On the dynamic adjustment of supply and demand: a structural approach

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One of the most important queries in economic theory is why growth rates differ among countries and regions. On the one hand, the neoclassical growth theory asserts that such variance is mainly related to the short availability of production factors and its misallocation, which characterizes a supply-oriented approach. On the other hand, a post-Keynesian analysis emphasizes the key role of effective demand in the process of accumulation, taking the long-run economic growth to be demand-driven.

In this context, Palley (2003) tries to reconcile supply and demand growth rates. The author argues that if demand and supply growth rates are not the same, "there will either be growing excess of capacity or growing excess demand – neither of which are observed in capitalist economies". Assuming that demand growth is given by balance-of-payments constrained growth (BPCG) models, Palley argues that larger capacity utilization increases the income-elasticities of demand[3], and so the demand growth rate decreases. Consequently, supply and demand growth rates shall return to equilibrium, where the capacity of utilization is higher than it was in the starting point.

Setterfield (2006) proposes an alternative approach. It takes productivity growth as a positive function of the degree of utilization, so that the natural growth rate becomes endogenous to the actual growth rate. According to the author, although Palley's adjustment may take place, the sensibility of productivity to the actual growth rate (the Verdoorn's coefficient) is endogenous to the rate of capacity utilization. From this perspective, the economy also achieves a sustainable, but demand determined, steady state growth.

Both works rely on the idea that short-run cyclical effects may affect income elasticities and Verdoorn's coefficients. However, income elasticities and Verdoorn's coefficients are far more rigid in the long-run, so that such adjustment processes are unlikely to take place in a growing and stable economy. Hence, the present paper analyses the strengths and caveats of these two different approaches, and develops a structural model that is capable of capturing the dynamic adjustment of supply and demand in the long-run. Furthermore, it discusses the mechanism through which a demand-constrained growth rate may adjust towards supply-side growth (and vice-versa), according to countries' sectoral structure of production, exports and imports.

As its main result, the model provides an equilibrium point where both the supply-side and the demand-side growth rates are the same, which arises from the fact that fluctuations in the capacity utilization rate affect the share of each sector in imports, exports and total production. In addition, the paper presents the necessary conditions under which economic growth is only demand or only supply constrained.

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[3] According to Palley (2003), the "rationale for this is that imports are driven by bottlenecks. As the rate of capacity and employment decrease, bottlenecks become more prevalent and the share of increments in income spent on imports increases."