

Econ 702

Macroeconomics I

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Spring 2020

Lecture 5: What Determines Long-run Growth?

Figure 7.1: Country 1 Initially Endowed With More Capital than Country 2

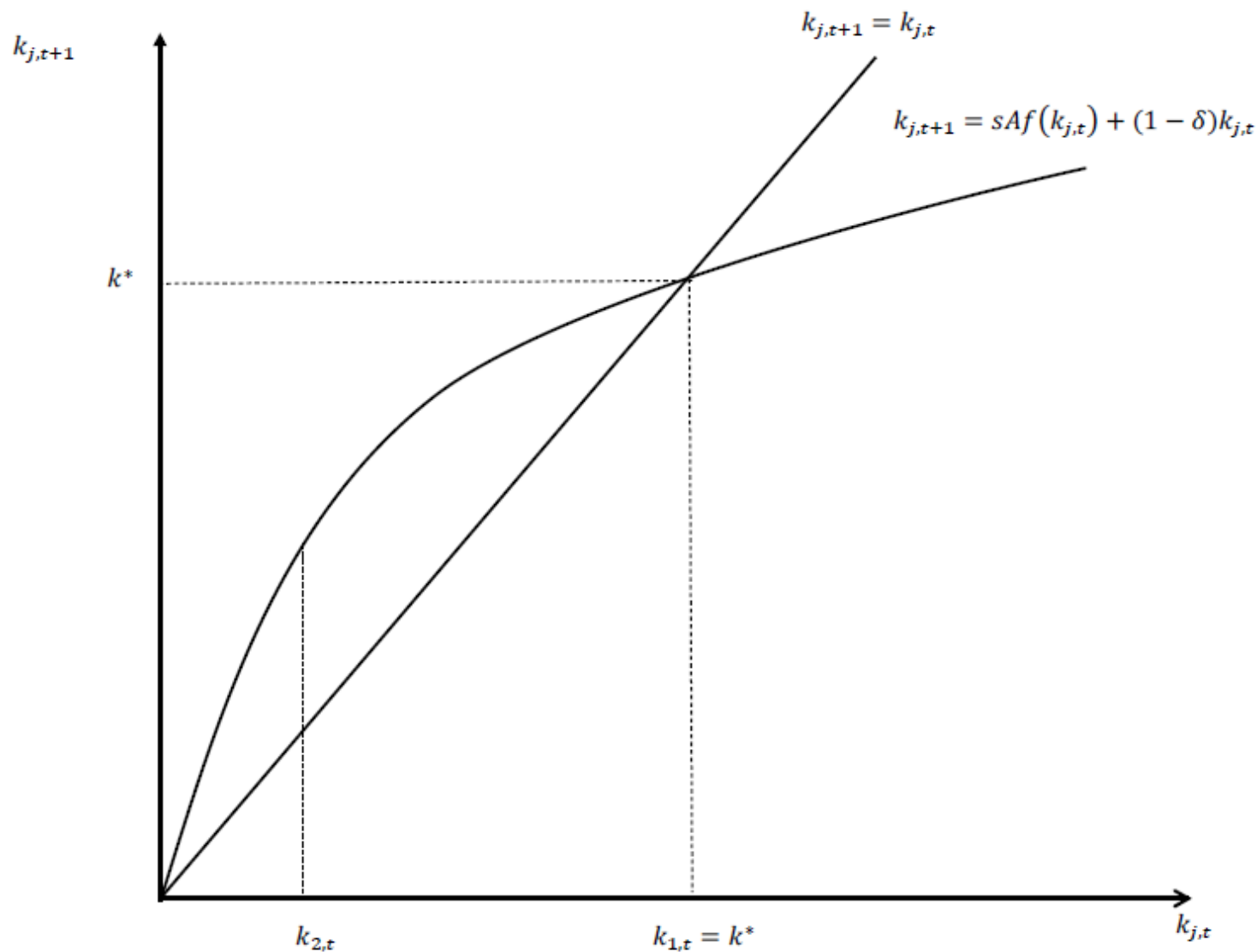


Figure 7.2: Paths of Capital and Output Growth for Countries 1 and 2

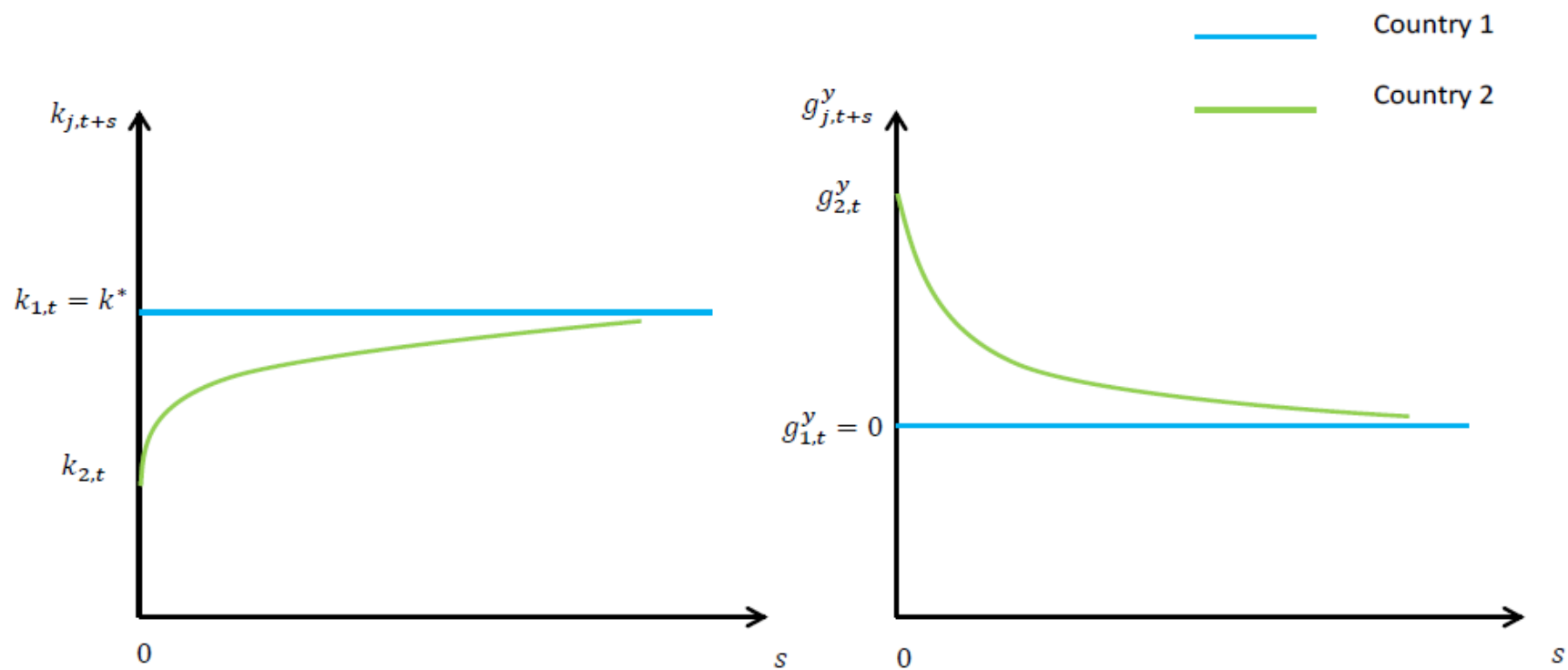


Figure 7.3: Initial GDP Per Capita in 1950 and Cumulative Growth From 1950–2010

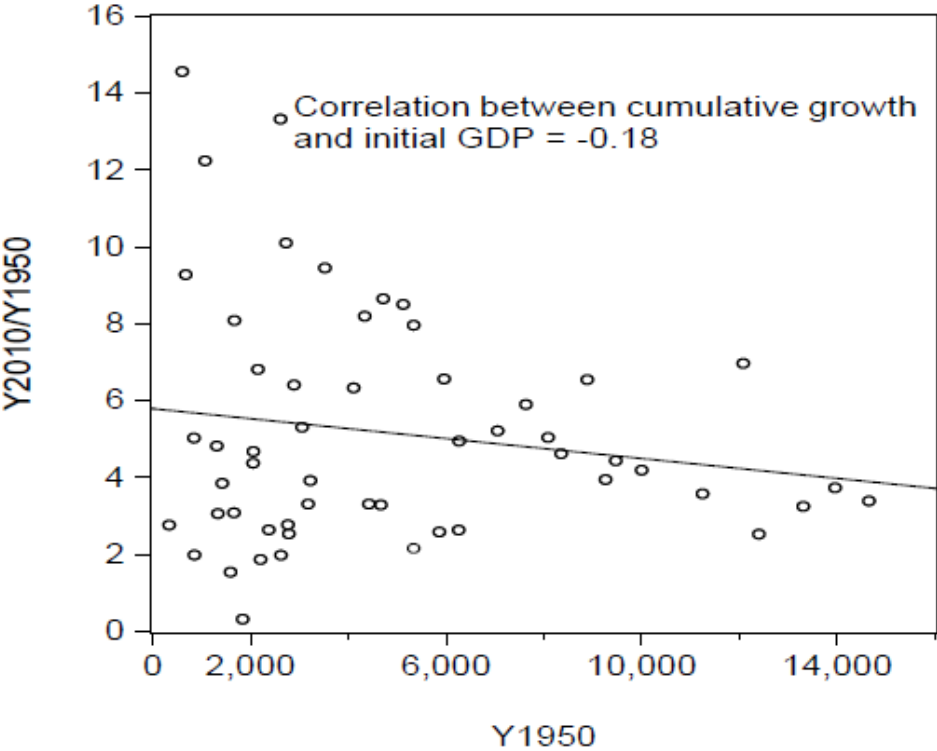


Figure 7.4: Initial GDP Per Capita in 1950 and Cumulative Growth From 1950–2010
OECD Countries

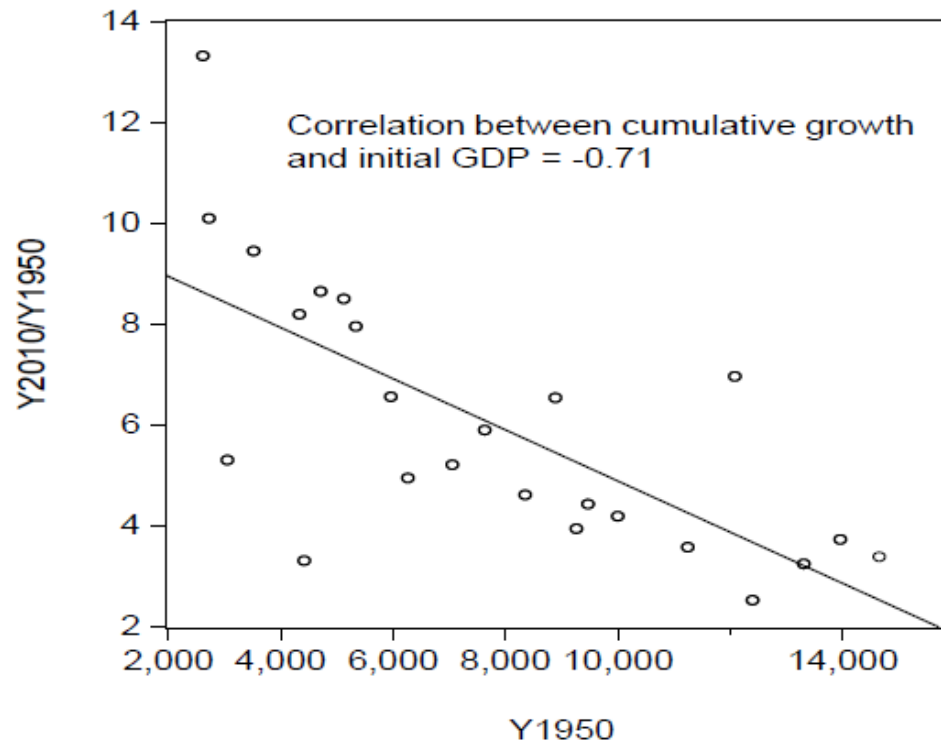
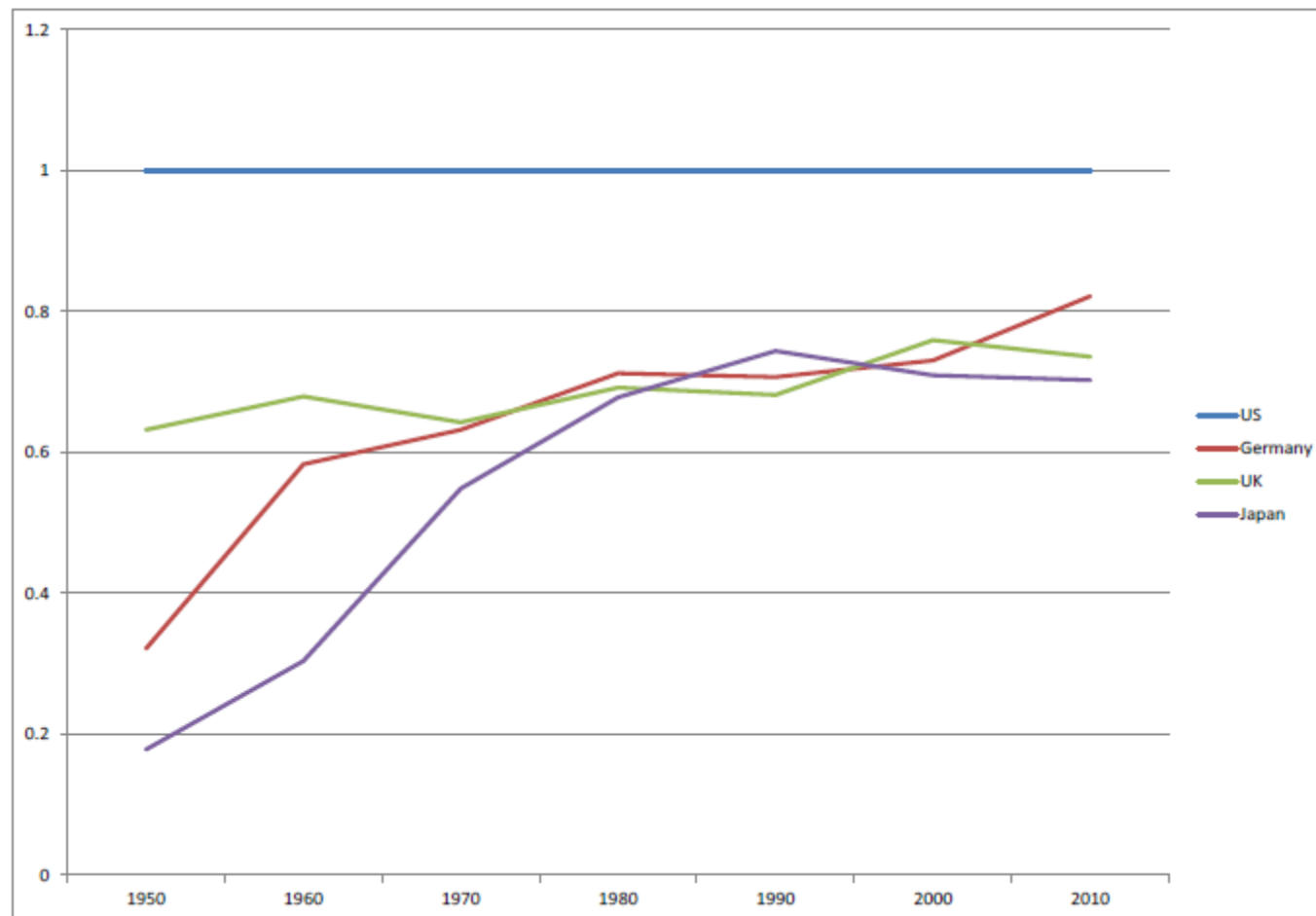


Figure 7.5: Real GDP Per Capita Relative to the United States



Do Saving Rates Explain Differences in Income per Person?

$$y_j^* = A_j^{\frac{1}{1-\alpha}} \left(\frac{s_j}{\delta} \right)^{\frac{\alpha}{1-\alpha}} \quad \text{for } j = 1, 2$$

$$\frac{y_1^*}{y_2^*} = \left(\frac{A_1}{A_2} \right)^{\frac{1}{1-\alpha}} \left(\frac{s_1}{s_2} \right)^{\frac{\alpha}{1-\alpha}}$$

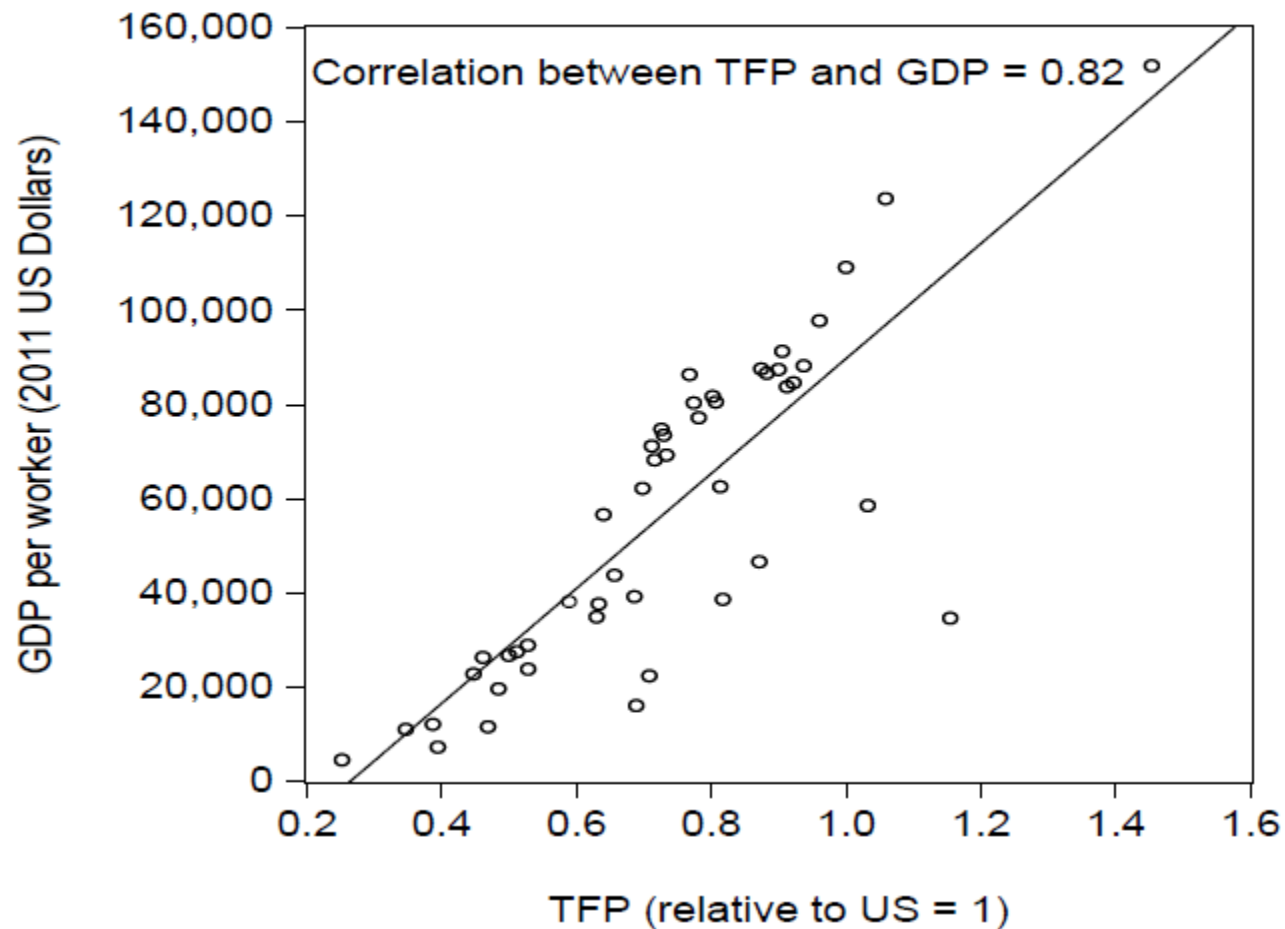
Suppose $A_1 = A_2$, then

$$\frac{y_1^*}{y_2^*} = \left(\frac{s_1}{s_2} \right)^{\frac{\alpha}{1-\alpha}}$$

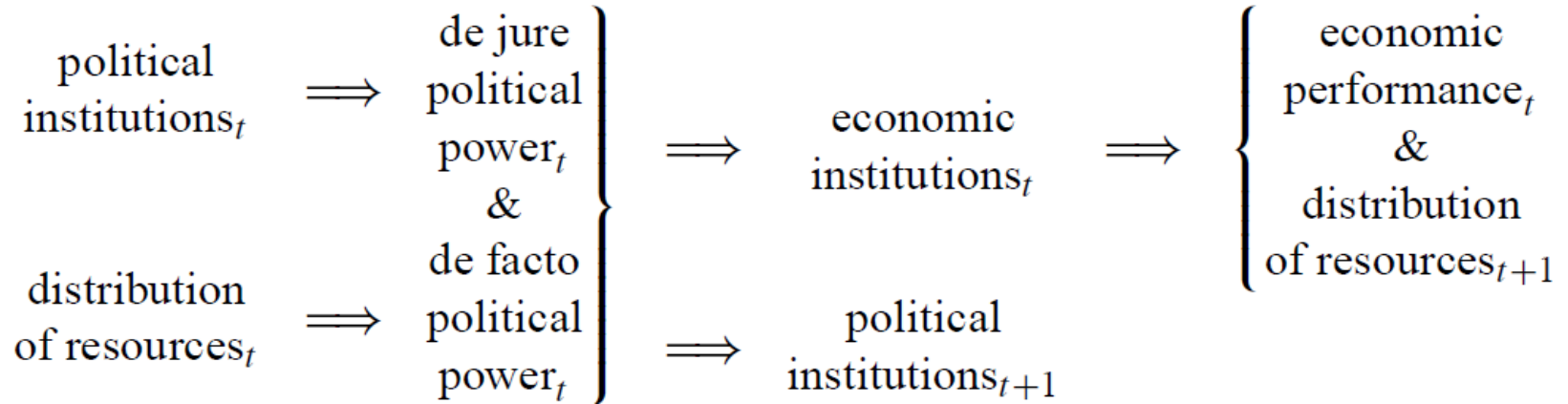
Does TFP Explain Differences in Income per Person?

$$\ln A = \ln Y_t - \alpha \ln K_t - (1 - \alpha) \ln N_t$$

Figure 7.6: Scatter Plot: TFP and GDP Per Worker in 2011



Acemoglu, Johnson & Robinson



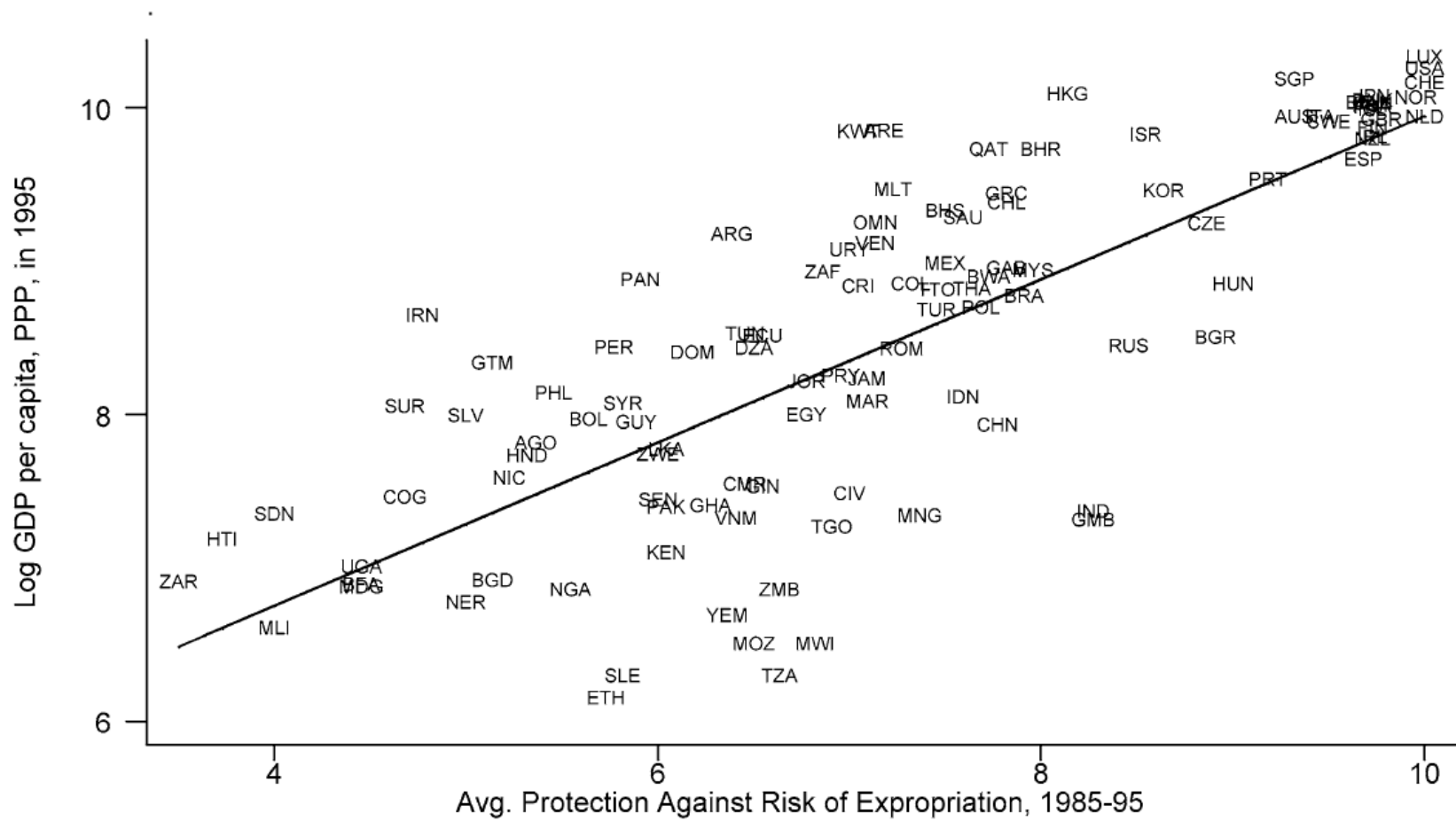


Figure 1. Average protection against risk of expropriation 1985–95 and log GDP per capita 1995.

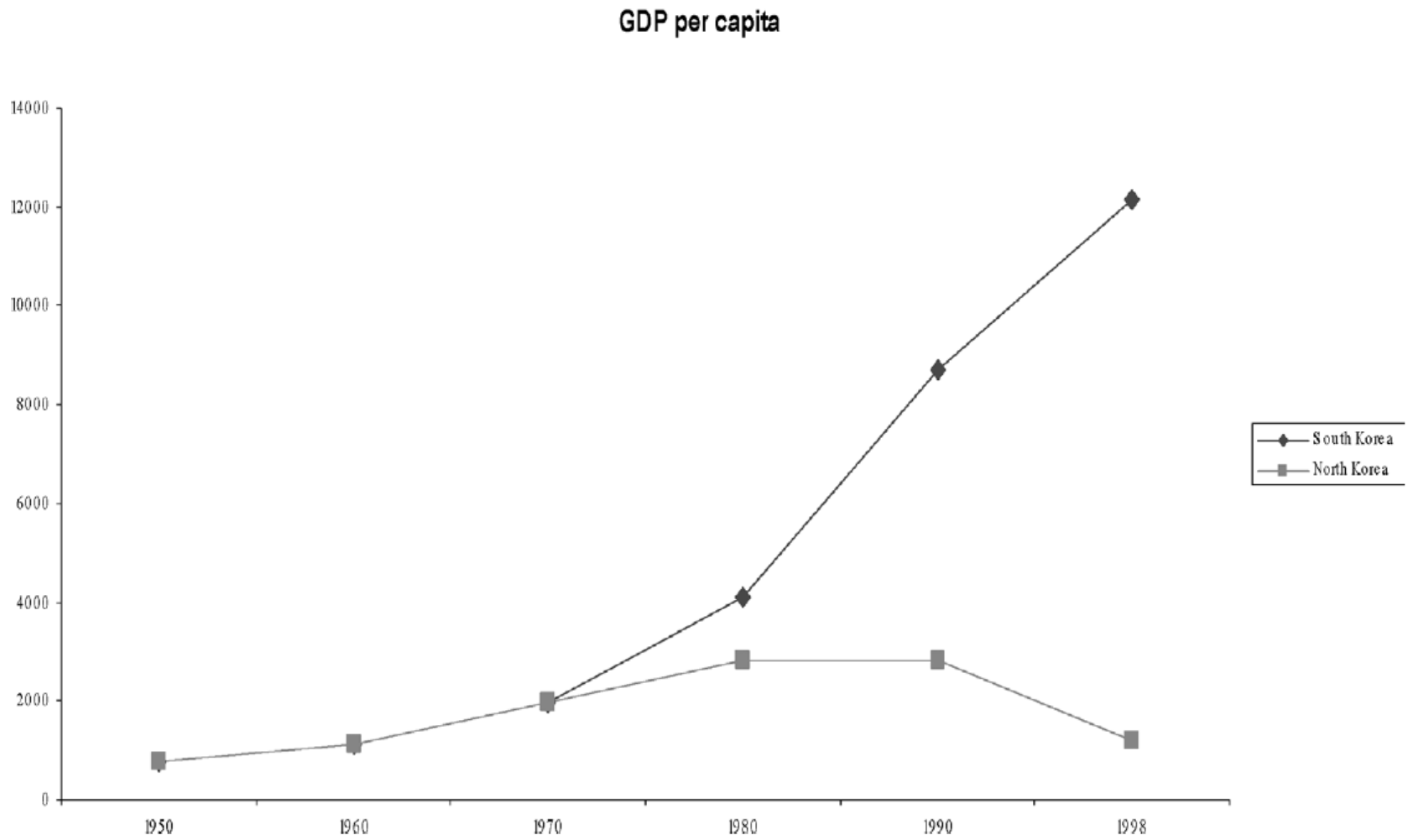


Figure 3. GDP per capita in North and South Korea, 1950–98.

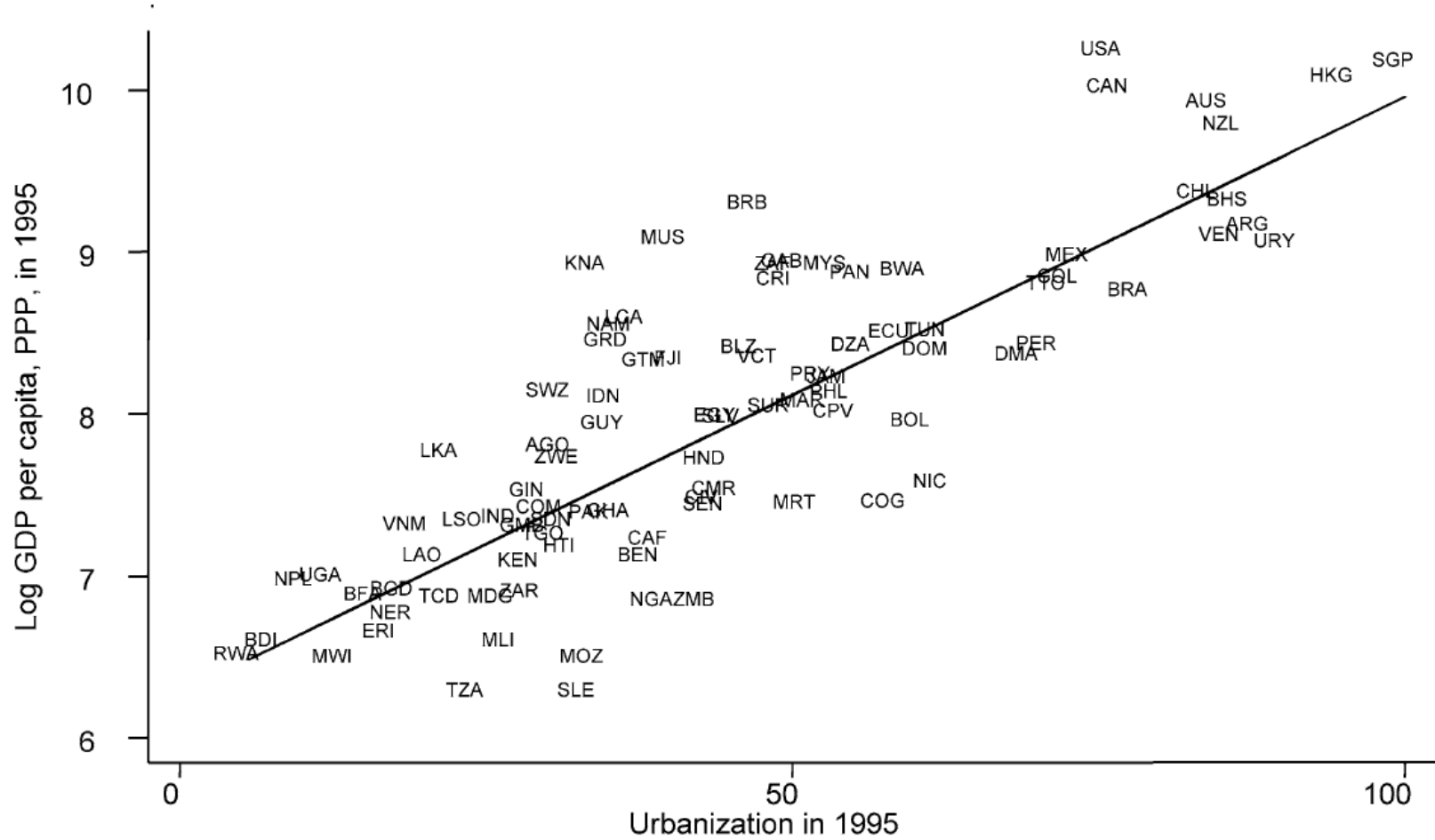


Figure 4. Urbanization in 1995 and log GDP per capita in 1995.

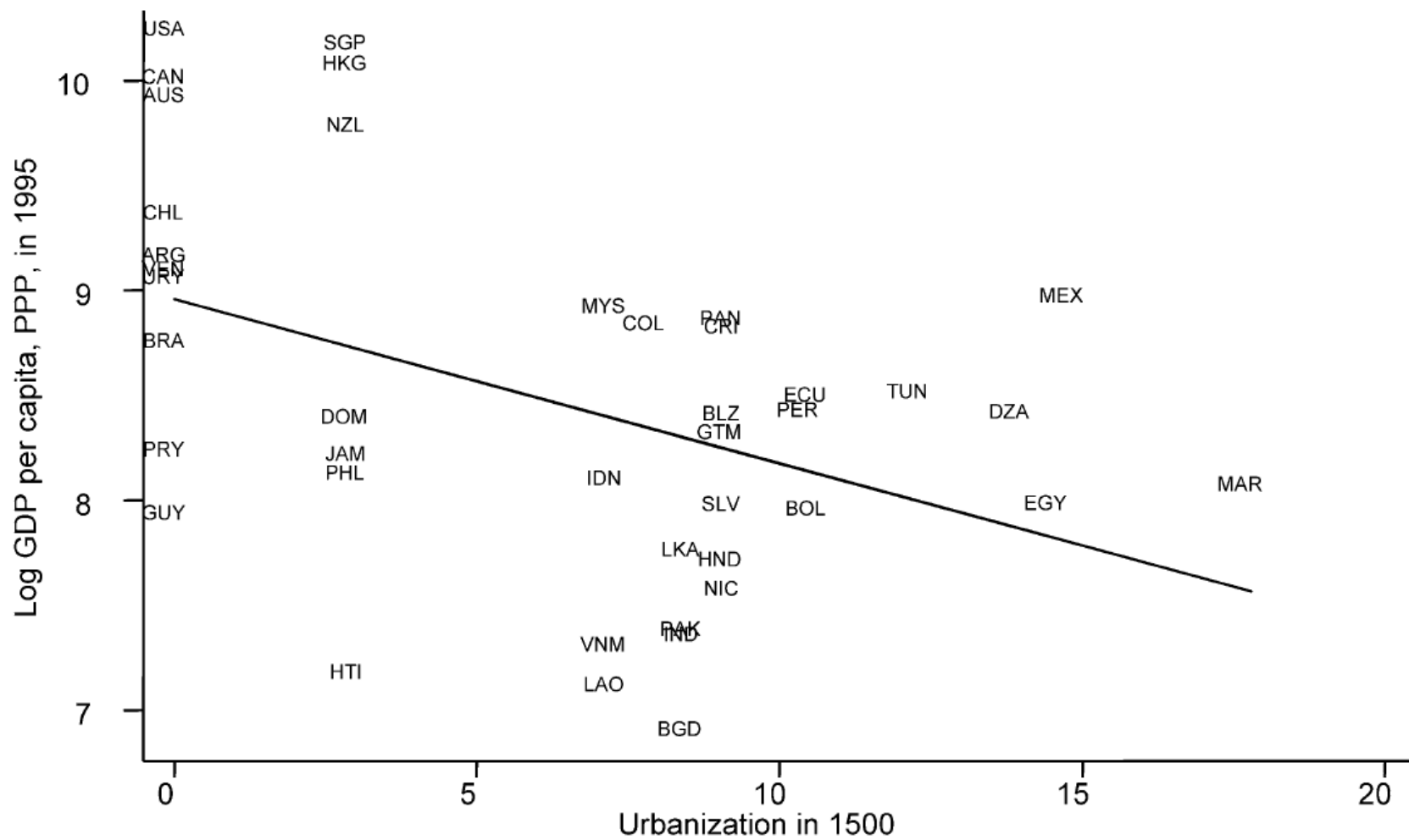


Figure 5. Urbanization in 1500 and log GDP per capita in 1995, among former European colonies.

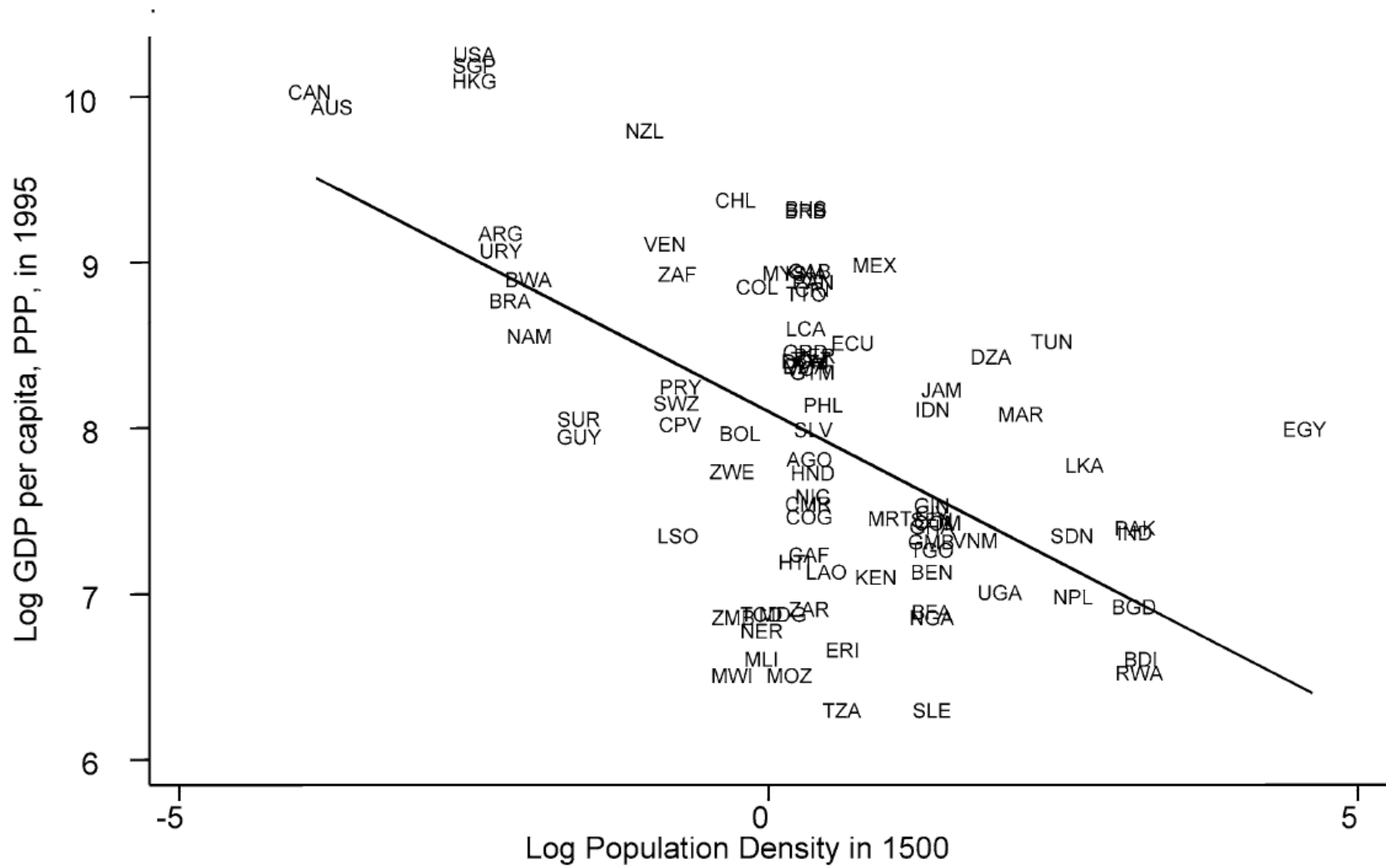


Figure 6. Log population density in 1500 and log GDP per capita in 1995, among former European colonies.

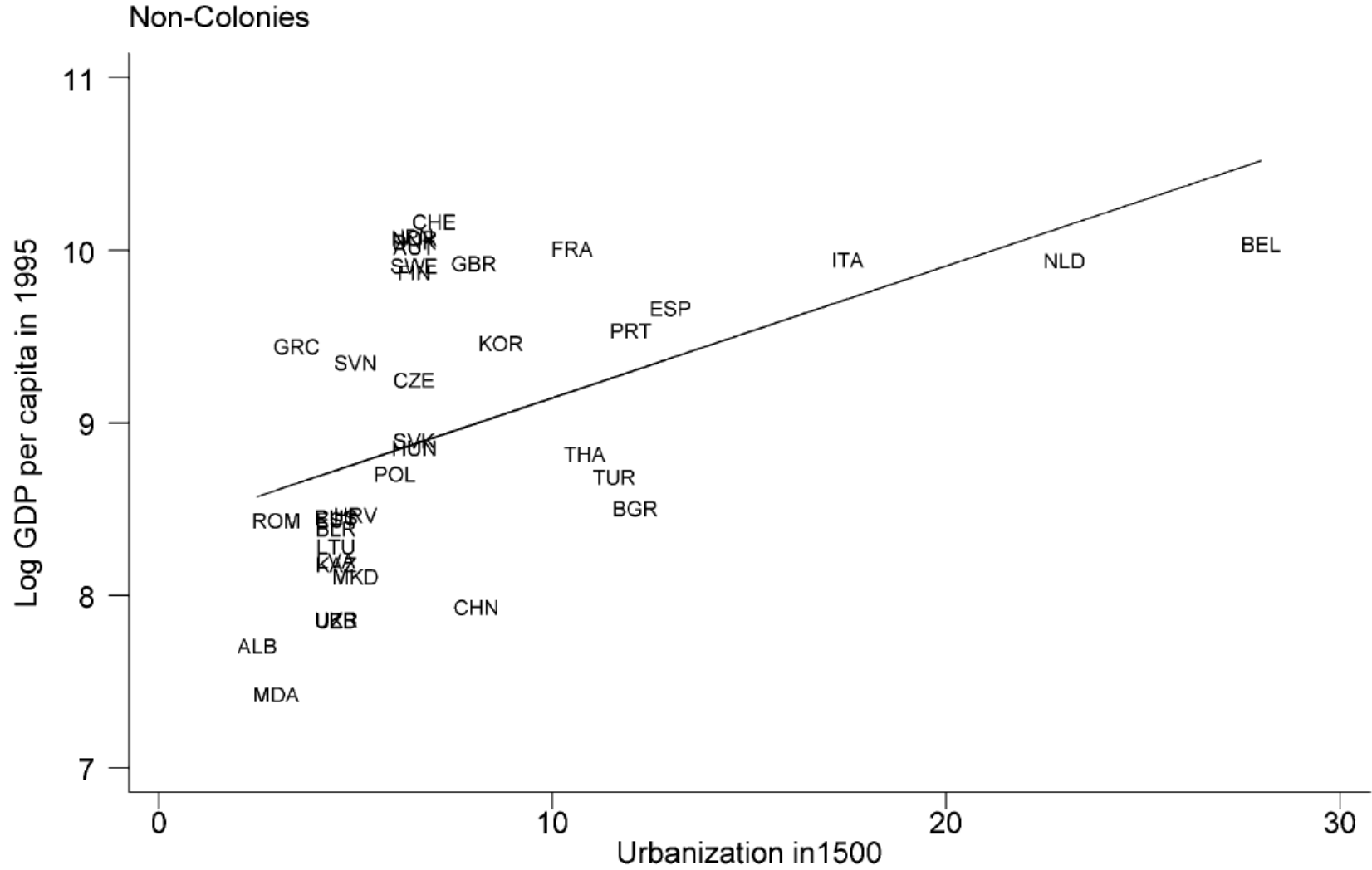


Figure 9. Urbanization in 1500 and log GDP per capita in 1995, among non-colonies.

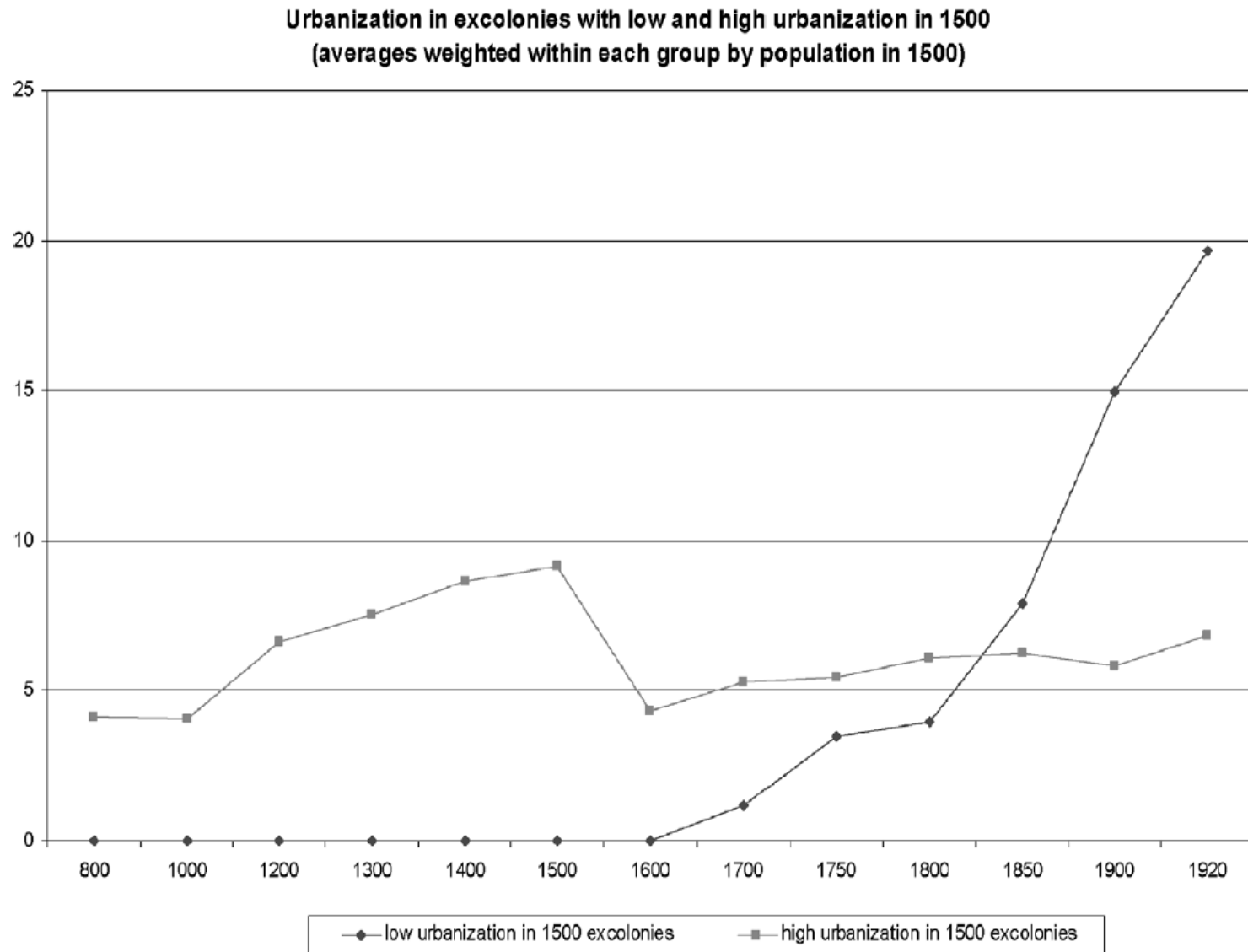


Figure 10. Evolution of urbanization among former European colonies.

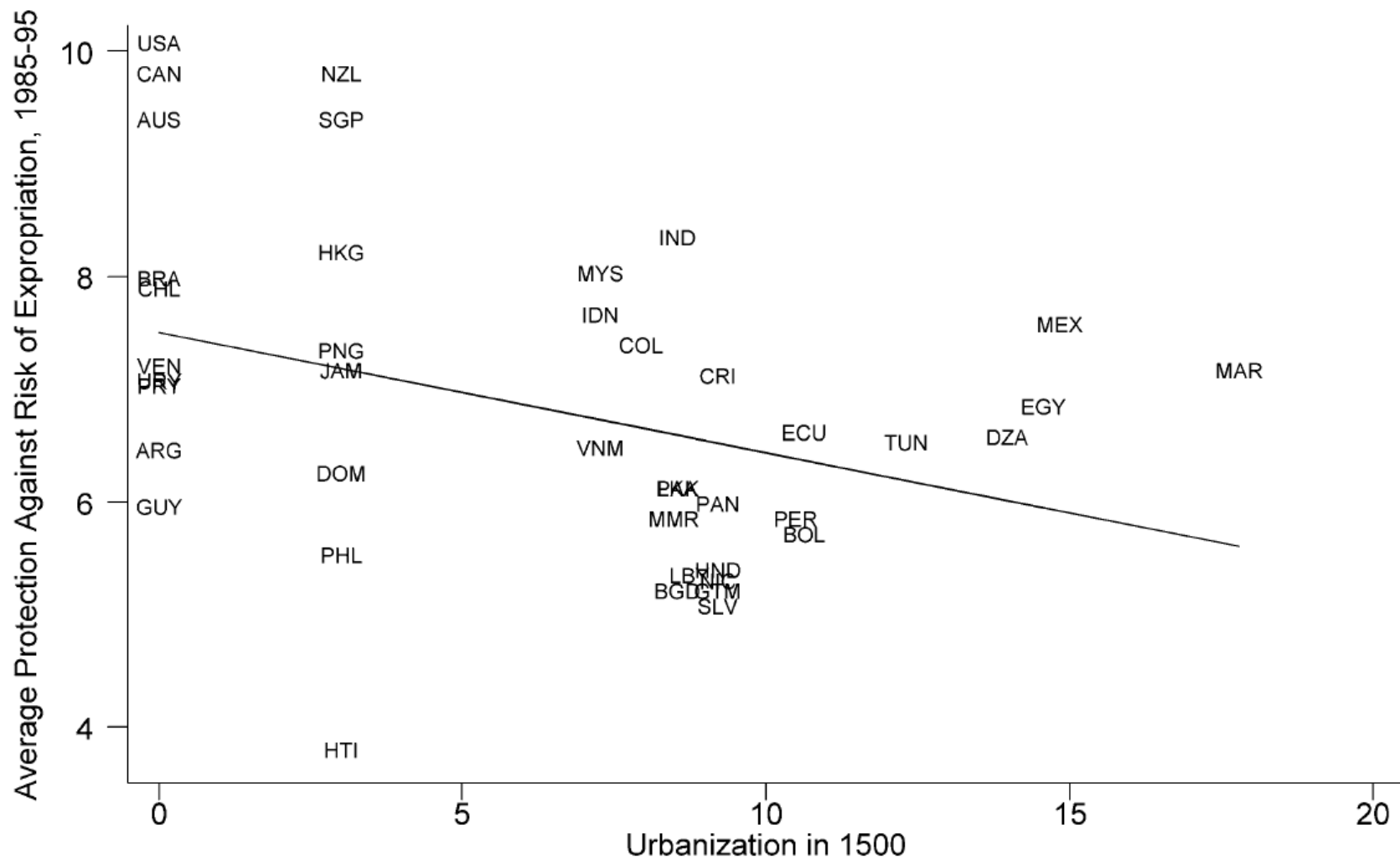


Figure 12. Urbanization in 1500 and average protection against risk of expropriation 1985–95.

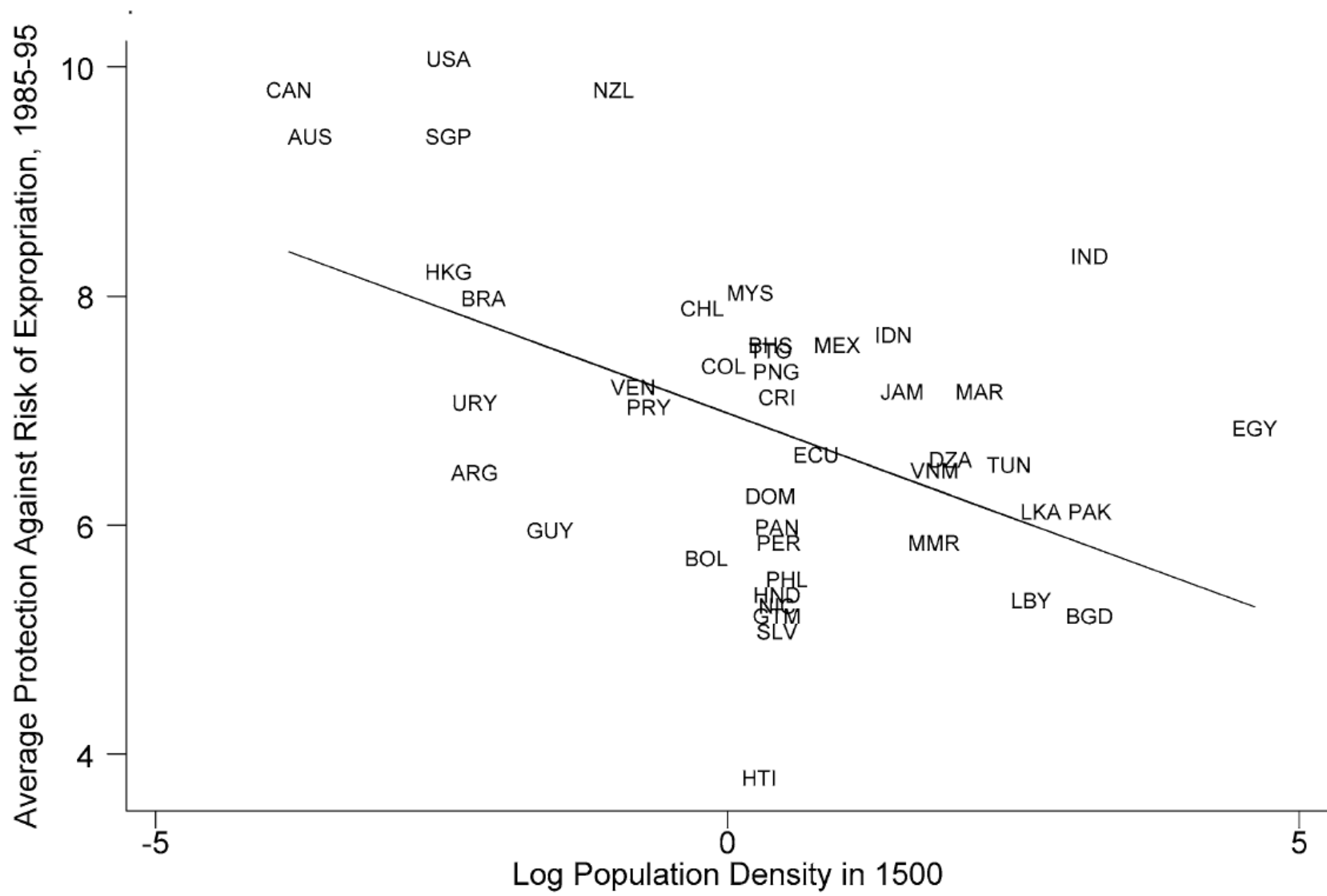


Figure 13. Log population density in 1500 and average protection against risk of expropriation 1985–95.

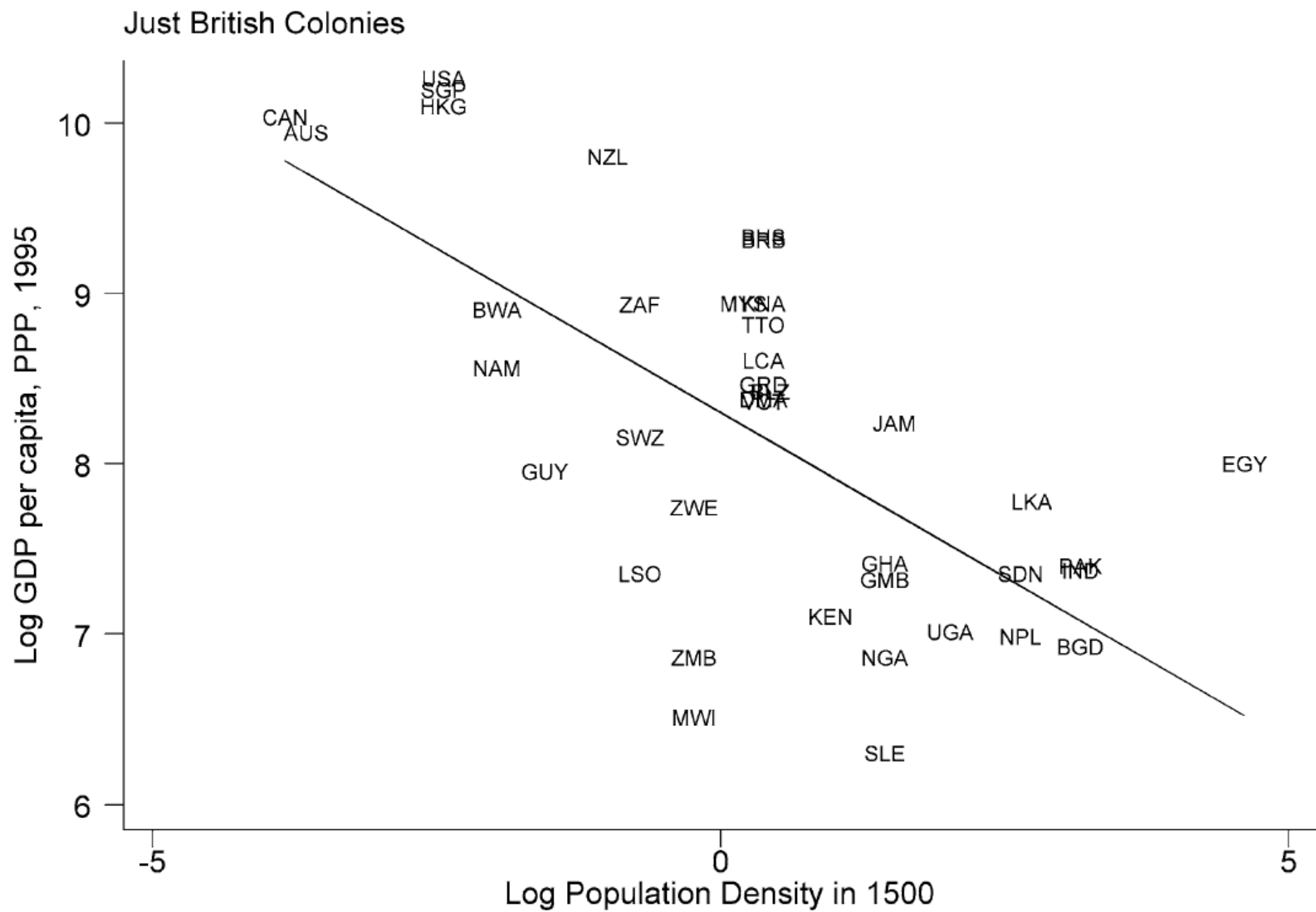
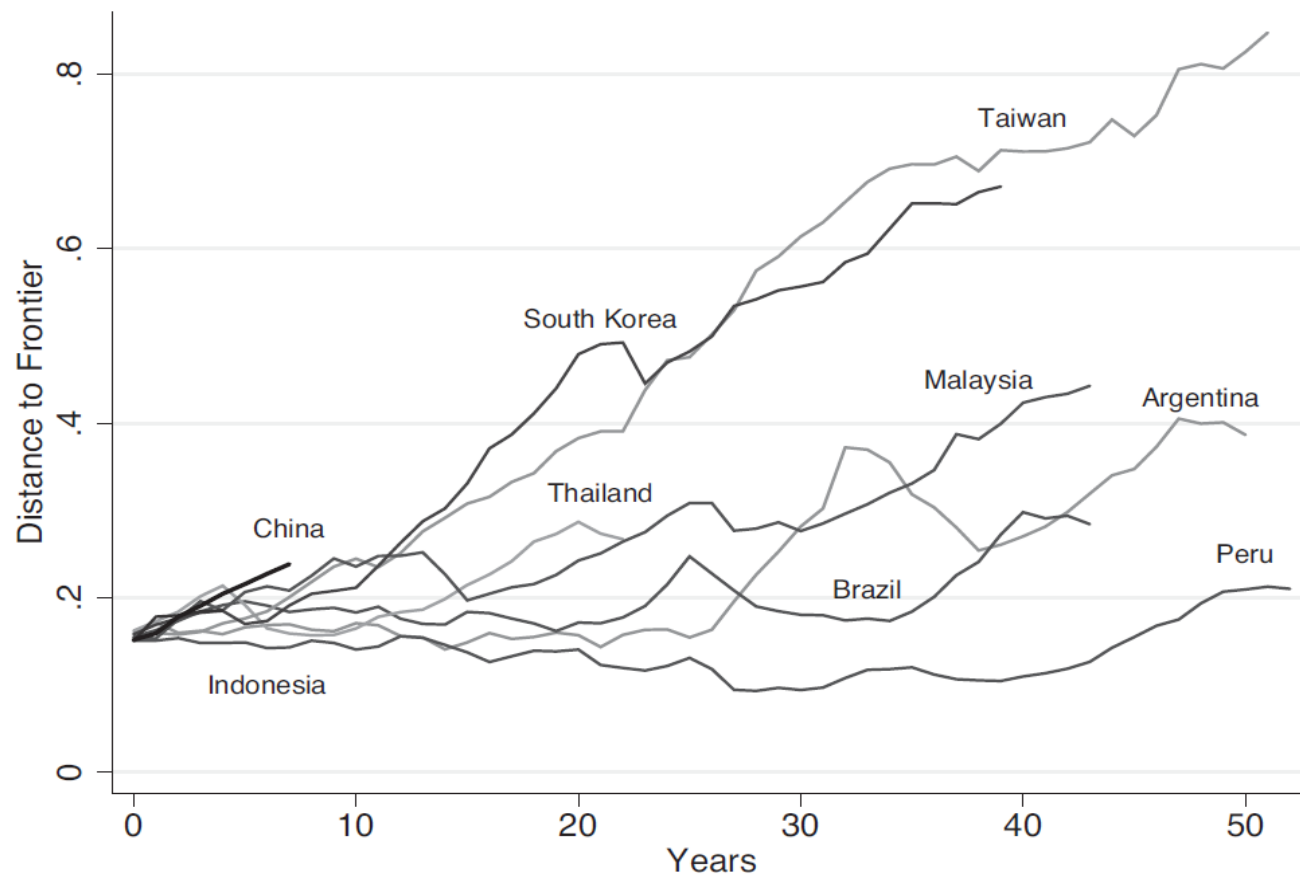


Figure 16. Log population density in 1500 and log GDP per capita in 1995, among former British colonies.

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FIGURE 1. Growth trajectory of selected emerging economies.



Note: $t = 0$ is the first year in which the GDP p.c. relative to the United States is larger or equal to that of China in 2007 (15%). The data is from Penn World Tables 9.0. The construction of the figure follows the approach in Aiyar et al. (2013).

FIGURE 2. Timeline with milestones of China's economic development.

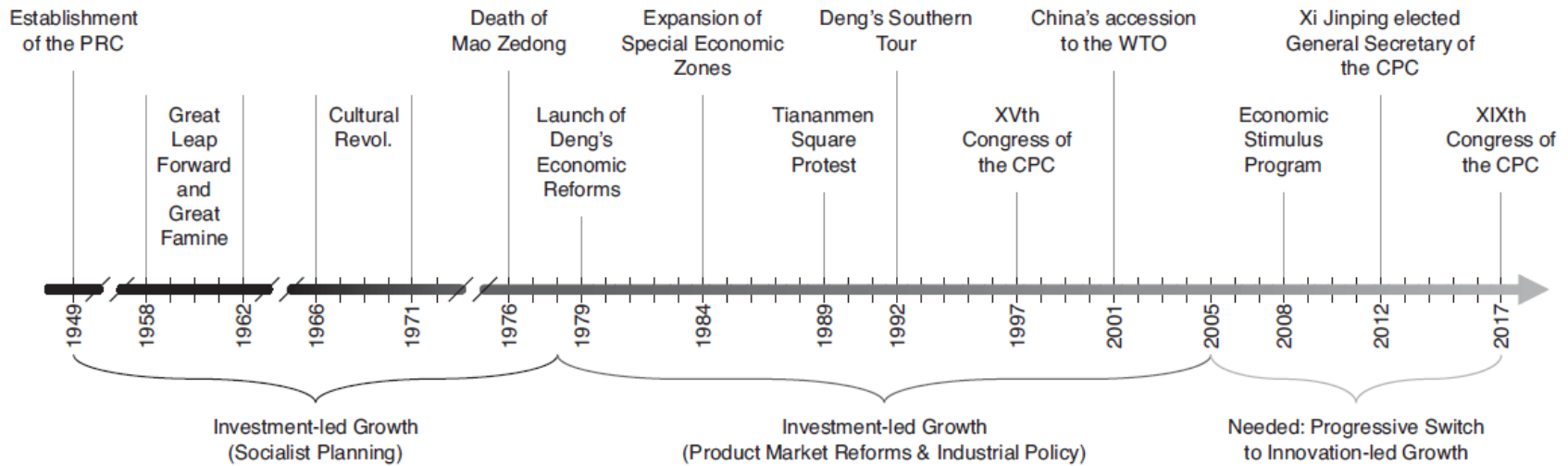


FIGURE 5. Growth and proximity to frontier in countries with high and low barriers to market entry.

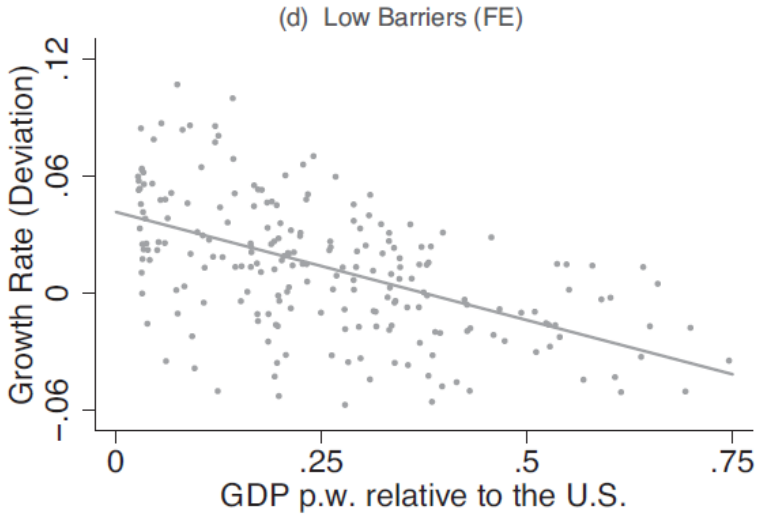
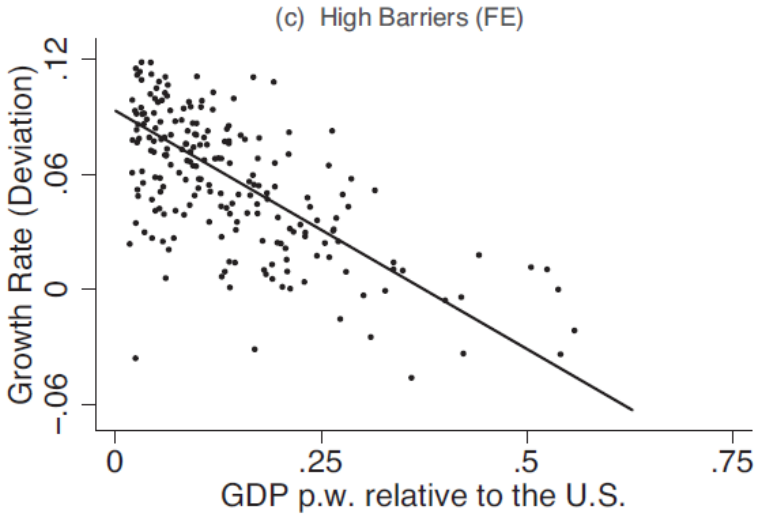
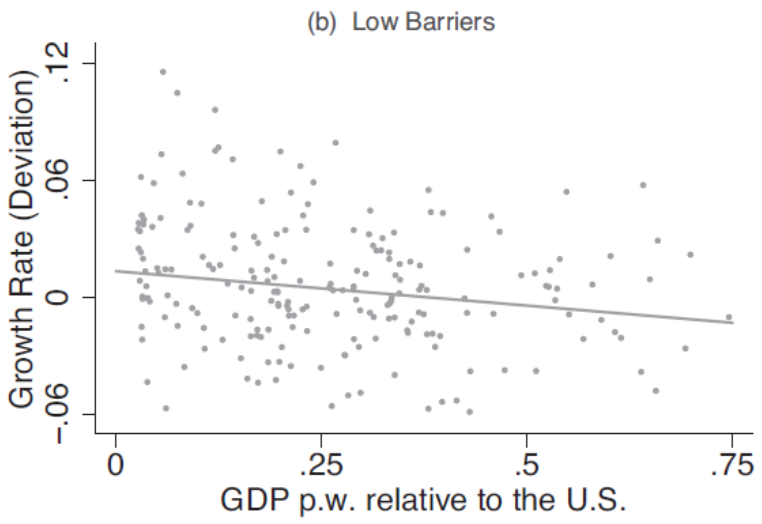
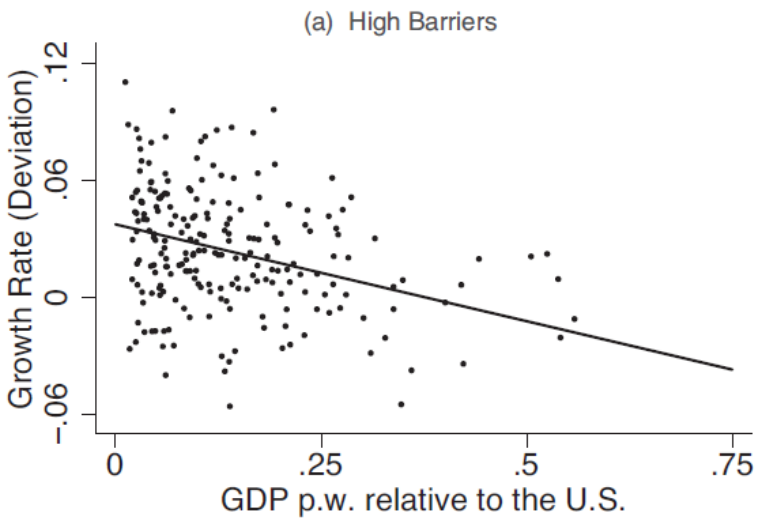


FIGURE 6. Growth and proximity to frontier in countries with high and low corruption.

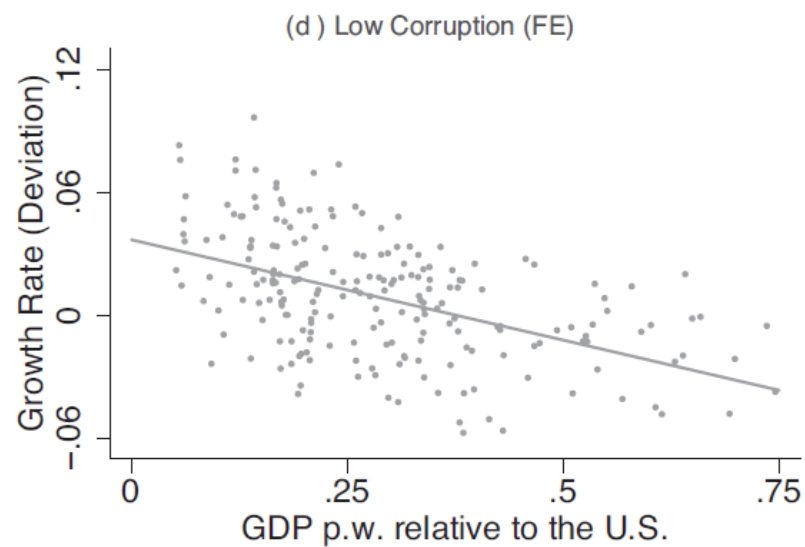
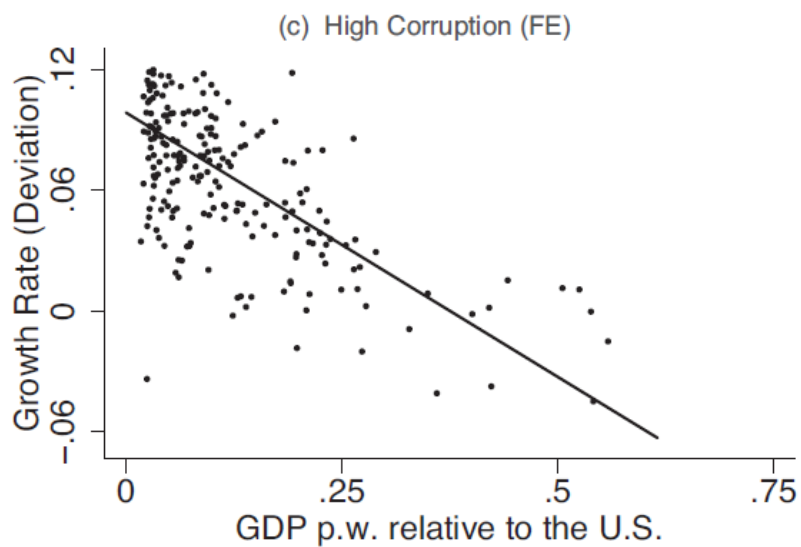
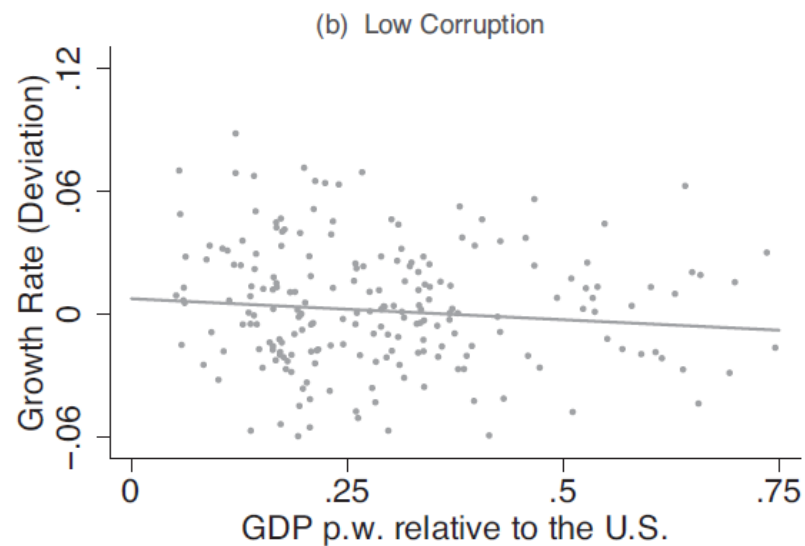
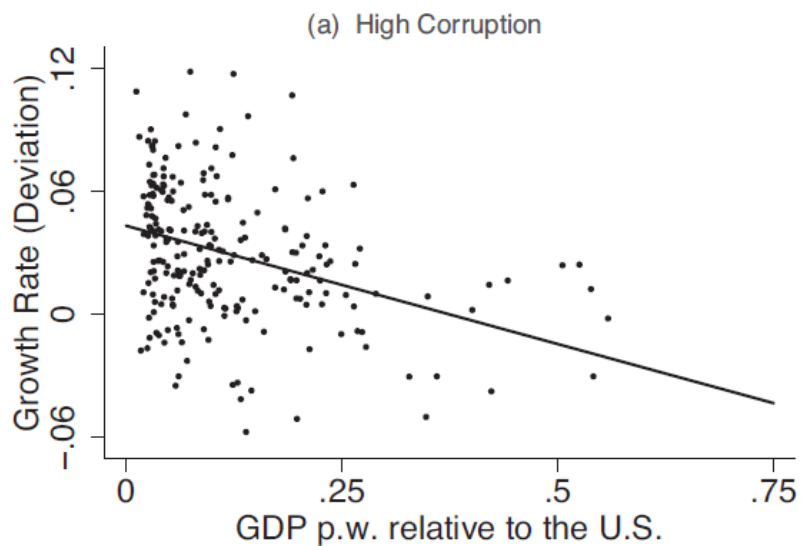


FIGURE 7. Growth and proximity to frontier in countries with high and low R&D intensity.

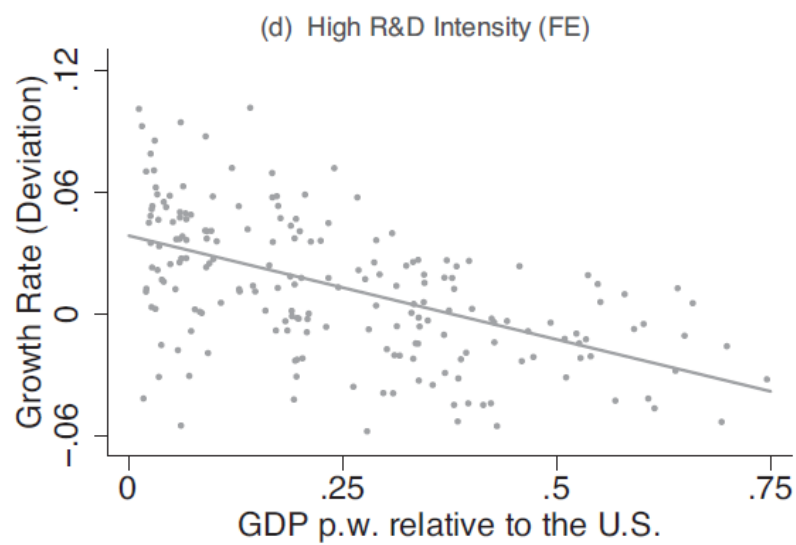
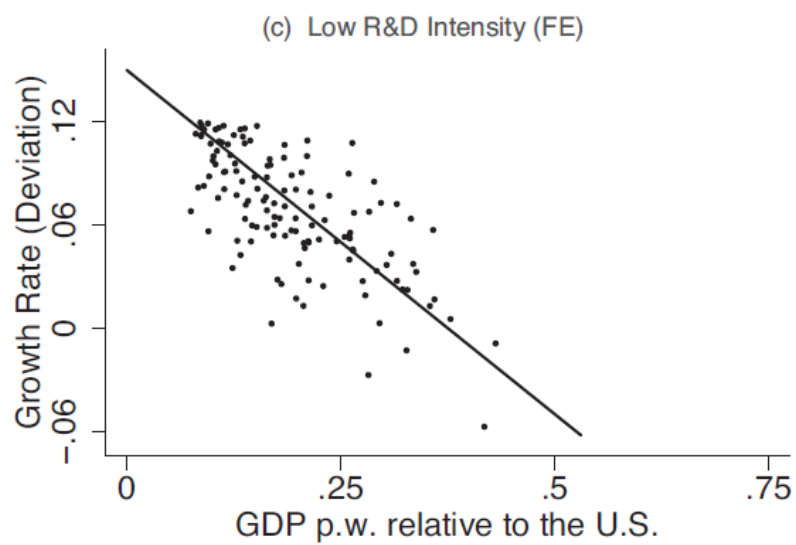
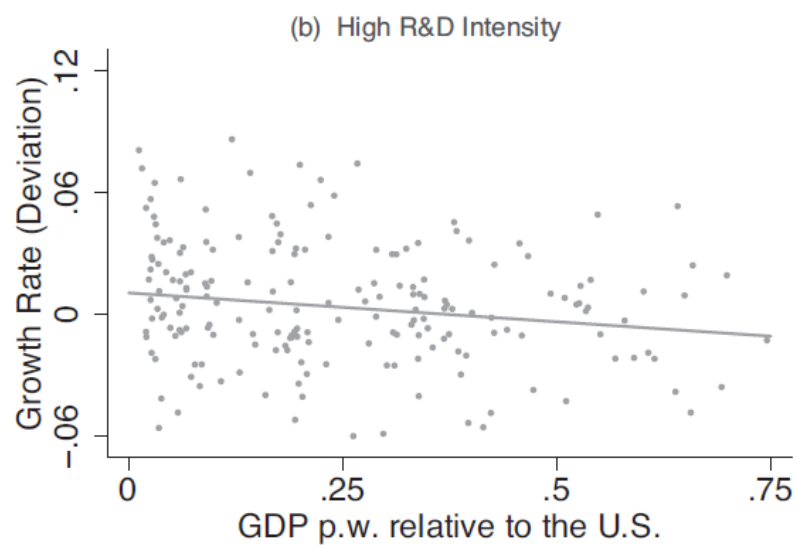
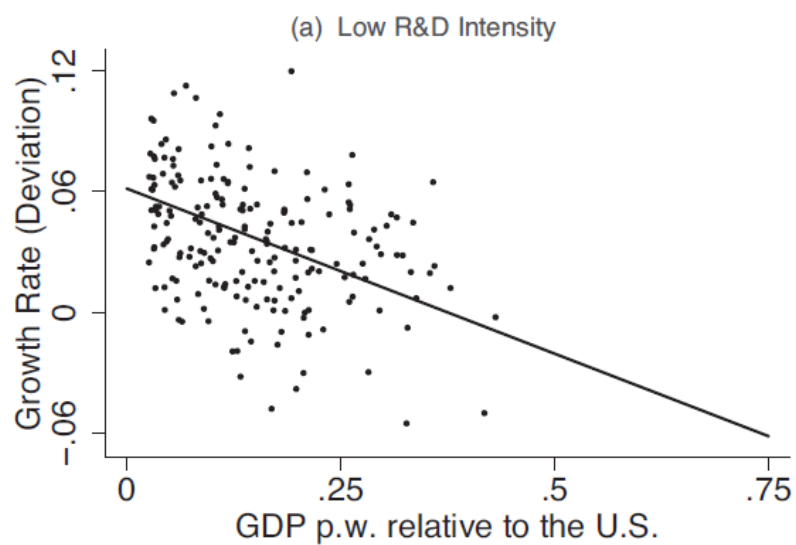


FIGURE 8. R&D expenditure in % of GDP.

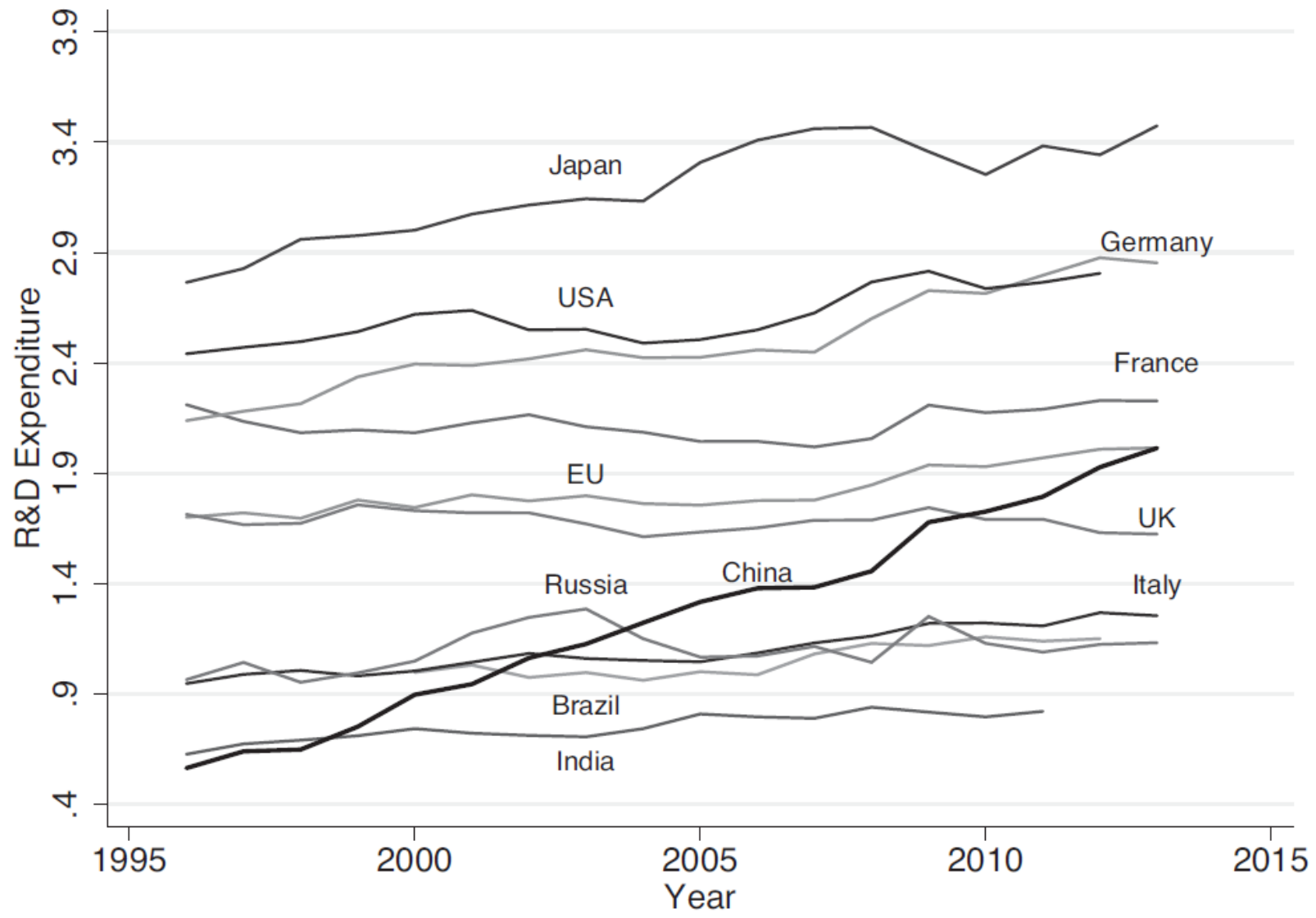
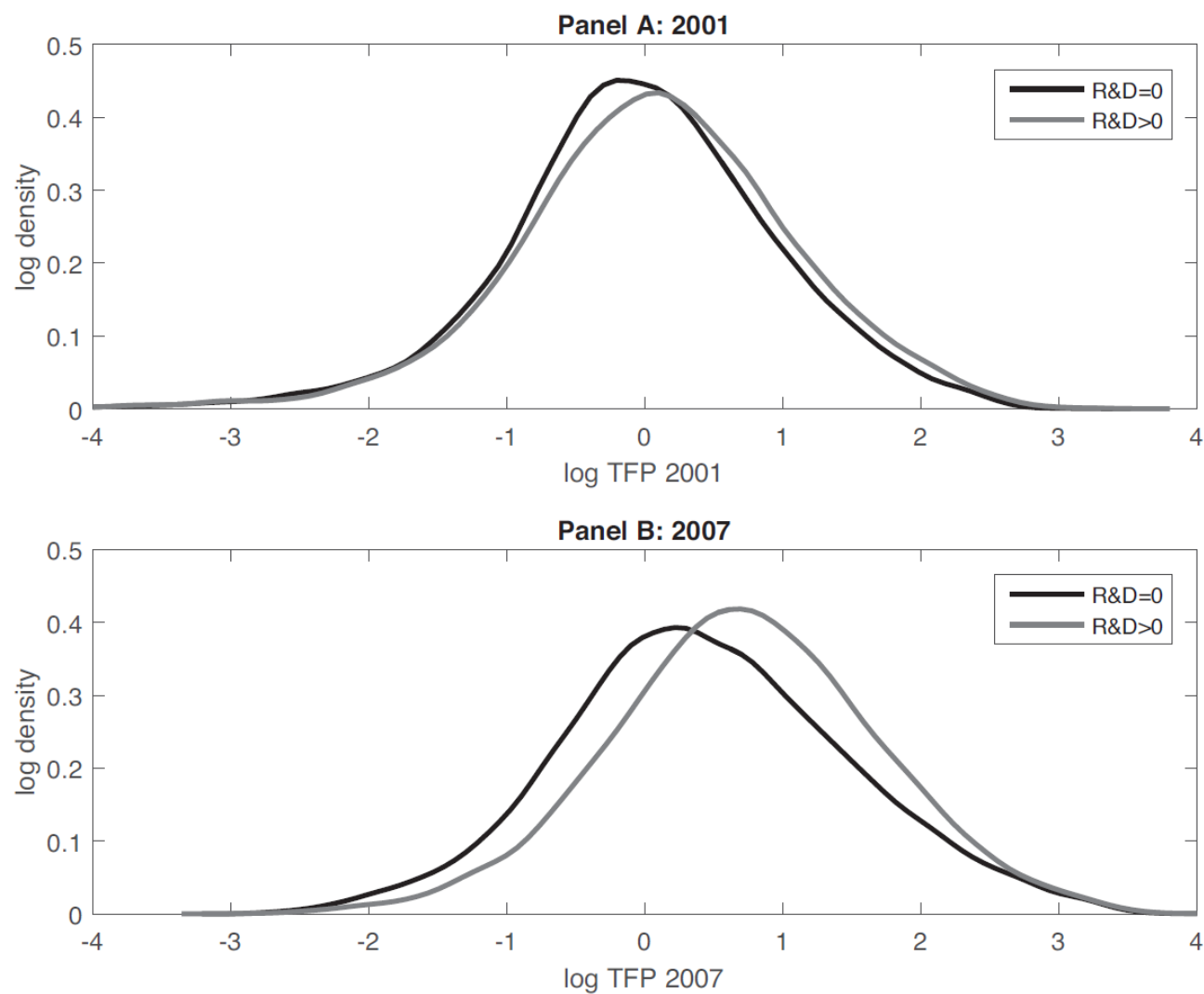


FIGURE 11. Correlation between TFP and doing R&D in 2001 and 2007.



Note: The upper (lower) panel shows the TFP distribution in 2001 (2007) for Chinese firms doing R&D (gray) and not doing R&D (black). The data are from König et al. (2017).