



Africa's Infrastructure

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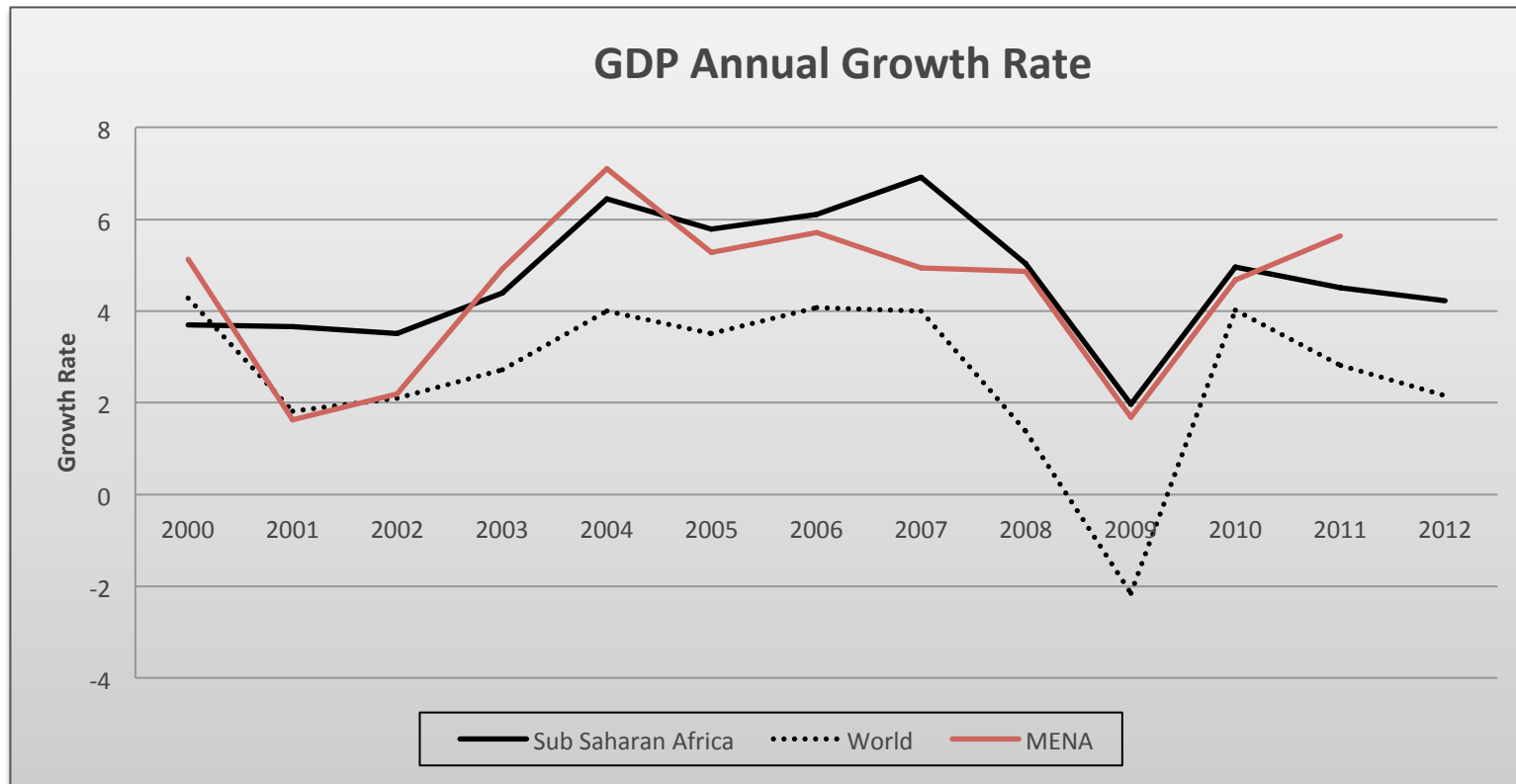
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The Challenge

- Africa has high growth (> 5% on average): % of poor falling (48%), but numbers still rising (400 mn)
- High spatial inequality - weakly integrated markets
- unplanned urbanization (informality) & congestion
- Remote rural regions (+ low-population density)
- Growth driven by natural resource boom; economies remain undiversified
- (But: variation - from Guinea-Bissau to South Africa)

Rapid Growth in Africa



(Source: World Bank Data)

Infrastructure funding gap

- Africa below global averages in infrastructure
- Annual need: capital investment & maintenance spending required – around \$90 bn
- Annual gap: around \$40 bn, so less than half the need is funded
- Central government (tax) funds lion's share: \$30 bn; private sector provides \$9bn; aid (ODA) \$ 3-4 bn; & non-OECD external finance \$2-3 bn

Mobilize More Finance

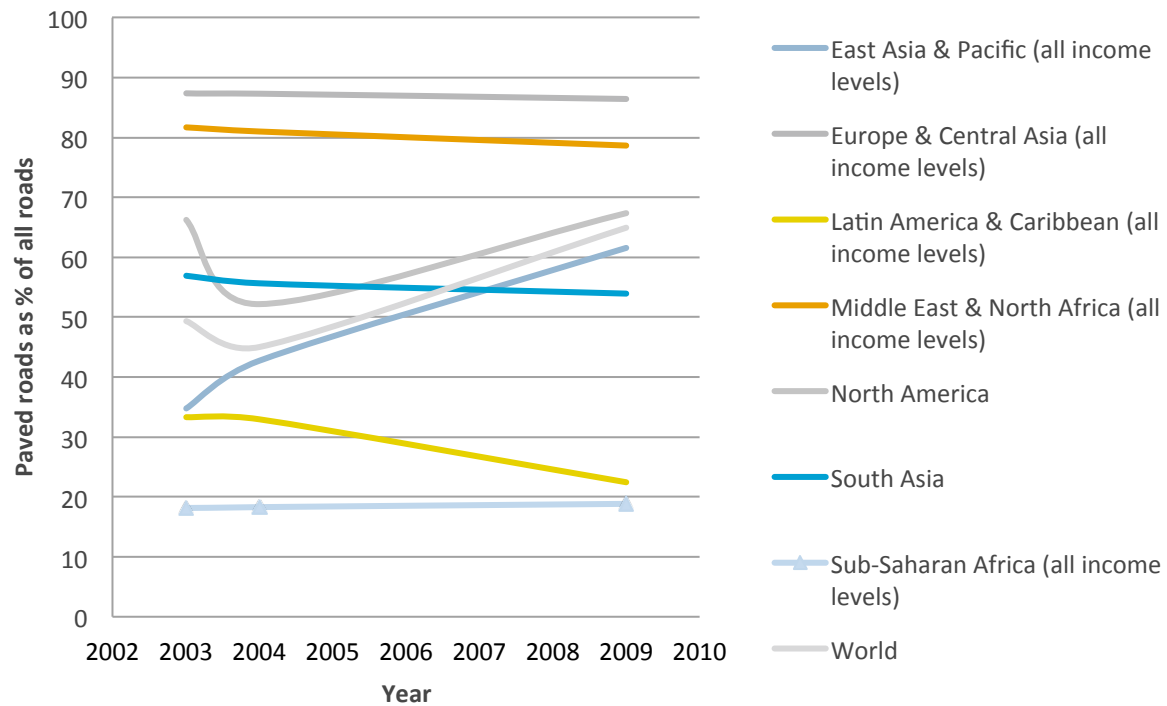
- **Sovereign Wealth Funds – limited financing**
- **Institutional investors – limited financing**
- **Few instruments for them to invest in:
infrastructure bonds underdeveloped**
- **Progress: Africa Finance Corporation – public &
private shareholders: issuing infrastructure bonds**
- **Kenya infrastructure bonds**

Impact of Limited Infrastructure

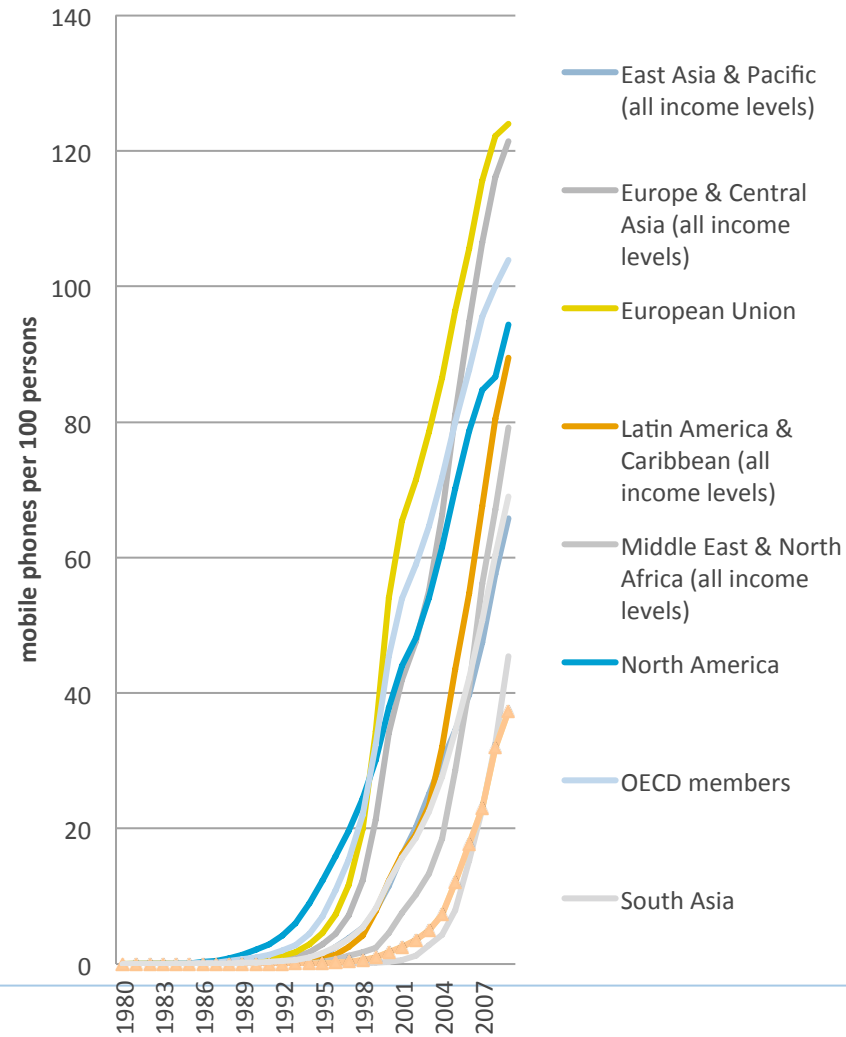
- Erratic power supply – 30 countries have regular power disruptions: hits SMEs (Nigeria especially bad, but also South Africa in 2008)
- Transport system weak – fragments markets – impedes food-security (1 in 3 malnourished)
- Ports: inefficient, long-waiting times to load
- One bright spot: mobile telecommunications (& mobile banking)

Roads

Paved roads



Mobile phone subscriptions



High Returns to Infrastructure

- Social rate of return is high & non-marginal
- especially if poor are given high weight in benefits
- if all of Africa caught up with Mauritius (regional infrastructure leader) per capita growth would rise by 2.2 percentage points
- Connects to **NEW PRODUCTIVE SECTORS**: creation of higher value added: manufacturing; services; high-value processed agriculture (“new industrial policy”)



Appraisal of infrastructure is weak

- Conventional CBA weak – network effects, spatial spillovers, agglomeration effects especially important
- Regional development – pan-African transport & energy networks
- In Low-income countries: adopt a more conservative approach to project selection? Can't absorb big mistakes – opportunity costs higher than in advanced economies (& avoid debt, macro-instability)
- Paradox: Development economics has moved away from these big questions: RCTs - 'randomistas' (focus on human development investments in education & health led by MDGs)
- Yet, a healthier & better educated population needs employment
- Structural transformation to generate jobs, requires large-scale infrastructure investment

Infrastructure: Dilemmas & Risks

- Environmental impact of infrastructure projects
- Climate change impact – build robustness into infrastructure (UNU-WIDER project: combining bio-physical models & CGEs: detail at www.wider.unu.edu)
- Dilemma: southern Africa abundant in coal – how to get investment into renewables?
- Very low private investment in renewables in Africa: high investment costs (but potential: hydropower from DRC, geothermal in Great Lakes)

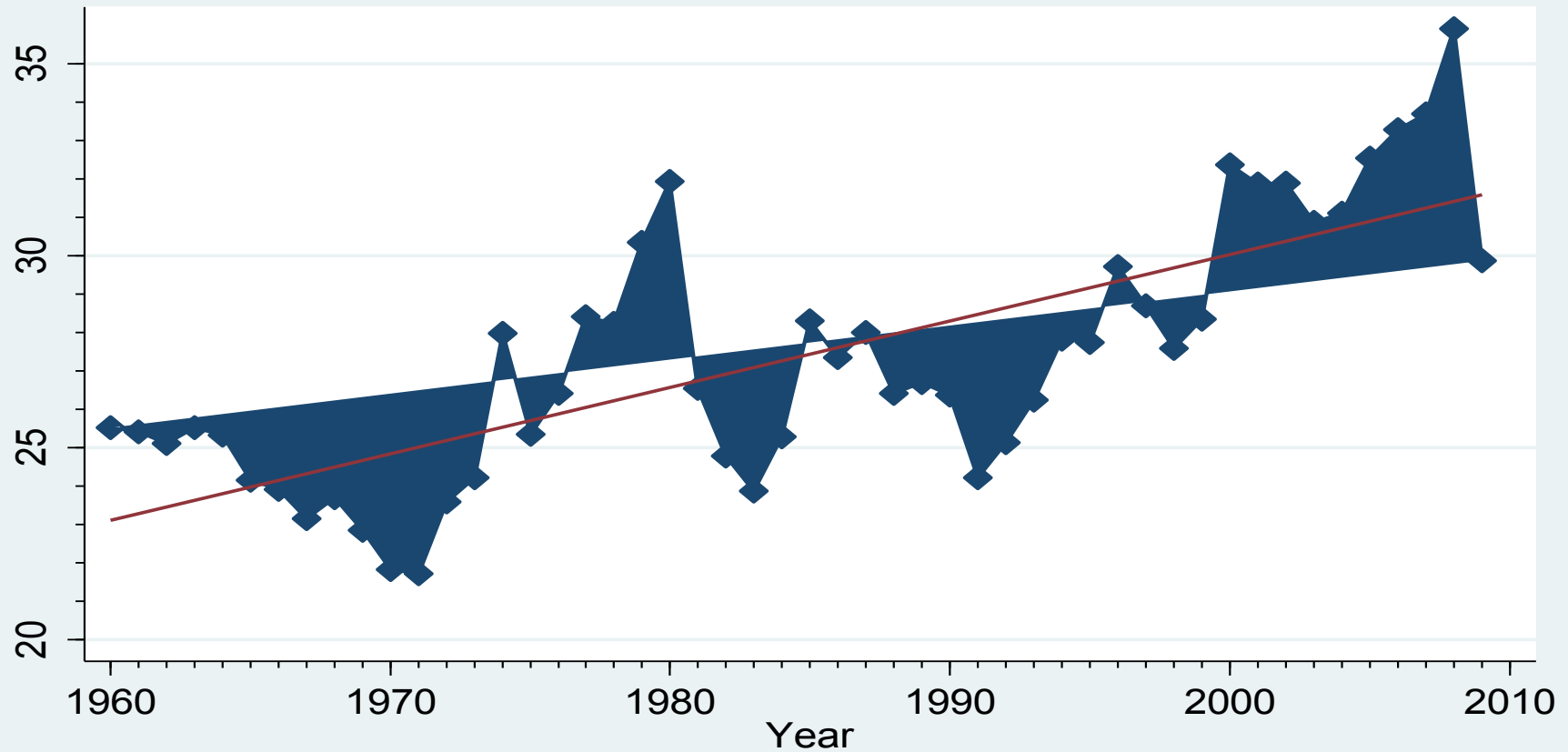


Using Natural Resource Rents

- **Primary commodities dominate exports: oil & gas accounts for more than 50% of Africa's exports by value (Nigeria, Angola & now Ghana + new East African producers)**
- **Task: turn natural resource wealth into lasting wealth – human capital + infrastructure**
- **to diversify the economy, create inclusive growth**
- **Growth then raises domestic revenue base + private investment to finance more infrastructure**

Trend in SSA Export Performance

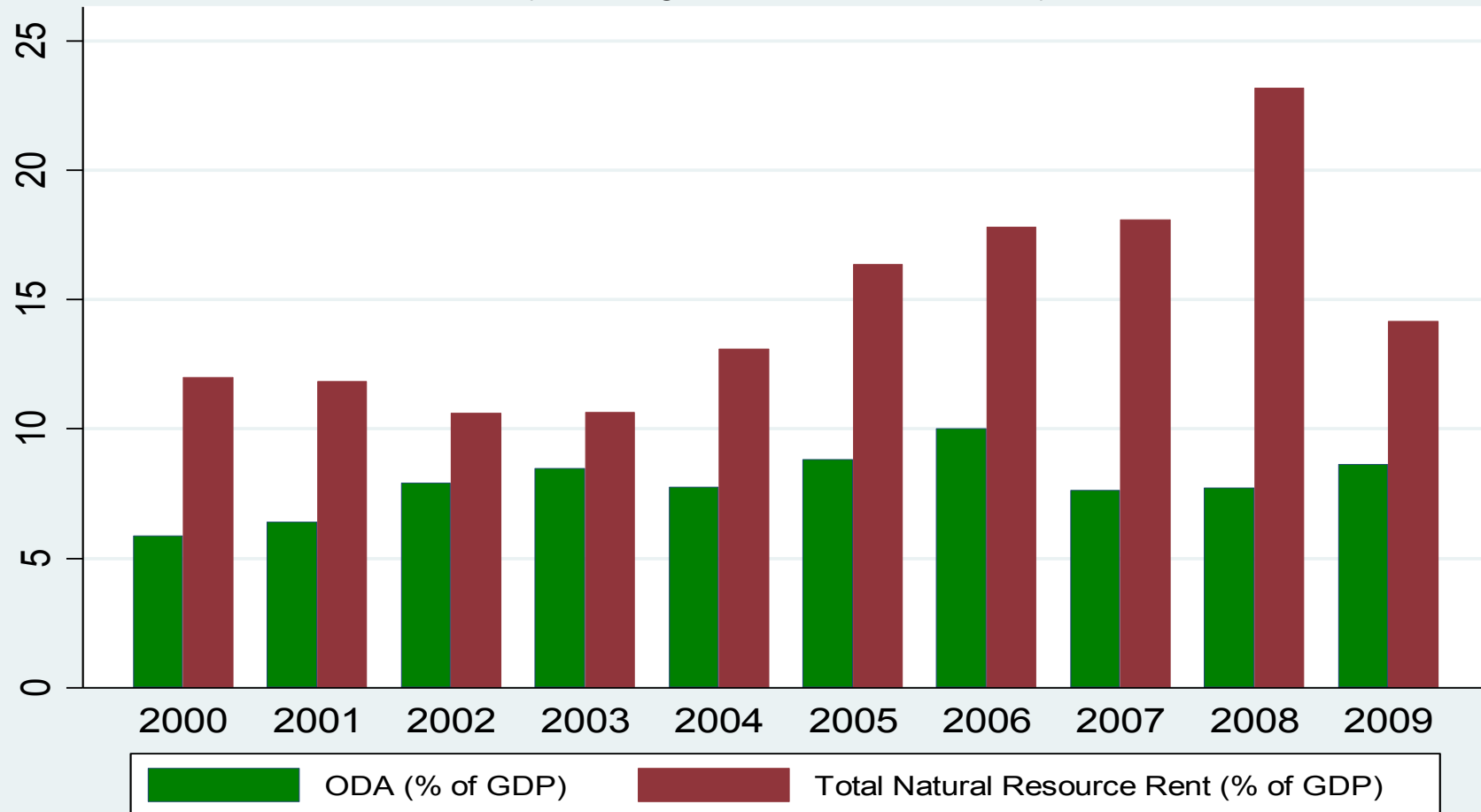
Export Performance of SSA (Percentage of GDP)
1960-2009



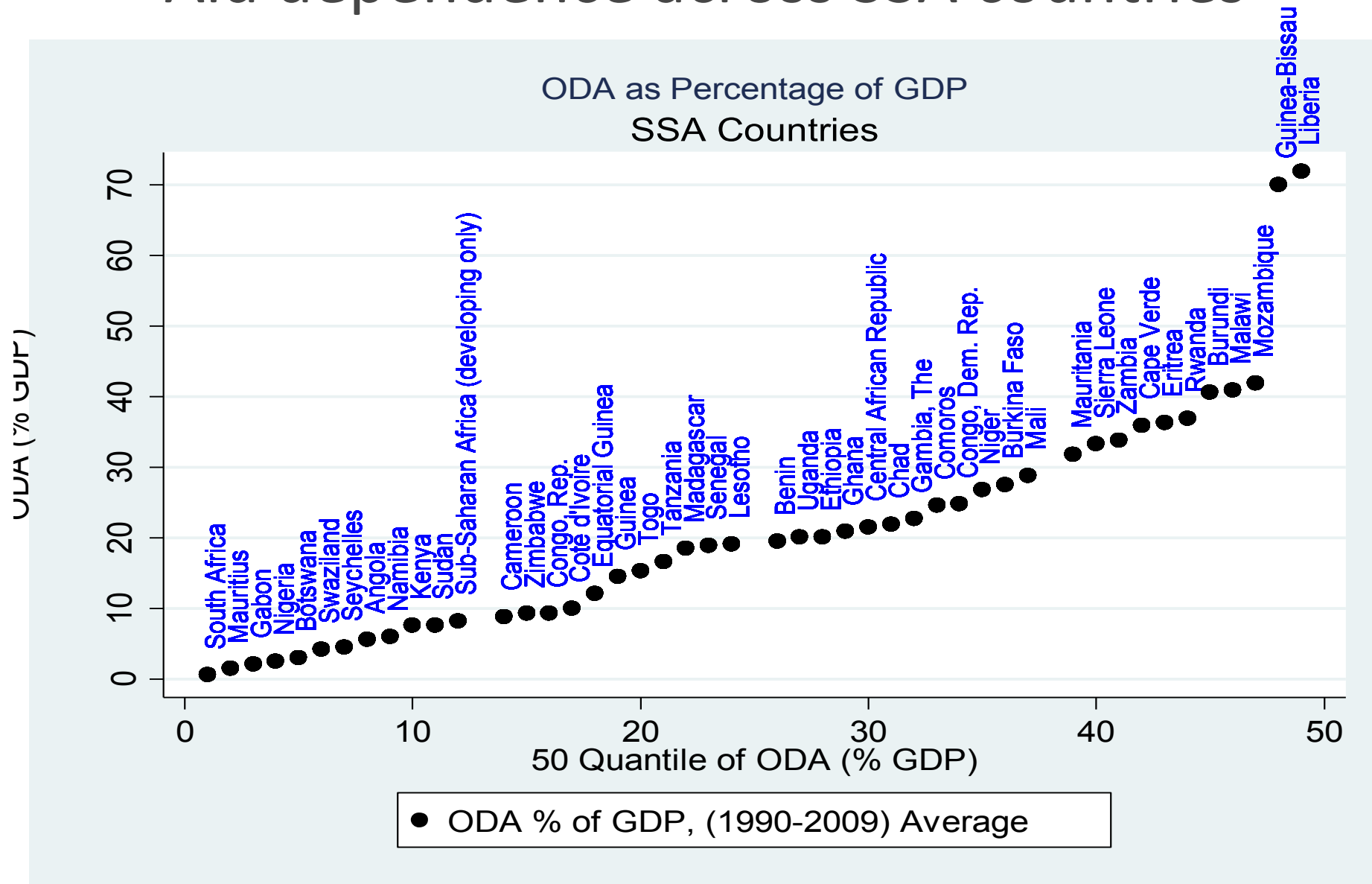
Exports of goods and services (% of GDP) Fitted values

ODA v Natural Resource Rent

ODA and Natural Resource Rents in Sub Saharan Africa
(Percentage of GDP from 2000-2009)



Aid dependence across SSA countries



Conclusions

- **Very wide variety of countries; but infrastructure satisfactory in only a very few**
- **Post-2015 development agenda – creation of jobs: requires structural transformation: infrastructure**
- **Aid: focus more on Technical assistance? Mobilize more private capital?**
- **Pan-African vision needed – to connect landlocked to coastal growth poles; build cross-border transport & energy; reduce conflict**





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Thank you

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