

Aggregate demand shocks and economic growth

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Abstract

The traditional view of growth and fluctuations implies that aggregate demand shocks result in only transitory departures from trend or “normal” output, which is determined exclusively by aggregate supply factors. Using a simple dynamic framework for a less-developed economy, a series of models is developed to show that aggregate demand can have a permanent effect on economic growth. It is shown that even if the economy converges to some “normal” path, this path itself may be altered by large demand shocks, due to increasing returns and hysteresis effects in labor markets and balance of payments constraints. It is also shown that the economy may not converge to its “normal” path, in which case fiscal and monetary policy will have long-term effects on output and growth.

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1. Introduction

In the traditional view of growth and fluctuations, aggregate demand causes transitory departures from a trend of output determined exclusively by supply factors (capital accumulation, labor force growth and technical progress). The economy reverts to its normal output path after a shock: GDP is “trend stationary” in the language of the empirical literature on growth and economic fluctuations. In the real business cycles literature, departures from trend can be persistent but this is generally interpreted as implying that supply-side factors, such as technology shocks, play a leading role in economic fluctuations. Thus, with few exceptions, orthodox economic theory seems

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to give a negative answer to the question of whether aggregate demand shocks have long lasting, irreversible effects on output and living standards.¹

This is surprising in view of the large empirical literature that tends to give support to the Nelson and Plosser (1982) claim that real output levels feature a “unit root” and are therefore non-stationary. This implies that shocks to real output have permanent effects and is thus inconsistent with the view that departures from the normal path of output are transitory fluctuations around a deterministic trend.² Although most of the unit root literature refers to developed countries, the literature on developing countries – our focus in this paper – has been expanding in recent years. In our reading of the evidence, most of this literature fails to reject the unit root hypothesis in the levels of GDP and GDP per capita against the alternative of trend stationarity, thus supporting the view that shocks to output are persistent. This is the case for seven Latin American countries in Thornton (2001), Brazil (Cribari Neto, 1990, 1992), India (Dua and Mishra, 1999; Dawson and Tiffin, 1998) or Mexico (Moreno-Brid, 1999). These results are sometimes confirmed when allowance is made for structural breaks (Argentina in Sosa-Escudero, 1997) but other studies reject the unit root hypothesis in favor of trend stationarity when allowance is made for trend breaks (Li, 2000, on China; Aguirre and Ferreira, 2001, on Brazil; Chumacero, 2000, on Chile). However, even in this case, and just as for developed countries, the evidence should not be seen as supporting the traditional view of the role of aggregate demand in fluctuations. It may be read as saying that while in face of small shocks, the economy tends to revert to trend, in the face of large shocks the normal path of output itself can change. In fact, in this paper, we present models that feature precisely this property: small shocks do not affect the normal path of output while large shocks do. These models also provide good theoretical reasons that can explain why aggregate demand shocks can have permanent effects on output, in opposition to the real business cycle literature, which sees persistent shocks as coming from the supply side, as well as to the natural rate of unemployment hypothesis associated with trend stationarity.

The paper is organized as follows. The second section provides a formalization of the traditional view in the context of an open economy growth model. We show that implicit in this model are two important premises: first, that there are automatic tendencies which take the economy to some “normal” path; second, that the “normal” path is independent of the contraction of aggregate demand and its magnitude. Section 3 continues to assume that automatic tendencies operate unchecked but extends the model in such a way that some departure from orthodox assumptions brings in path dependence: the effects of unemployment and its history on workers’ skills, overall productivity and wage bargaining strength, the existence of multiple equilibria associated to the presence of increasing returns to scale and hysteresis effects in open economies with balance of

¹ This is the case in the standard textbook neoclassical synthesis model in which there may be short-run deviations from the potential level of output, but in which the growth of potential output in the long run is independent of these short-run deviations. It is also the case in Lucas (2003) model, which allows for the possibility of welfare losses due to fluctuations in consumption due to stochastic shocks but assumes that the long-run growth of consumption (and presumably output) is constant, unaffected by the shocks. One exception is the literature on hysteresis that we discuss in Section 3, which by contradicting the natural rate hypothesis, implicitly negates the traditional view of fluctuations. Campbell and Mankiw (1987) note the possibility of interpreting the evidence on persistence as meaning that aggregate demand shocks have permanent effects. Other exceptions include Martin and Rogers (1997) and Blackburn (1999), which introduce endogenous technological change.

² The claim has not gone uncontested. In particular, in the literature on trend breaks along the lines of Perron (1989) there is some evidence that the unit root hypothesis for real output levels is rejected more frequently when allowance is made for a structural break in the deterministic trend. In any case, this branch of the literature is consistent with the view that large shocks affect the normal path of output.

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