Economics of European Integration

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Problem Set 5

References: BW (6.ed) The Economics of European Integration Ch. 7

Exercise 1: Solow Model

The basic Solow Model of economic growth rest on few, simple assumptions. The production function is assumed to be of Cobb-Douglas type, $Y = F(K, L) = K^{\alpha} L^{1-\alpha}$, and capital accumulation is follows $\dot{K} = sY - \partial K$.

a. Characterize the wage and rent paid.

b. Develop the so-called "Solow diagram".

c. What happens for an increase in the investment rate s? What about for population growth n?

d. What is unusual about economic growth in this basic version of the model? How to augment it to somewhat more realistic predictions?

Exercise 2: Growth Effects and Factor Market Integration

European leaders have long emphasised the pro-growth aspects of European integration. These operate in a way that is fundamentally different from the way allocation effects operate; They operate by changing the rate at which new factors of production – mainly capital – are accumulated, – Hence the name "accumulation effects".

a. Explain in your own words the "logic of growth" with respect to European Integration. How did integration affect growth in it's member countries?

Exercise 3: Medium-run Growth

a. When the German reunification took place, Germany's labour force rose much more than its capital stock (since much of East Germany's capital stock was useless in the market economy). Use a diagram to analyze what the medium-term growth effects should have been.

b. What did actually happen to German growth after reunification?

c. Just after the second world war, the economies of the Six experienced massive destruction of physical capital. Although many workers also died, the

war tended to do more damage to the capital stocks than it did to the labor force. Use a diagram to illustrate how this may help explain the 'miraculous growth' in the late 1940s and 1950s.