

Growth and Distribution

Assignment 2 — LECO 3045

You will have to answer all the following questions. In your responses, you will need to use equations, graphs AND narratives. You can decide to type your responses or to write by hand and scan them.

DEADLINE: Tuesday March 30, 2021

1. (10 points) **Domar and the dual nature of investment**

In 1946, Evsey Domar (1946, p.139) wrote:

“Because investment in the Keynesian system is merely an instrument for generating income, the system does not take into account the extremely essential, elementary, and well-known fact that investment also increases productive capacity.”

Provide a brief explanation of how Domar incorporates the dual nature of investment in a stylized dynamic framework.

2. (15 points) **Harrodian Instability**

Assume the following simple Harrodian model economy:

$$\sigma = \frac{S}{K} = \frac{S}{Y} \frac{Y}{Y^P} \frac{Y^P}{K} = \frac{su}{v},$$

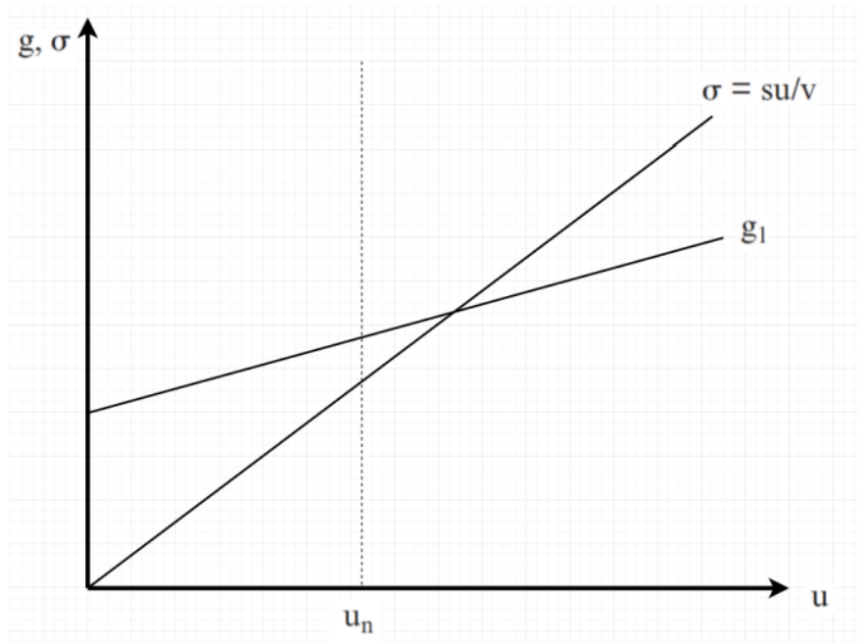
$$g_w = \frac{su_n}{v},$$

$$g = \alpha + \beta(u - u_n), \quad \alpha, \beta > 0$$

$$d\alpha = v(u - u_n), \quad v > 0$$

with σ : saving rate, Y^P : potential output, K : capital stock, u : rate of capacity utilization, v : capital-potential output ratio, g_w : warranted rate of growth, u_n : normal or target rate of capacity utilization.

1. What happens if in the diagram below, by a fluke, the investment function g_1 materializes due to decentralized and uncoordinated investment decisions of firms? Describe how firms will react and what will be the long-run result in terms of price stability. Illustrate your description in the diagram.
2. Draw an investment function g_0 for which the system would be stable. (Don't forget to tag this function as g_0 .)



3. (15 points) **Neoclassical growth theory**

1. What determines the factor income shares (profit share and wage share) in the old neoclassical growth model (Solow model)? And what does this mean for the effectiveness of trade union activity regarding the wage share? What will be the effect of a higher real wage rate relative to the real profit rate?
2. Provide an explanation of the aggregation problem and the interdependence of prices and distribution that was revealed by the capital controversy. What does it imply for a neoclassical aggregate production function and for aggregate marginal productivity remuneration?