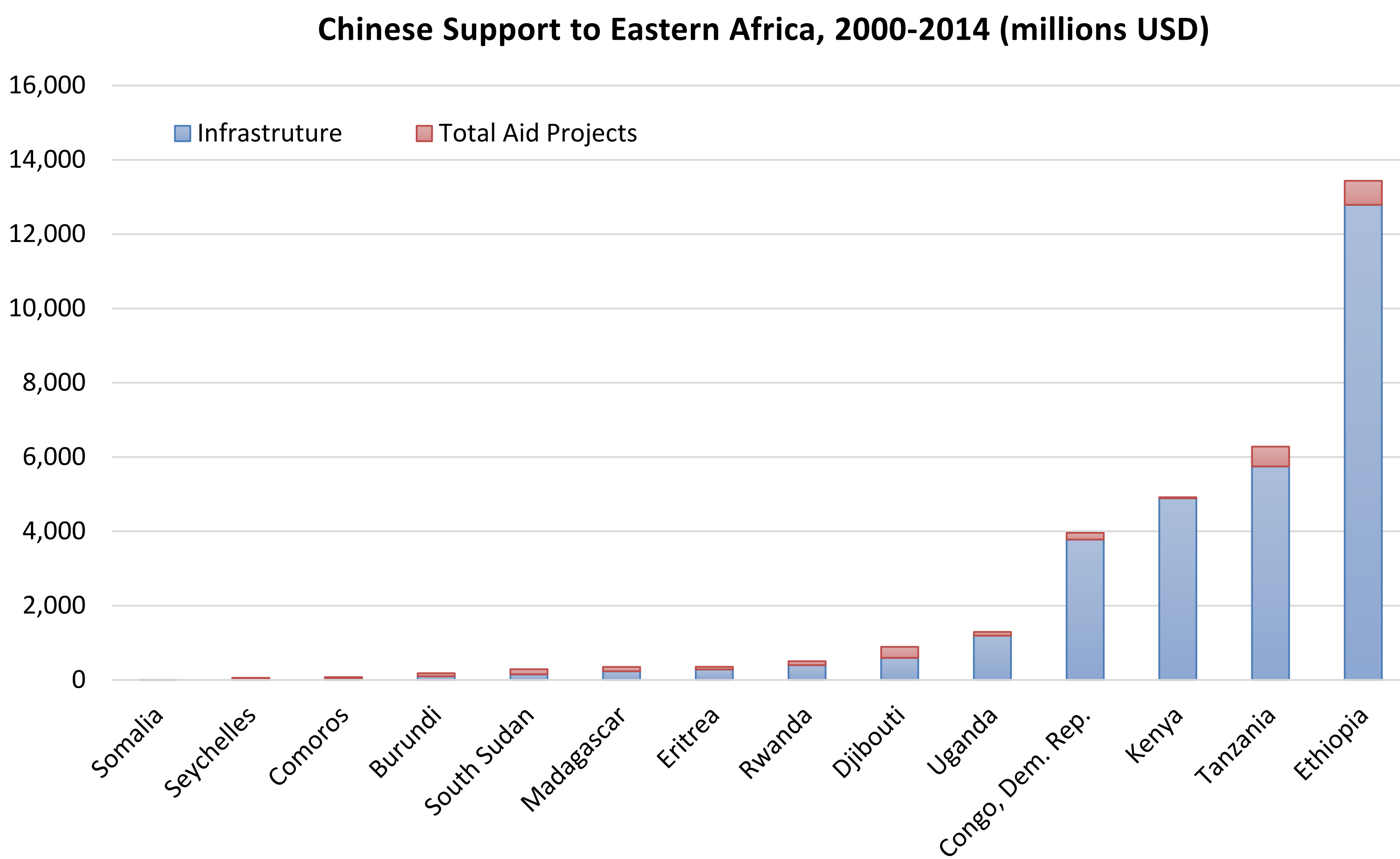
The largest beneficiaries? The largest countries…



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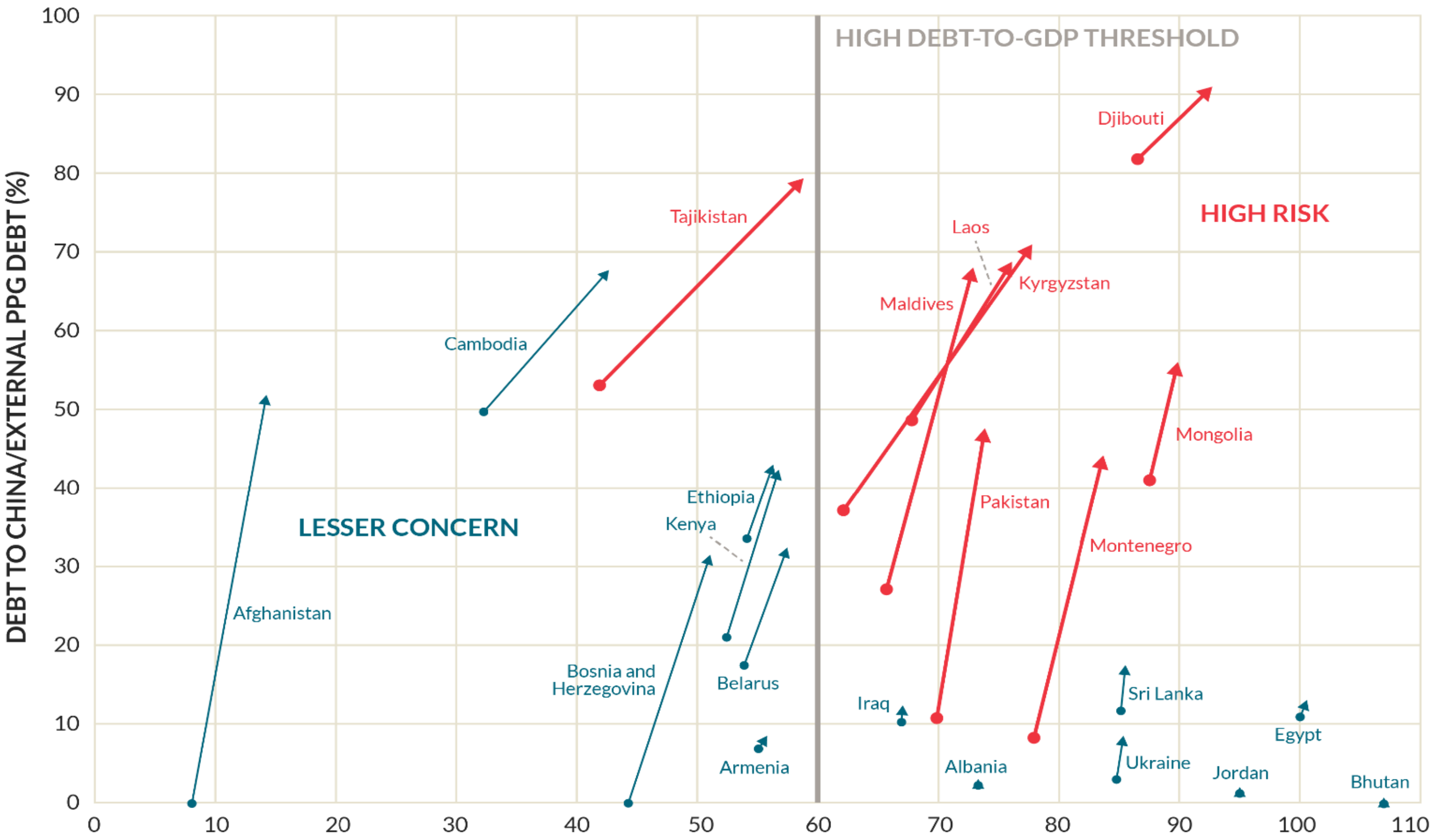
But could elevated spending lead to debt distress?



Note: X-axis is Debt/GDP ratio (%).
Source: Hurley et al. (2018).

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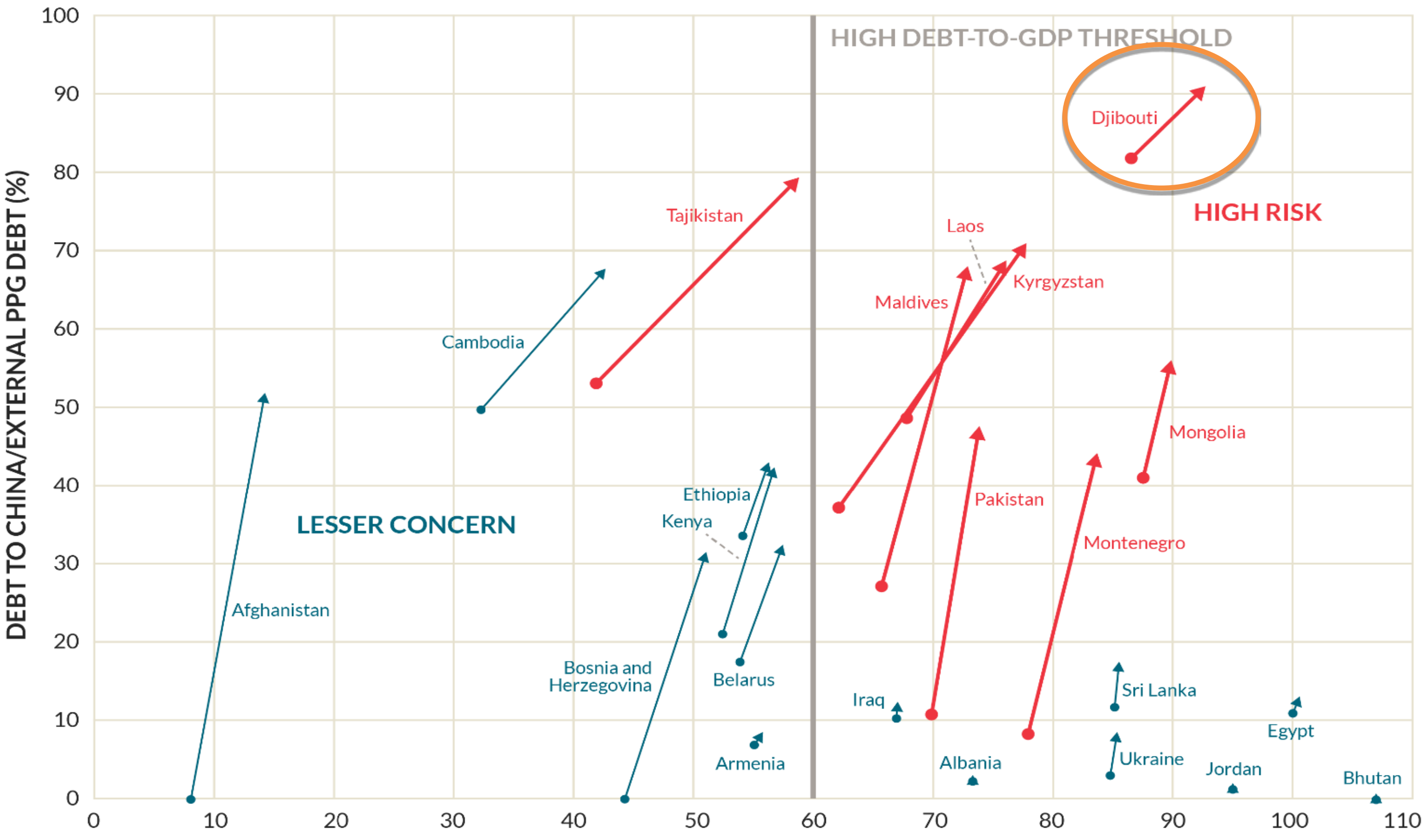

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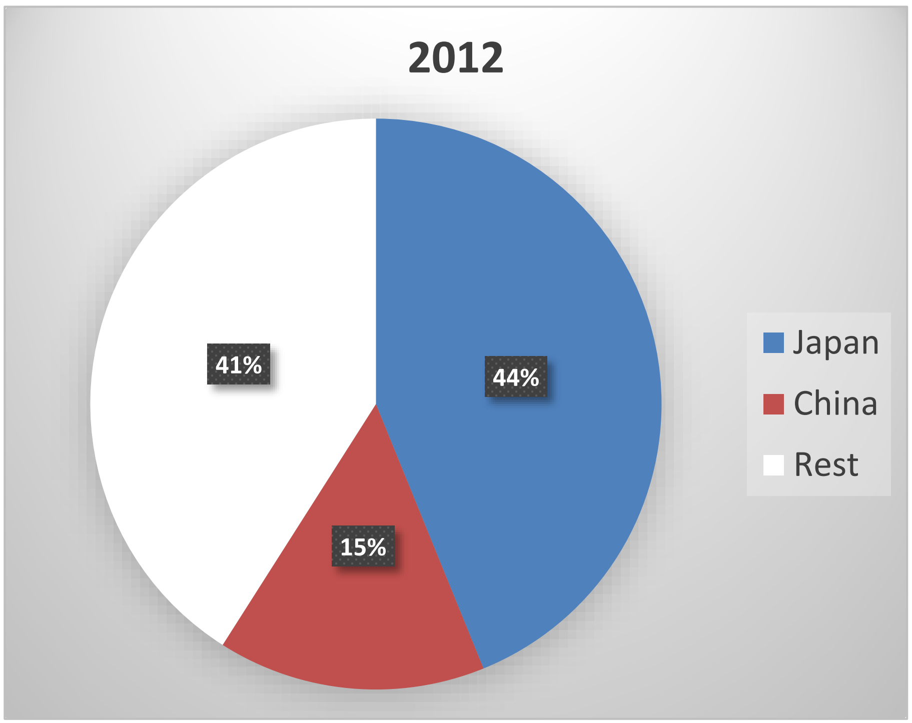
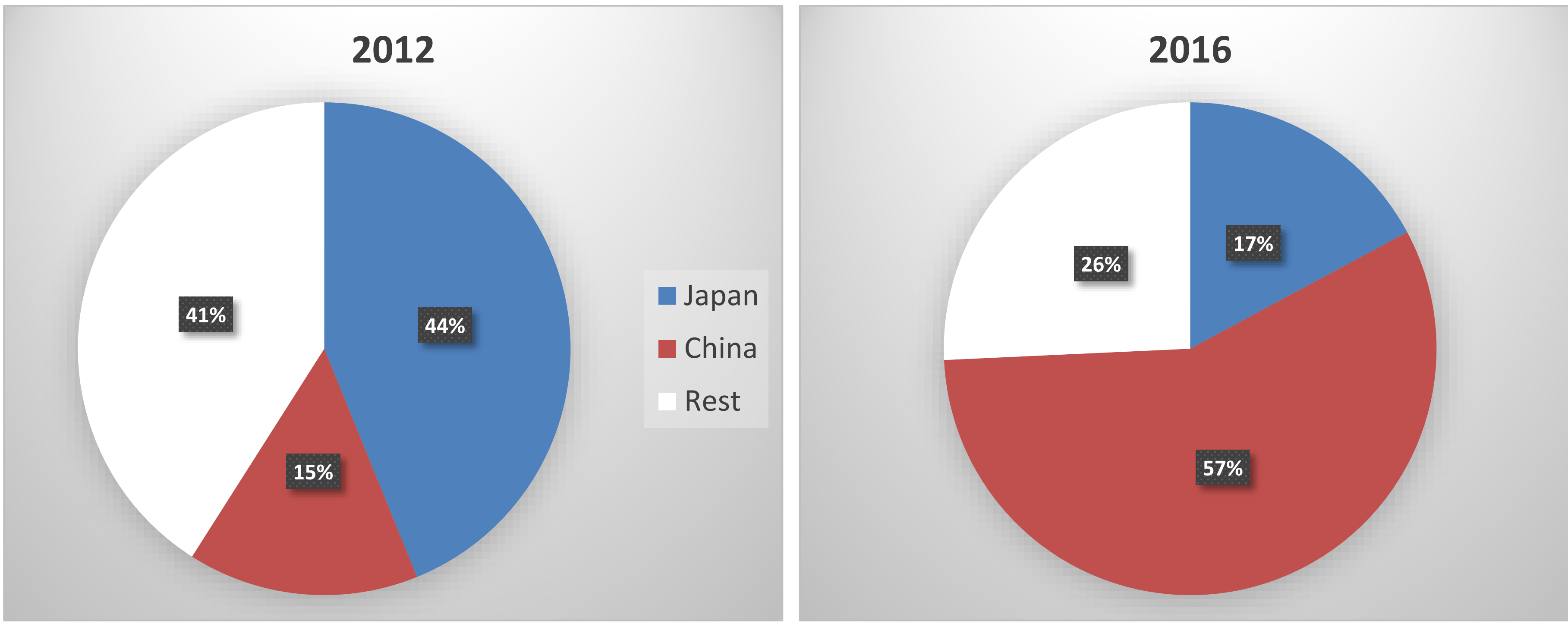
Kenyan case is illustrative



Source: Economic Survey 2017, KNBS

Kenyan case is illustrative

Share of Bilateral External Debt



Source: Economic Survey 2017, KNBS

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Has Infrastructure in East Africa peaked anyway?

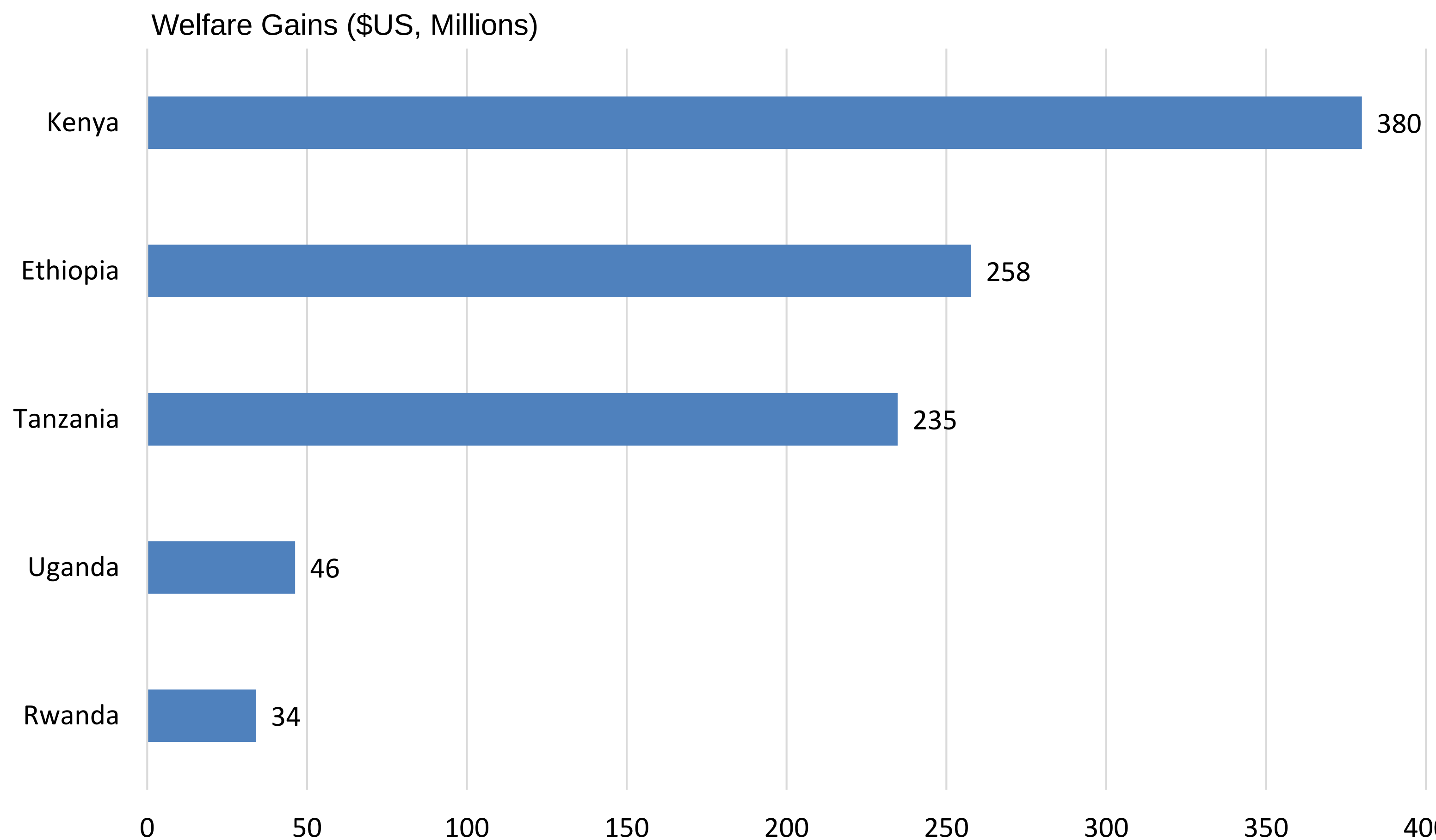
	2013	2014	2015	2016
Number of projects	93	51	61	43
Value (US$bn)	67.7	60.7	57.5	27.4

Source: Deloitte (2017).

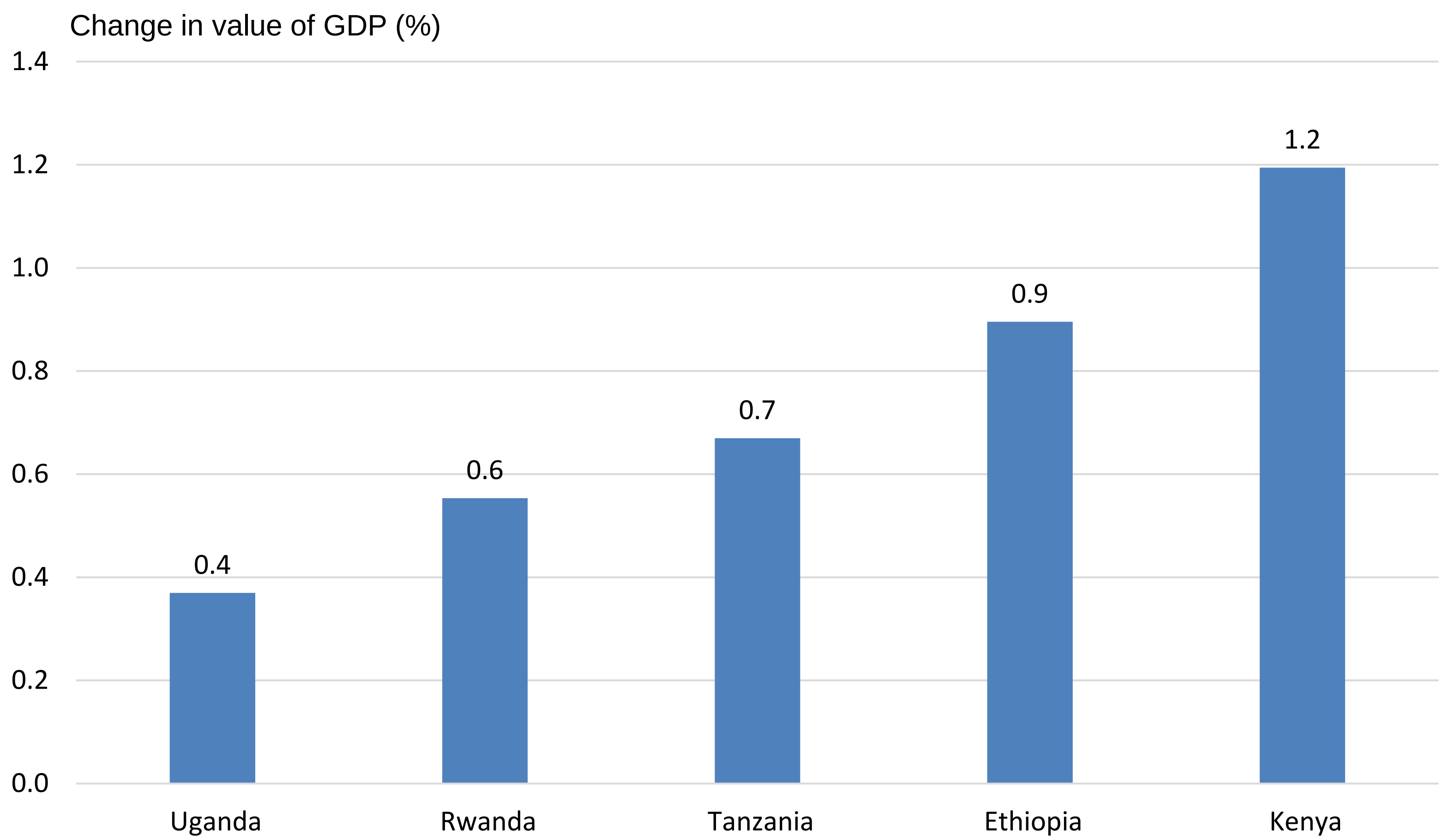
The Global Trade Analysis Project (GTAP) Computable General Equilibrium (CGE) model

- The latest GTAP 10 database
- Assume the BRI will result in a 10 percent decline in trade margin costs on both imports and exports
- Model the reduction in trade margin costs for imports/exports as a 10% increase in productivity in trade margin services for imports/exports (conservative vis-à-vis Villafuerte et. Al (2016)
- Standard GTAP closure, but allow for high levels of un- and under-employment prevalent in the region by fixing wages
- Shocks applied to Ethiopia, Kenya, Rwanda, Tanzania and Uganda

Gains heavily skewed to Kenya, Ethiopia and Tanzania



Decreasing trade margins result in positive changes to GDP



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Endowment effects constitute the largest share of welfare gains

Welfare Decomposition ($US, Millions)

	Allocative Efficiency	Endowment effect	Technology effects	Terms of trade effect	Investment savings	Total
Ethiopia	57.8	105.1	39.2	38.4	17.3	257.7
Kenya	45.6	124.1	89.6	55.1	65.6	380.0
Tanzania	55.1	85.2	65.0	23.7	5.8	234.8
Uganda	4.2	12.0	23.3	6.5	0.2	46.3
Rwanda	6.4	11.4	13.8	2.3	0.1	34.1
Total	169.1	337.8	230.9	126.0	89.0	952.8

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But declining local manufacturing production

Percentage change in industry output by region

	Grains Crops	Meat Lstk	Extraction	Proc Food	Text Wapp	Light Mnfc	Heavy Mnfc
Ethiopia	0.5	1.5	0.1	0.3	-0.5	-0.5	-1.1
Kenya	0.4	0.4	0.3	0.3	-0.7	-0.8	-0.6
Tanzania	0.2	0.4	0.5	0.3	-0.5	-0.9	-1.0
Uganda	0.2	0.2	-0.2	0.2	-0.6	-0.3	0.0
Rwanda	0.2	1.7	0.1	0.2	-0.9	-0.5	-1.2
Average	0.3	0.8	0.2	0.3	-0.6	-0.6	-0.8

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Kenya	0.4	0.4	0.3	0.3	-0.7	-0.8	-0.6
Tanzania	0.2	0.4	0.5	0.3	-0.5	-0.9	-1.0
Uganda	0.2	0.2	-0.2	0.2	-0.6	-0.3	0.0
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Average	0.3	0.8	0.2	0.3	-0.6	-0.6	-0.8

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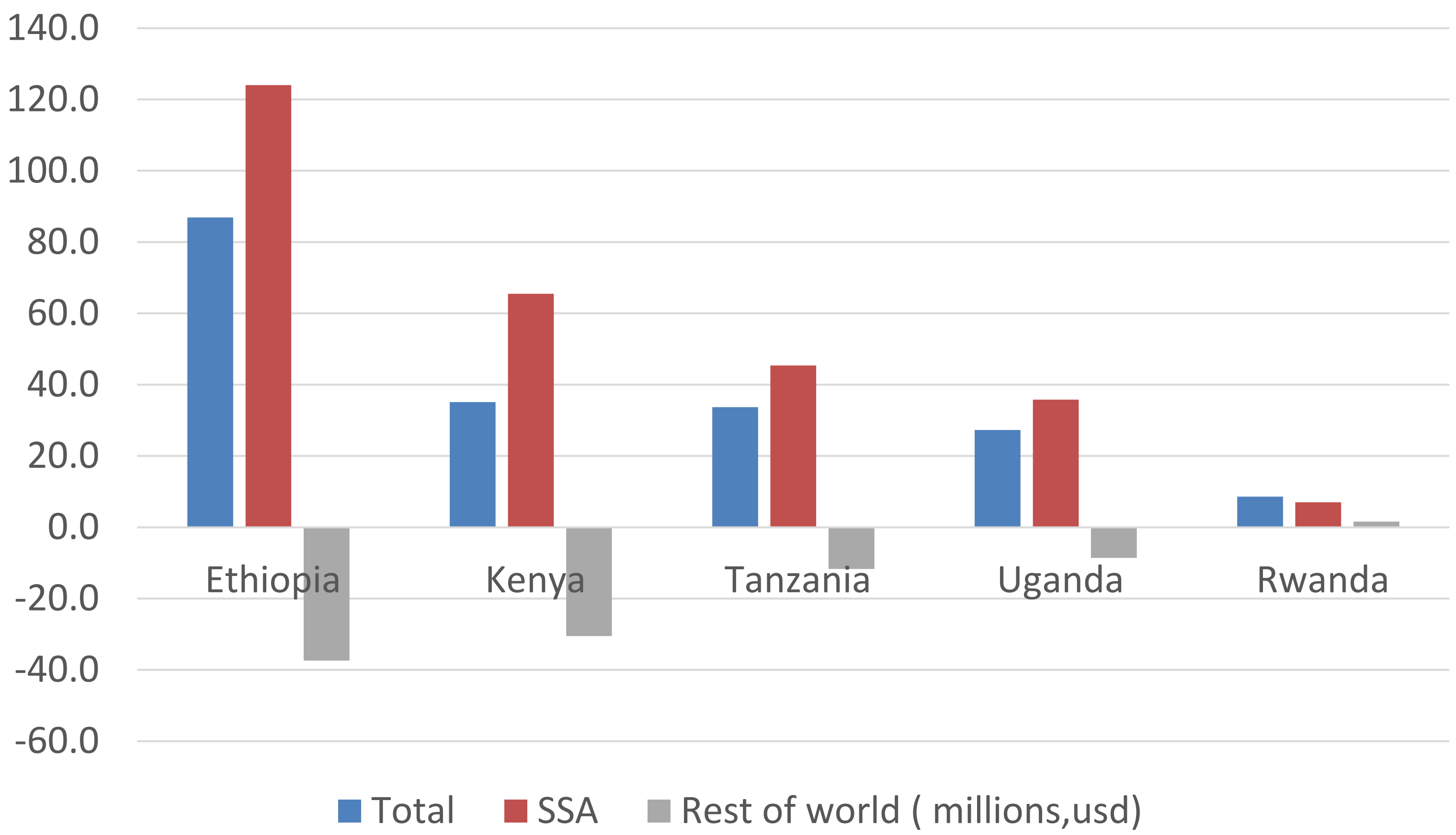
Intraregional exports up by US$ 278 million, but declines to the ROW



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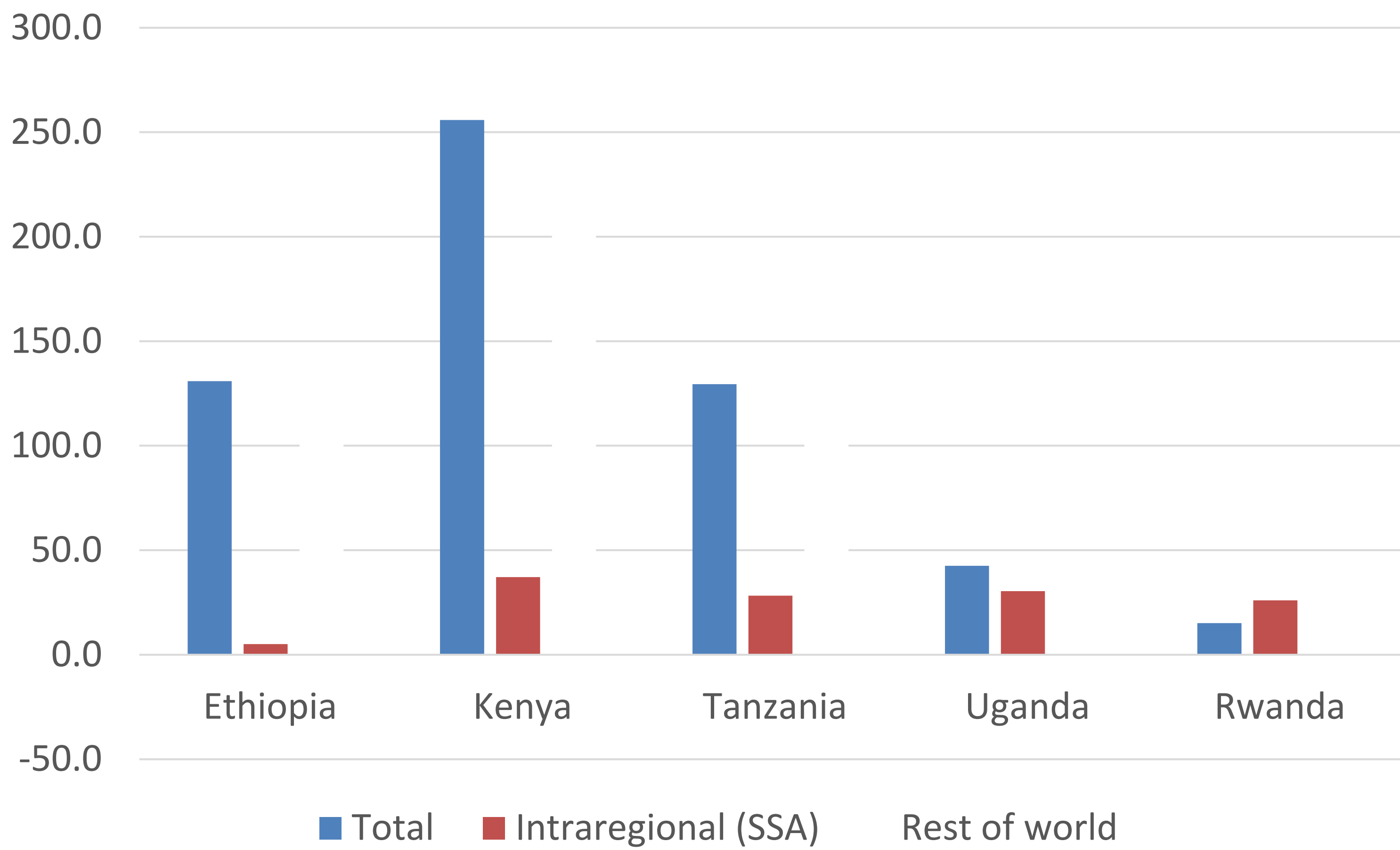
Intraregional imports and imports from ROW up by US$ 127 million and US$ 447 million, respectively



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The BRI initiative could have a significant positive impact on East Africa

- Increase in the welfare of nearly USD 1 billion
- Raise GDP growth in Eastern Africa ranging from 0.4 to 1.2 percentage points
- Boost intra-regional trade but…

  ….at the price of deteriorating trade balance?

  ….at price of weaker industrial capacity?
- Is it fiscally sustainable?

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Thank You!

More information: www.uneca.org

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