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ISEG SINCE 1911

Teorica 9

Macroeconomia II

Macro 2

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Tema da aula de hoje (24.03.2014) Teórica nº 9

Modelo de Solow
Resolução de exercícios teóricos

Jones & Vollrath (2013), *Introduction to Economic Growth*, Norton, capítulo 2 (pp. 51- 53)

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Exercício 1 (J&V, pp. 51-52)

Suppose the US Congress enacts legislation that discourages saving and investment, such as the elimination of the investment tax credit that occurred in 1990. As a result, suppose the investment rate falls permanently from s' to s''. Examine this policy change in the Solow model with technological progress, assuming that the economy begins in steady state. Sketch a graph of how (the natural log of) output per worker evolves over time with and without the policy change. Make a similar graph for the growth rate of output per worker. Does the policy change permanently reduce the *level* or the *growth rate* of output per worker?

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Exercício 2 (J&V, pp. 51-52)

Shocks to an economy, such as wars, famines, or the unification of two economies, often generate large flows of workers across borders. What are the short-run and the long-run effects on an economy of a one-time permanent increase in the stock of labor? Examine the question in the context of the Solow model with g =0 and n > 0.

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Exercício 3 (J&V, pp. 51-52)

Suppose the US Congress decides to levy an income tax on both the wage income and capital income. Instead of receiving w.L + r.K = Y, consumers receive

(1 - t).w.L + (1 - t).r.K = (1 - t).Y

Trace the consequences of this tax for output per worker in the short and the long runs, starting from steady state.

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Exercício 4 (J&V, pp. 51-52)

Suppose that there is a permanent increase in the rate of technological progress, so that g gives rise to g´. Sketch a graph of the growth rate of output per worker over time. Be sure to pay close attention to the transition dynamics.

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