

## Chapter 25

1.

Country	Current real GDP/person	Current Growth Rate
Northcountry	€15,468	1.98 %
Southcountry	13,690	2.03
Eastcountry	6,343	3.12
Westcountry	1,098	0.61

a. Which country is richest? How do you know?

Answer:

Northcountry, because it has the largest real GDP per person.

b. Which country is advancing most quickly? How do you know?

Answer:

Eastcountry, because it has the largest growth rate.

c. Which country would probably see the greatest benefit from an increase in capital investment? Why?

Answer:

Westcountry is the poorest and probably has the least capital. Since capital exhibits diminishing returns, it is most productive when it is relatively scarce.

d. Referring to (c): Would this country continue to see the same degree of benefits from an increase in capital investment forever? Why?

Answer:

No. Because of diminishing returns to capital, the additional growth from increasing capital declines as a country has more capital.

e. Referring to (d): Why might investment in human capital and research and development fail to exhibit the same degree of diminishing returns as investment in physical capital?

Answer:

Human capital emits a positive externality. Research and development is a public good after dissemination.

f. Which country has the potential to grow most quickly? List some reasons why it may not be living up to potential.

Answer:

Westcountry, because it is currently the poorest and could easily benefit from additional capital. It may have trade restrictions (inward oriented policies), a corrupt or unstable

*Economics, 2<sup>nd</sup> edition*

N. Gregory Mankiw and Mark P. Taylor

ISBN 978-1-84480-870-0 © 2011 Cengage Learning EMEA

government, few courts and a lack of established property rights, etc.

- g. If real GDP per person in Northcountry next year is €15,918, what is its annual growth rate?

Answer:

$$€15,918 - €15,468 / €15,468 = 0.029 = 2.9\%$$

2. Imagine a kitchen. It contains a cook, the cook's diploma, a recipe book, a stove and utensils, and some rabbit meat harvested from the open countryside.

- a. Link each object in the kitchen to a general category within the factors of production.

Answer:

Cook = labour, diploma = human capital, recipes = technological knowledge, stove and utensils = capital, rabbit meat = natural resource.

- b. While the different factors of production exhibit different levels of durability, which one is special in that it does not wear out?

Answer:

Recipes (technological knowledge) never wear out. Labour and human capital die. The stove and utensils wear out slowly. The rabbit meat is used up (although it is probably renewable).

3. a. List the policies governments might pursue to increase the productivity of their citizens.

Answer:

Encourage saving and investment, investment from abroad, education, free trade, research and development, protect property rights and establish political stability.

- b. Which one is, at the very least, fundamentally necessary as a background in which the other policies may operate? Why?

Answer:

Property rights and political stability are necessary for there to be any incentive to save, invest, trade, or educate.

- c. Does a growing population enhance or inhibit growth in productivity? Explain.

Answer:

The answer is uncertain. A rapidly growing population may reduce productivity by stretching natural resources across more people and by diluting the capital stock across more workers. However, there is evidence that more technological progress takes place in areas with large

*Economics, 2<sup>nd</sup> edition*

N. Gregory Mankiw and Mark P. Taylor

ISBN 978-1-84480-870-0 © 2011 Cengage Learning EMEA

populations.

*Economics, 2<sup>nd</sup> edition*

N. Gregory Mankiw and Mark P. Taylor

ISBN 978-1-84480-870-0 © 2011 Cengage Learning EMEA