A research note on “Short-Run Effects of Lower Productivity Growth. A Twist on Secular Stagnation Hypotesis” by Olivier J. Blanchard, Guido Lorenzoni, and Jean-Paul L´Huillier published in Peterson Institute for International Economics, Policy Brief 17-6 (February 2017).

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In relation to your paper PIIE´s PB 17-6, for considering of your interest, I would like to share with you some ideas originally presented in a piece of professor Evsey Domar that may complement and extend your argument about the short-run effects of a lower productivity growth as a *twist* on the secular stagnation hypothesis. In particular, in this research note, I will recovered the essentials of the Domar´s growth model (in fact, a medium-run model) developed by him in the immediate II Postwar in the American economy to analyze investment policies to sustain the accelerating investment rate beyond 1947. This rate was even more amazing after the pessimist attitude in the American business in 1943. Then, I identify some interesting and striking similarities to the argument presented in your paper.

As you may know professor Domar developed a growth model mainly oriented to identify the conditions of the rate of capital accumulation required for the output/national income growth rate associated with full employment or desired capital stock, with a particular view on the settings of secular stagnation updated to the immediate postwar for the American economy. Domar was student and collaborator of Alvin Hansen who offered the main ideas of secular stagnation in the American economy in the late 1930´s (See Hansen, 1937 and 1938).

Here, I follow the article “The Problem of Capital Accumulation” published as chapter V in E. Domar, *Essays in the Theory of Economic Growth,* Oxford University Press, 1957. It was originally published in AER, vol. 38 (Dec. 1948), pp. 777-94.

As I said before, in this article, Domar explored the possibilities for sustaining the rate of capital accumulation without going into an exhaustion of investment opportunities and a depression ensued, avoiding so the returns of the Hansen´s secular stagnation.

As it is known, Professor Domar, building in previous works, identified the conditions of what he defined as the required rate of growth of income (output) associate a sustained full employment and/or desired capital stock as

$$\hat{Y} = s \cdot \alpha$$

Where, $\hat{Y}$ is the required rate of output growth; s is the ratio between annual output and the capital stock needed for its production, “it follows that for any given level of income there exists some fairly determinate stock of capital needed to produce it, beyond which large-scale investment will not be undertaken in order to increase output" (pp 111-112); α is the propensity to save which "refusal to adjust itself to changes in the volume of investment, and so assure continuous full employment" (p. 111).

Then, $\hat{Y} = s \cdot \alpha$ "is the required rate of growth of income which is needed to prevent an excessive accumulation of capital".

In Domar´s analysis of continuous growth with full employment, this rate, $\hat{Y}$ is relevant while a output/national income growth rate is far below implied current "excessive" unemployment and a growth rate above the rate, $\hat{Y}$ implies future unemployment while in the economy there would be a larger amount of desired capital stock and the investment enthusiasm will decrease. Because this was the situation that Domar (p. 112) analyzed in this article, his central question was "could prosperity last longer?".

Before going to the policy opportunities in that context, it may be relevant, never enough mentioned, it dispels the notion that this "stickiness" of the determinants of s and α are related to a fixed coefficients, Leotieff, production function. Regarding the assumptions on s, Domar (pp. 110-111) mentioned "the relative distribution between labor and capital remains unchanged; [and] that reasonably small changes in interest rates will not greatly stimulate investment (a major heretical step)", then s is treating as a constant, at least its national average (across firms and industries), and made a function of time, interest rate or "of something else".

Regarding the propensity to save, its constancy, Domar (p. 111) mentioned that "it could be made a function of certain variables. All we need here is its refusal to adjust itself to changes in the volume of investment, and so assure continuous full employment."

Going back to the stated problem of a $\hat{Y} < Y$; If feasible, some policy options may be found in changes in the actual values of s and α. In particular, the actual value of s can be lowered by technological change biased to capital using, through new firms or allowing by major obsolescence. Regarding to the value of α, lowering it may be useful, however Domar (pp. 118-19) founded "regrettable", because he wrote "if the public is willing to save a certain part of its income, and the required rate of growth can be achieved why not concentrate our efforts to make this growth potential real?" He also added that "A depression becomes now nothing else but a vast psychological phenomenon and any effort to ´talk ourselves into prosperity will help" (p. 119).

In order to encourage investment Domar mentioned incentives taxation among other policies, but he focused in a different approach which deals with a guaranteed growth of income[i]:

Allow me to present this long quotation because, I think, synthetize clearly the Domar´s approach:

"Theoretically speaking, the issue is this: we have found that if firms were "somehow" induced to invest a sufficient amount, so that national income rose at the required rate, no disappointments would follow. Suppose now that it were possible for the government (presumably) to guarantee that income would actually grow at this rate for some time to come. Would not this guarantee, if taken seriously by the business public, call forth sufficient investment and thus make income grow at the required rate? This is full employment by magic! Yet as one reads Leo Barnes´s most interesting note describing how C.E.D., by making a few (undoubtedly unintentional) errors, managed to "persuade industry into a prosperity", one gets a feeling that magic sometimes works. We do not know, however, how seriously these C.E.D. forecasts were actually taken; still the idea is highly suggestive."

Allow me to include this other long quotation in same Domar´s article page:

"On a more serious and practical level, this much can be said for the argument. Past depressions do exert a profound influence on business thinking, and an assurance that they will not recur would undoubtedly brighten the future and make many marginal projects worth undertaking. If, in addition, businessmen could confidently expect growing economy, the effect would be so much stronger."

There are also some references in the literature that analyzed the cause of "mistake" in (II) Postwar forecasts more in the line of your paper, such as Bratt, Elmer Clark, "A Reconsideration of the Postwar Forecasts," *The Journal of Busines*s *of the University of Chicago*, vol 26, No 2 (Apr., 1953) pp. 71-83.

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[i] Domar referenced some anticipation of this approach in Pierson (1947) and the debate between A.R. Sweezy and E. Benoit-Smullyan in the AER, vol d34 (Dec 1944), pp. 871-79,