

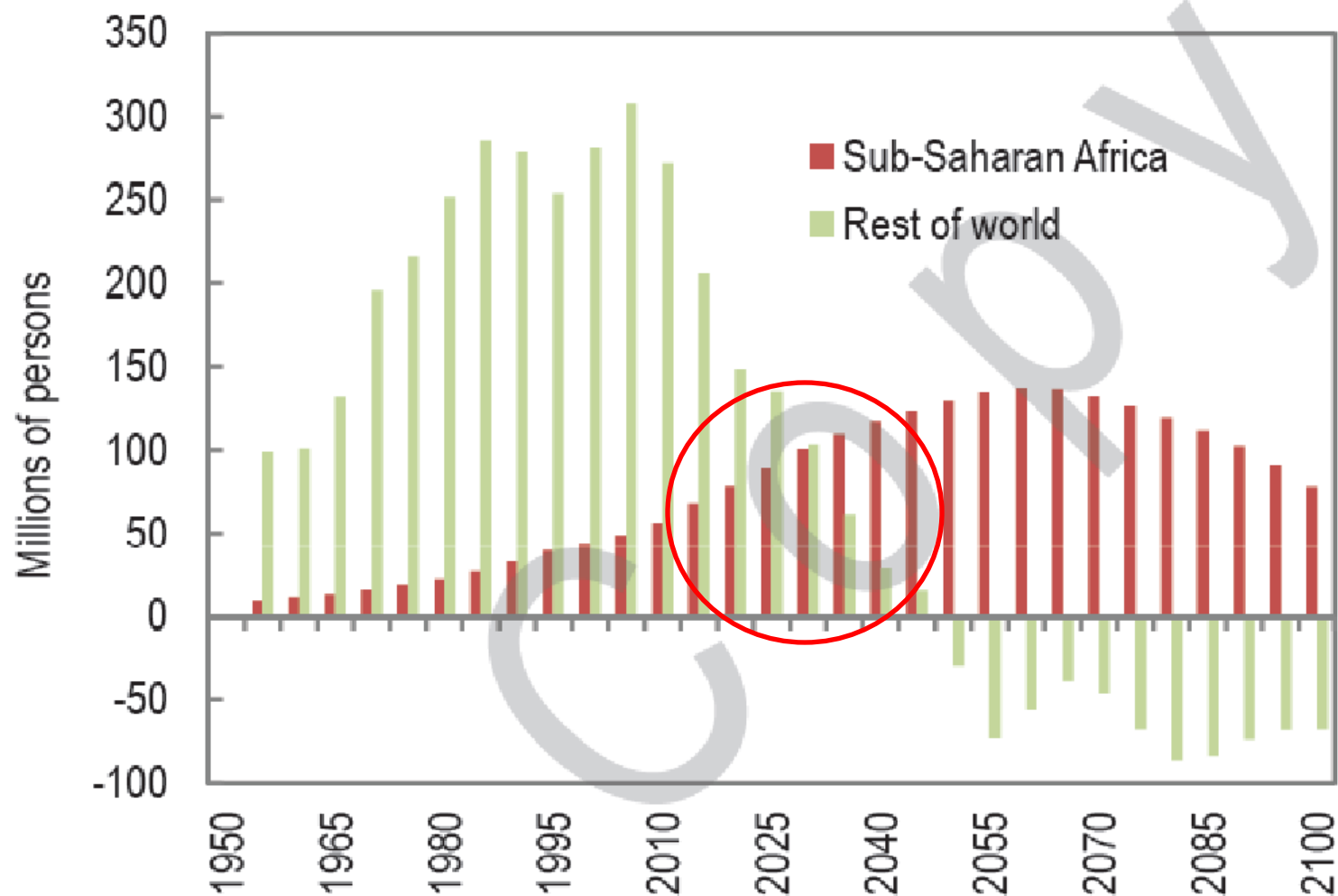
Discussion of Chapter 2

Remi Jedwab (GWU)

Quick comments

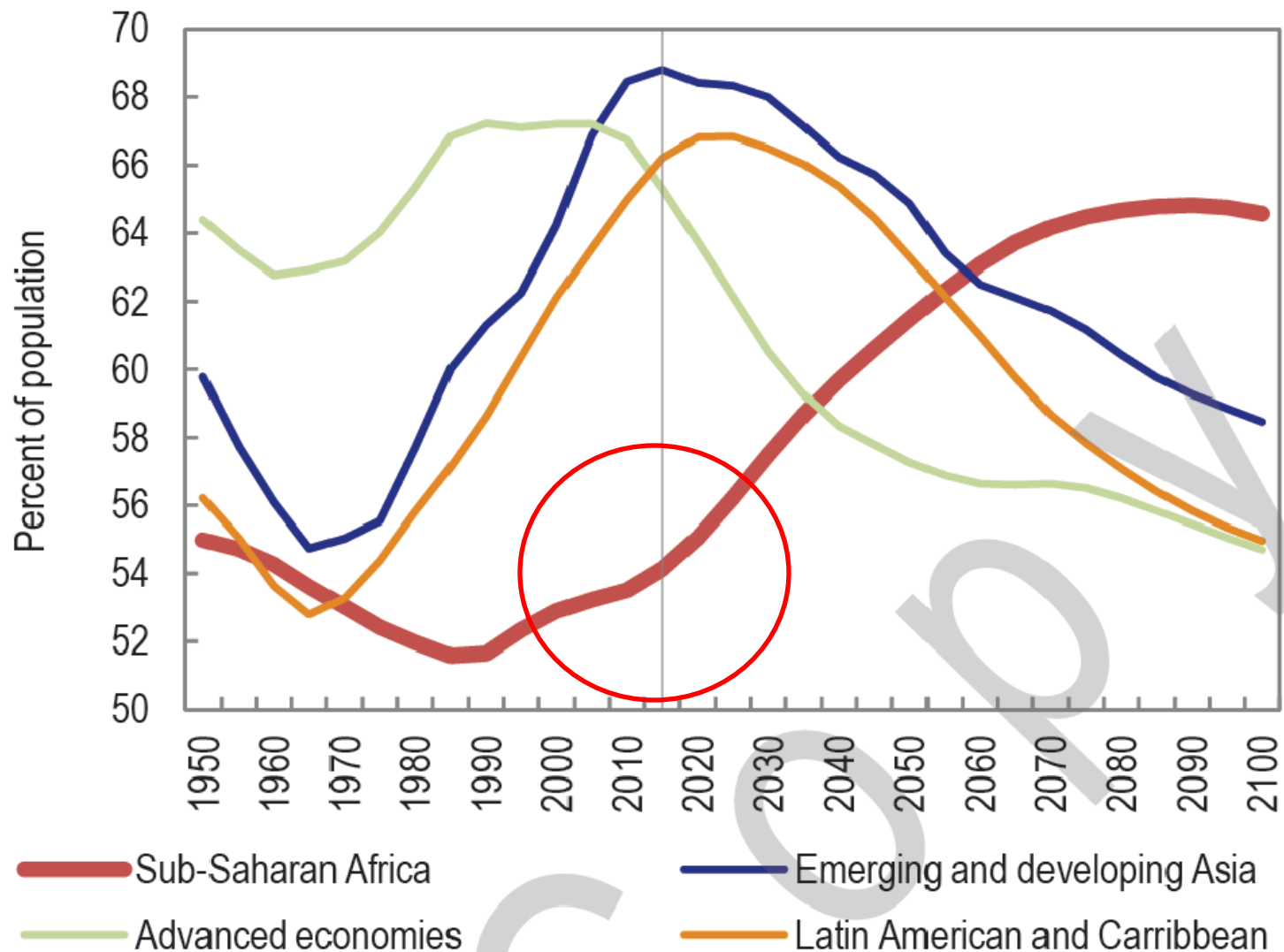
- I really liked the chapter
- I agree with all the things you said

Figure 2.1. Change in Working Age Population
(ages 15–64)



Sources: United Nations, World Population Prospects, 2012; and IMF staff calculations.

Figure 2.10. Global Trends in Share of Working Age Population, 1950–2100



Source: United Nations, World Population Prospects, 2012.

Two effects here (a bit of theory...)

Y = Income, K = capital, P = Population, L = Workforce

- **Scale or Malthusian effect?**

Per capita income = $Y/L = f(K/L)$

What happens if L dramatically increase?

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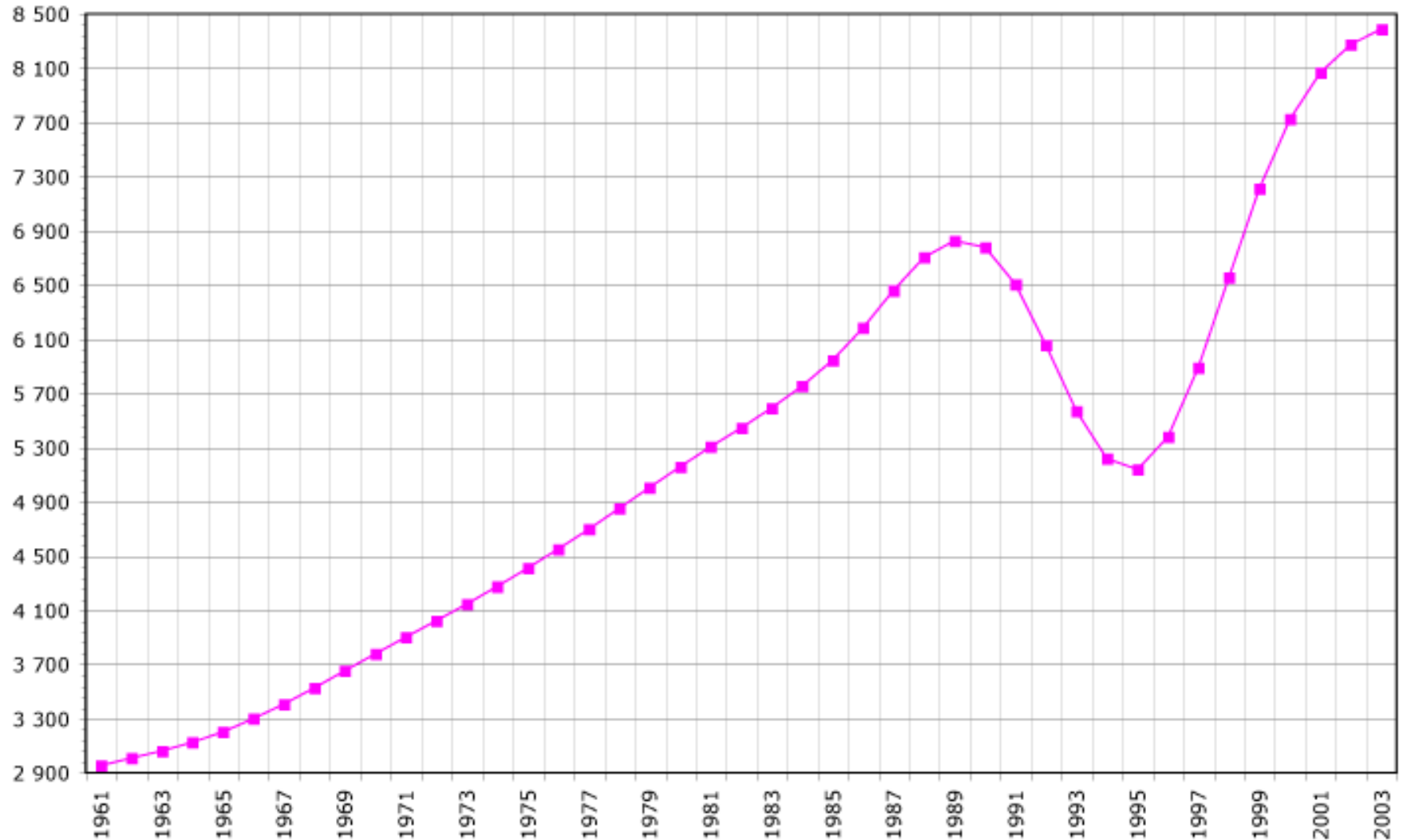
Per capita income = $Y/L = f(K/L)$

What happens if L dramatically increase?

If K fixed factor (land)? If K not fixed?

Negative Malthusian effects? Or positive scale effects?

Population of Rwanda, 1960-2003. As population increases fast, land-labor ratios fall, and people fought for the land.



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Negative Malthusian effects? Or positive scale effects?

- **Positive or negative age structure effect?**

Per capita income = $Y/P = Y/L \times L/P$

So per capita income = wage x labor participation rate

Lower dependency ratios => higher labor participation



What may be missing in the report

- Rural vs. urban discussion
- Policies that worked

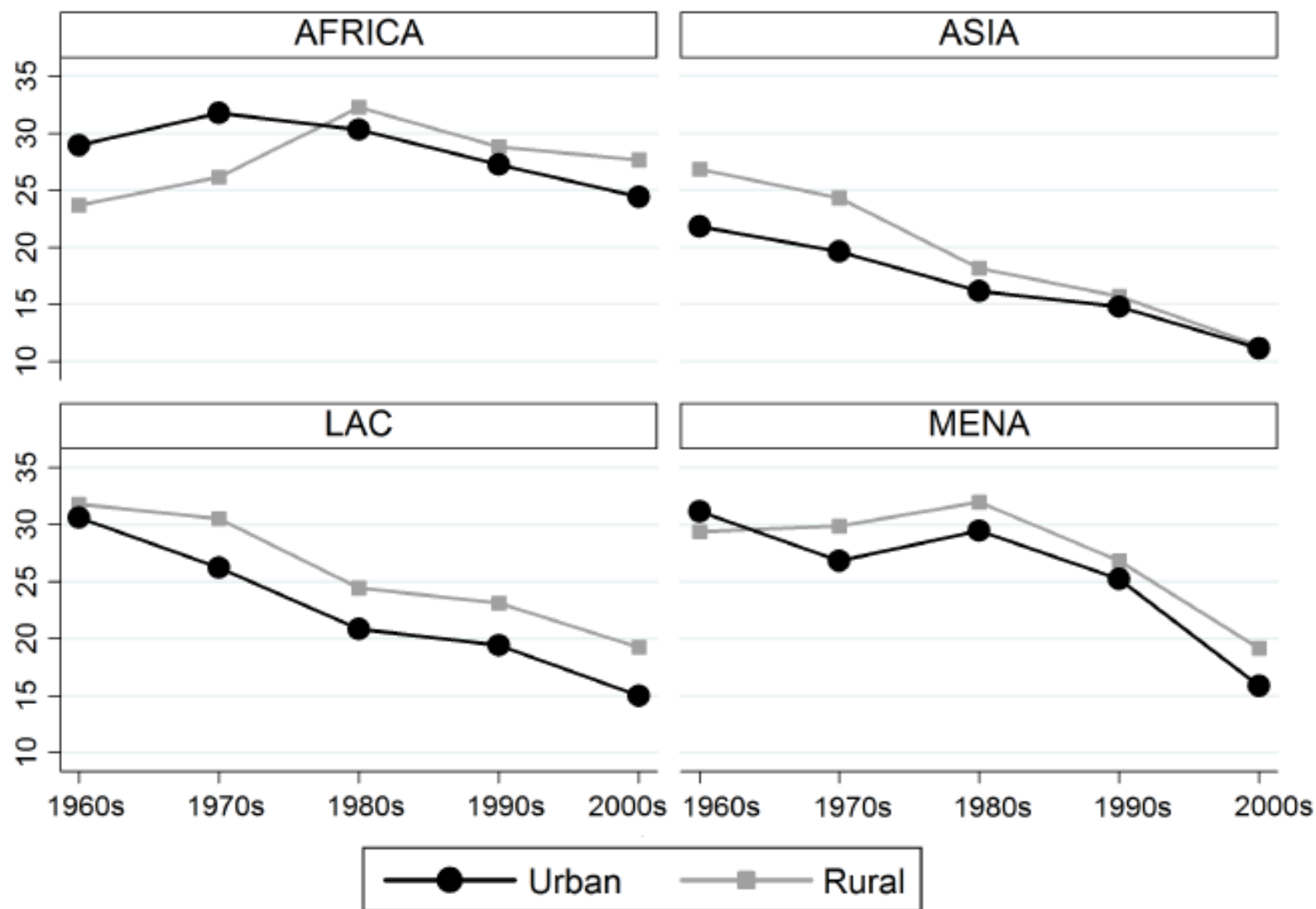
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- Rural vs. urban discussion
- Policies that worked

“Demography, Urbanization and Development: Rural Push, Urban Pull... and Urban Push?”, with Luc Christiaensen (World Bank) and Marina Gindelsky (GWU)

“The Mortality Transition, Malthusian Dynamics and the Rise of Poor Megacities”, with Dietrich Vollrath (University of Houston)

Crude Rates of Natural Increase for the Developing World (1960-2010)



Rural vs. Urban

- Coming back to the theory:
- **Scale or Malthusian effect?**

Per capita income = $Y/L = f(K/L)$

Rural sector: use land, mostly fixed factor. Ag sector does not rely much on technology, at least in non-rich countries. Huge potential for congestion effects.

Rural vs. Urban

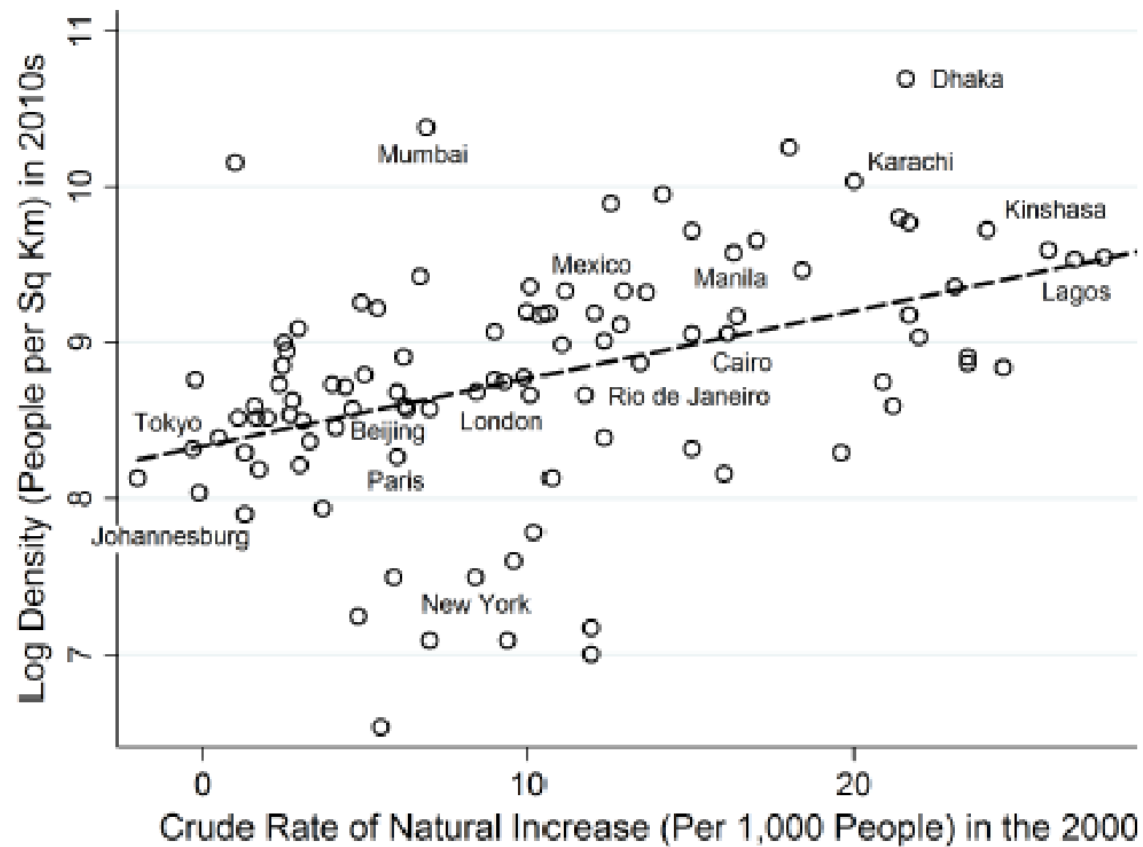
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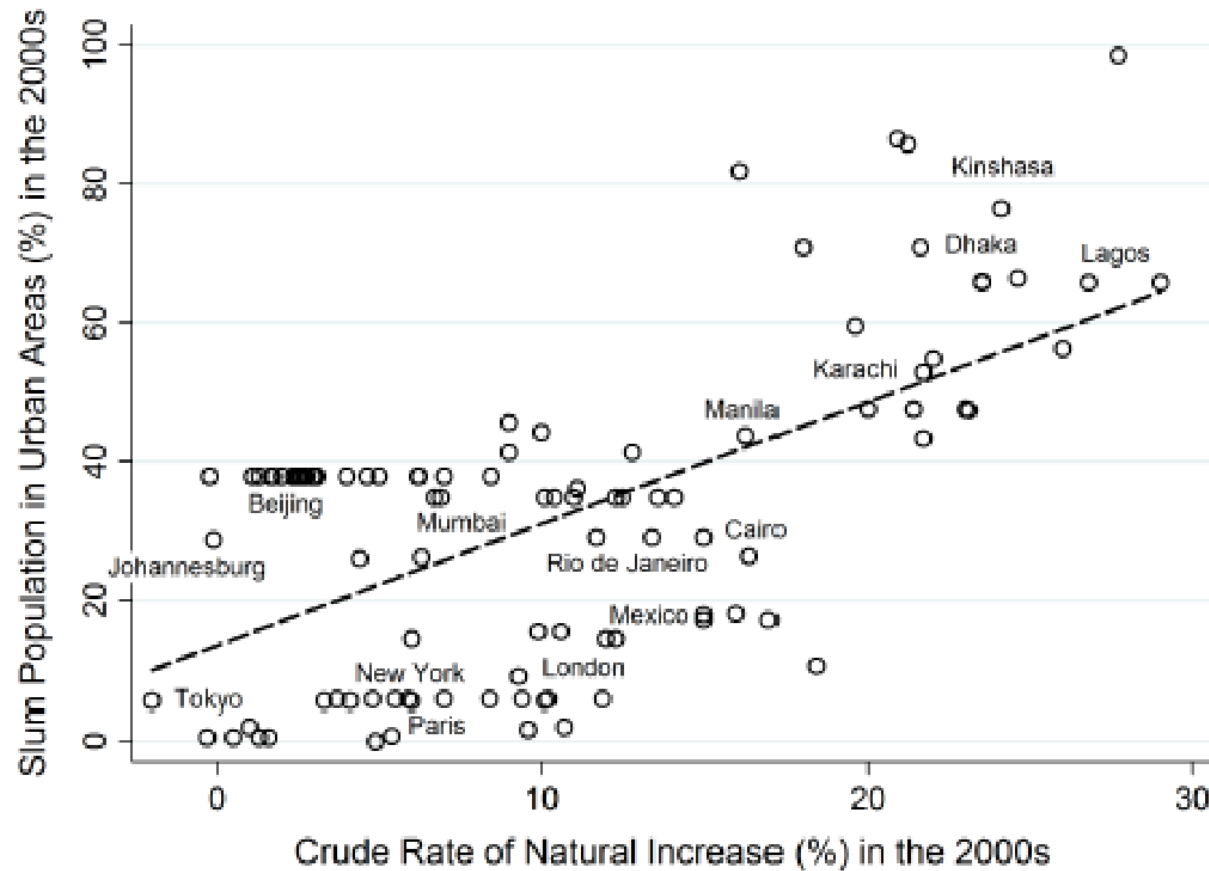
Urban sector: use physical and human capital. Positive scale effects only? But “urban space” is also mostly a fixed factor. Huge potential for congestion effects.

c) City Population Density



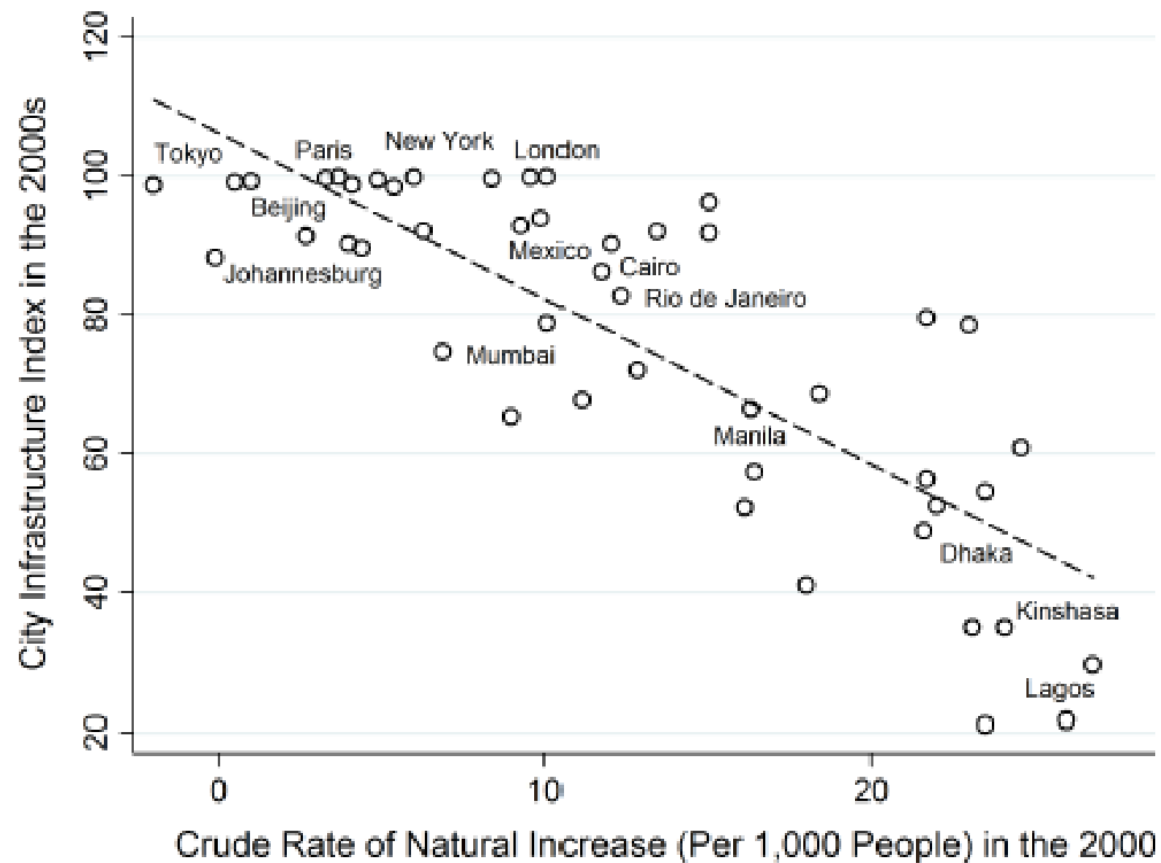
$$Y = 0.04***X + 8.35***; R^2 = 0.18; \text{Obs.} = 100$$

d) National Slum Share



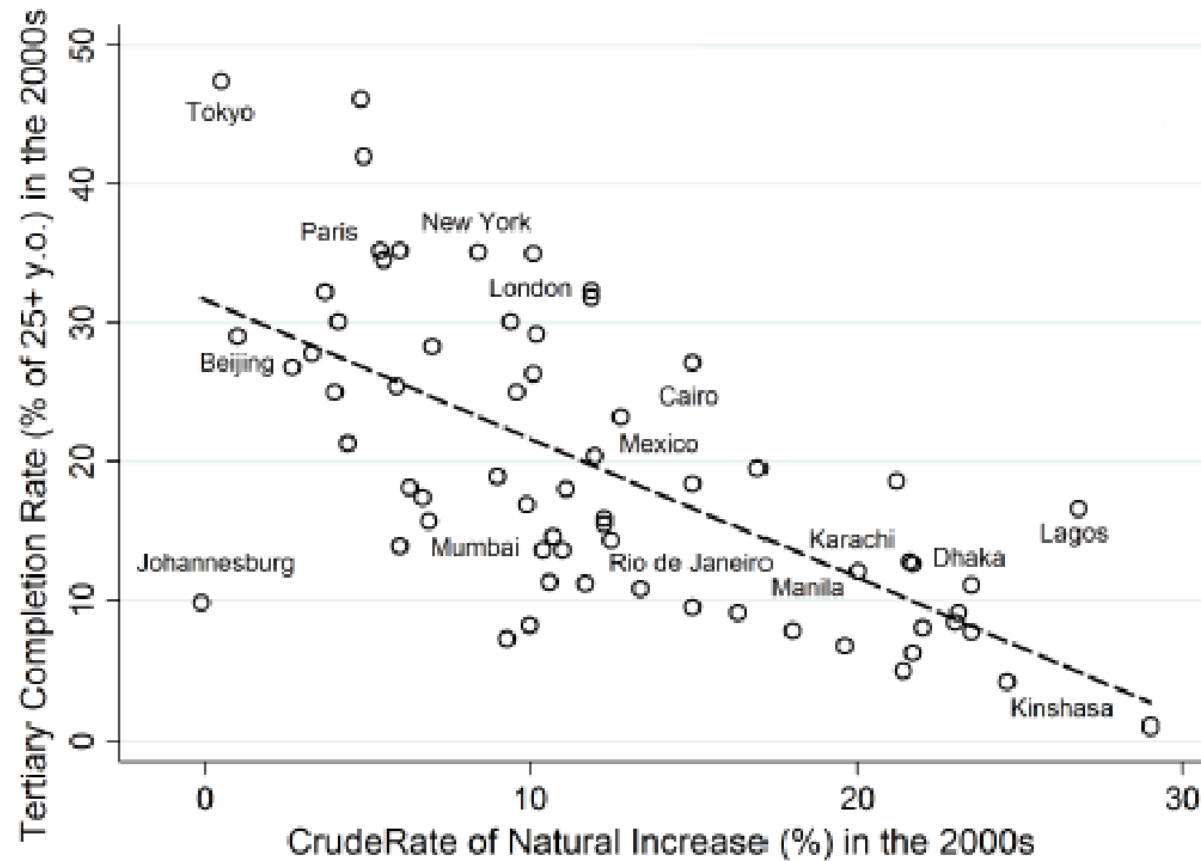
$$Y = 1.76^{***}X + 13.47^{***}; R^2 = 0.36; Obs. = 100$$

e) City Infrastructure Index



$$Y = -2.39^{***}X + 106.21^{***}; R^2 = 0.66; \text{Obs.} = 47$$

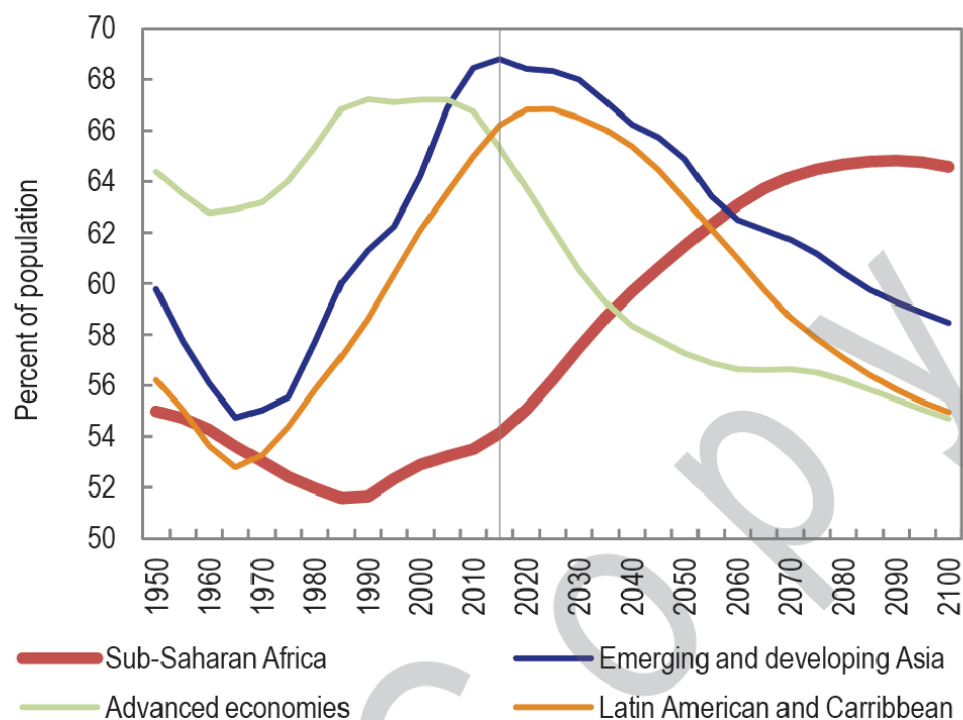
j) City Tertiary Education



$$Y = -1.00^{***}X + 31.67^{***}; R^2 = 0.43; \text{Obs.} = 66$$

What's going to happen? Will the share of working age population eventually increase in Africa?

Figure 2.10. Global Trends in Share of Working Age Population, 1950–2100



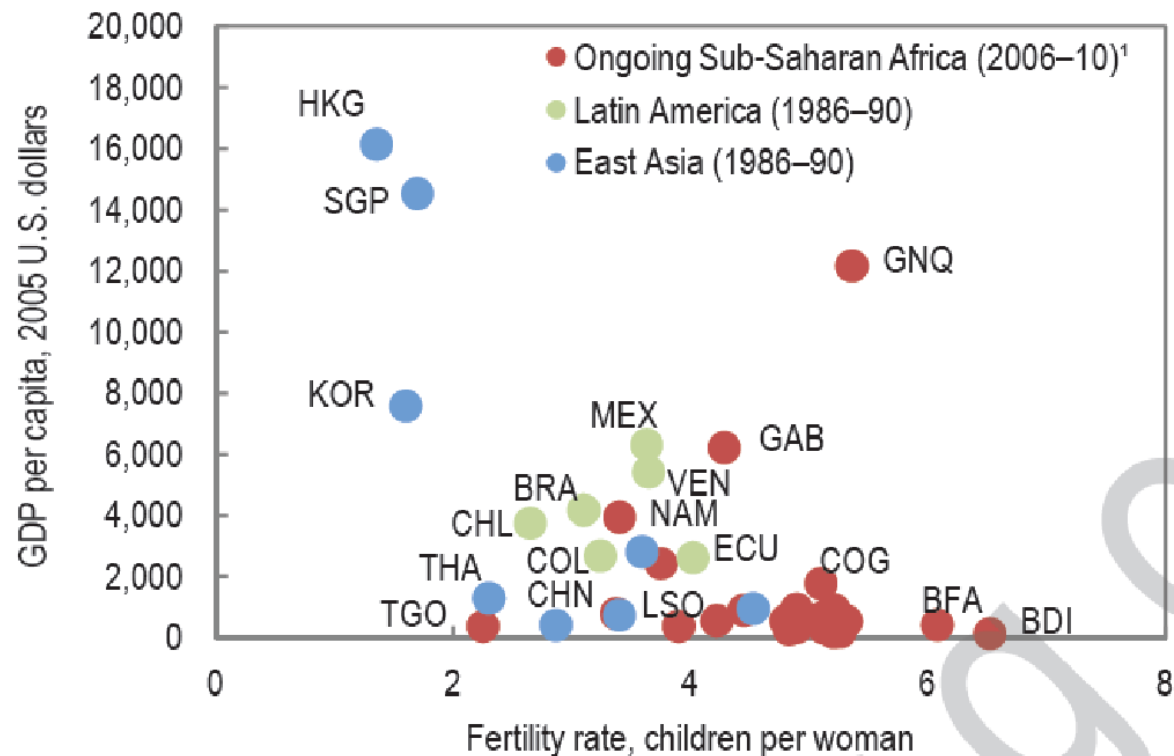
Source: United Nations, World Population Prospects, 2012.

A bit of theory, again

- **Child quality-quantity trade-off** (Becker, Galor): fertility remains high in poorer contexts.
- Potential for **poverty trap**: fast population growth => congestion effects => poverty => high fertility => fast population growth.

Minor comment: Use log GDP per capita

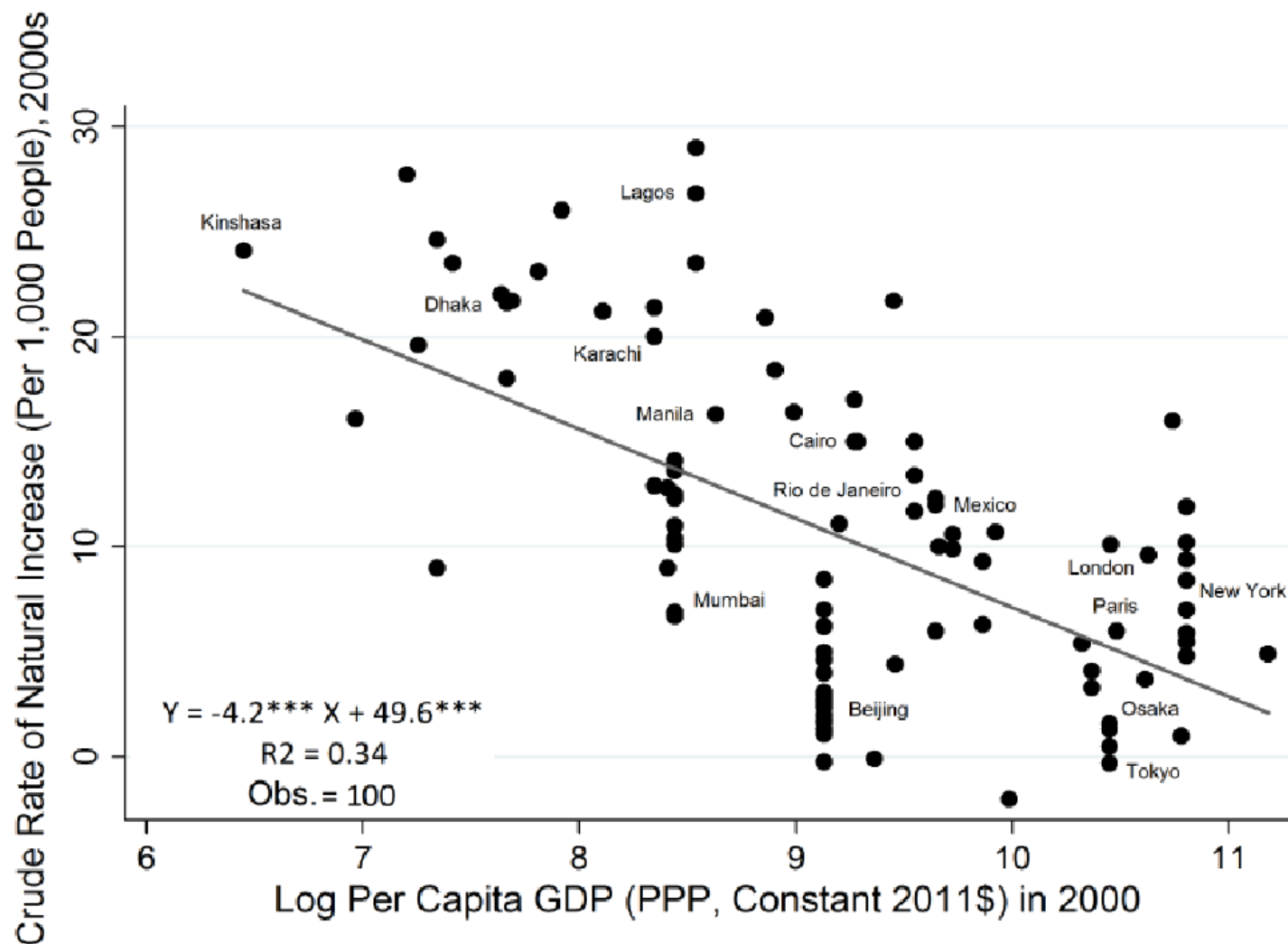
Figure 2.8. Real GDP per Capita and Fertility Rates



Source: United Nations, World Population Prospects, 2012.

Note: The dates in parentheses refer to the period for which the fertility rate and GDP per capita are shown. See page 70 for country acronyms.

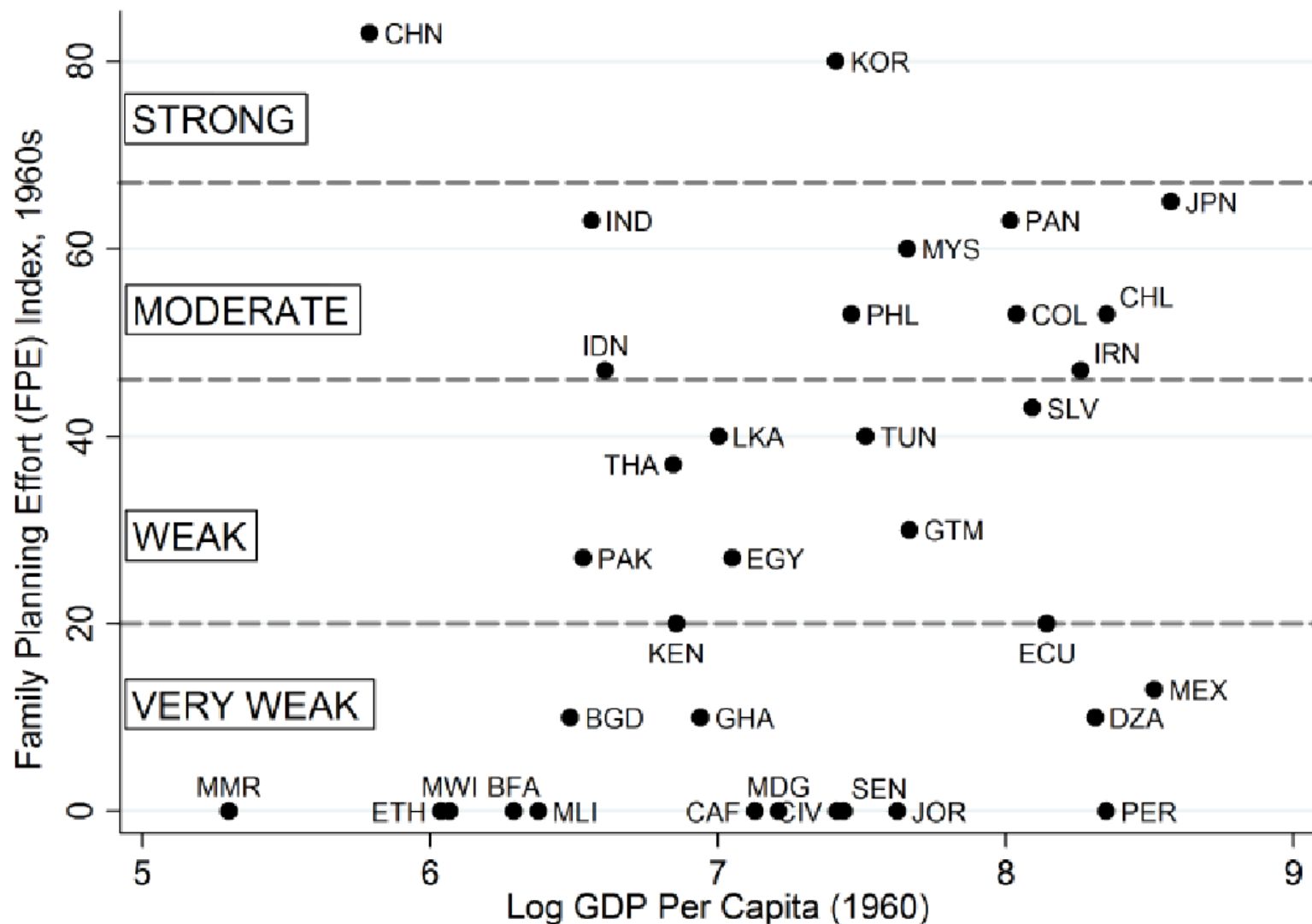
Web Appendix Figure 19: City Crude Rate of Natural Increase and National Income (Maddison 2008 and World Bank 2013), 1990s-2000s



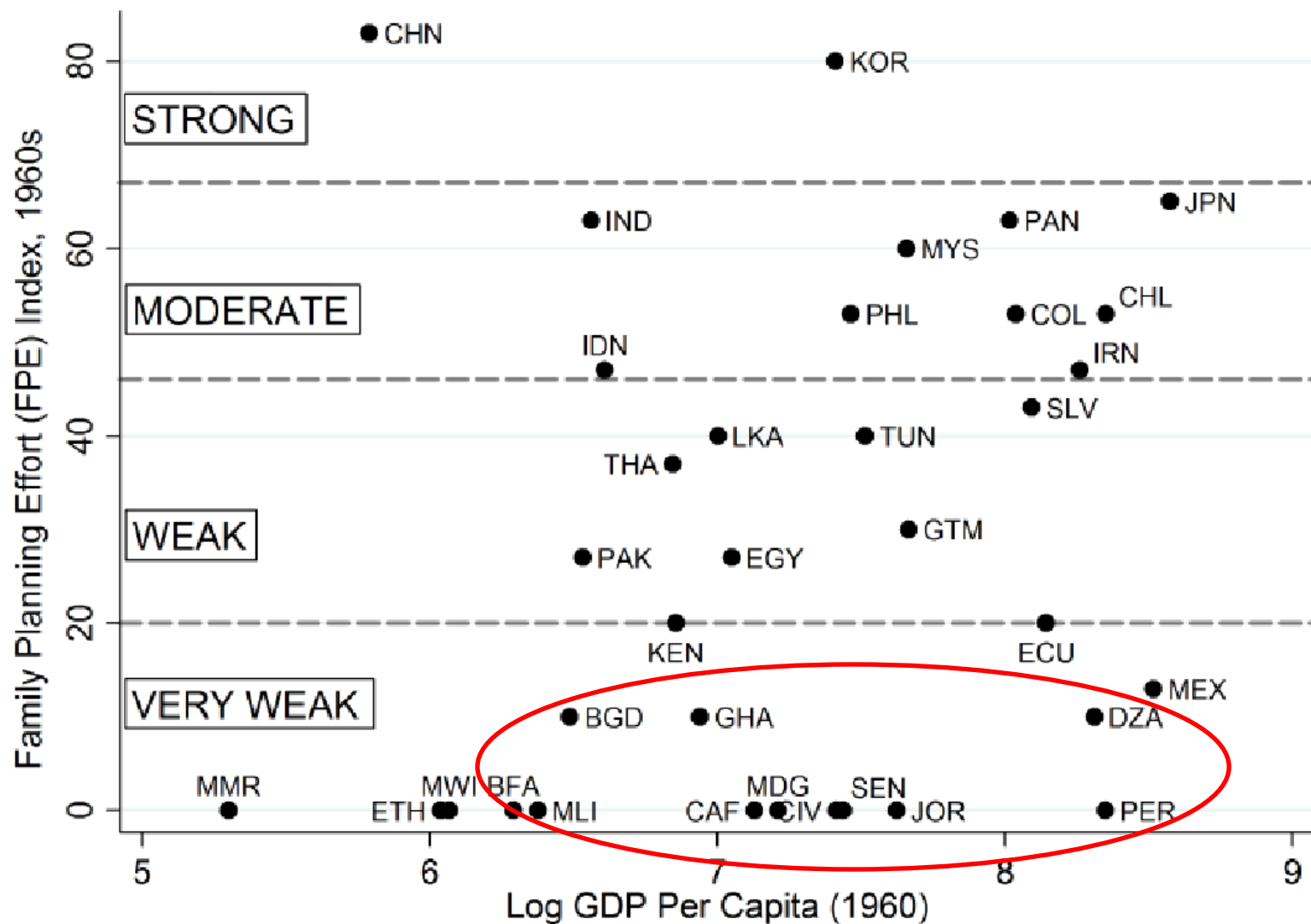
A bit of theory, again

- Child quality-quantity trade-off (Becker, Galor): fertility remains high in poorer contexts.
- Potential for poverty trap: fast population growth => congestion effects => poverty => high fertility => fast population growth.
- How to escape the poverty trap? What did work best in the past? **Family planning** or **investments in education**?

Web Appendix Figure 4: Family Planning Effort Index and Log Per Capita GDP for 35 Developing Countries in the 1960s



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Policies that worked

- **Authoritarian policies** (not a policy recommendation):
- Singapore's forced sterilization of poor women in 1960s
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 - Japan 1940s-1950s
 - South Korea 1960s
 - India, Indonesia 1960s (not as strong)
- Investments in (non-sexual) education? Fertility depends on the returns to education, and thus the demand for education