Bureaucracy, Underground Activities, and Fluctuations

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Abstract

This is a note on corruption and underground economy in a Kaldor-type model of the business cycle. It appears that when the economy is booming and underground activities seek to enter the official economy, bureaucrats have the upper hand but until underground businesses cannot tolerate bureaucrats anymore and start reentering the informal sector. This is what checks the growth of the official output and gets it into its downward phase. Once in this phase, bureaucrats lose control and just follow passively the developments in the economy. At the trough of the contraction, official activities reach their nadir whereas the unofficial ones are at their zenith and seek to buy whatever has been left from the staggering official businesses. This is what leads to recovery in the absence of stabilization policies.

Resumen

Esta es una nota sobre la corrupción y la economía oculta en un modelo del ciclo empresarial del tipo de Kaldor. Parece que cuando la economía es fuerte y las actividades ocultas buscan entrar en la economía oficial, los burócratas se encuentran en posición dominante, pero sólo hasta que las empresas ocultas no puedan más tolerar a los burócratas y empiecen a volver al sector informal. Esto es lo que para el crecimiento del producto oficial y lo lleva a una fase de contracción. Apenas empiece esta fase, los burócratas pierden el control y simplemente siguen pasivamente los sucesos en la economía. Al fondo de la contracción, las actividades oficiales llegan a su punto más bajo, mientras las no oficiales están en su cenit y buscan comprar todo lo que queda de las empresas oficiales en dificultad. Esto es lo que conduce a una recuperación en la falta de políticas de estabilización.

Keywords: Bureaucracy, Corruption, Underground Economy, Business Cycle
JEL codes: D73, E32, O17

1. Introduction

One of the tasks of bureaucracy is "the application of the same provisions to a vari ety of people with different characteristics and the consequent need to use 'discretion'…provides scope for corruption" (Atkinson and Stiglitz, 1980, 316). And, in so far as the impact of corruption on growth is concerned, "[t]heory is divided… [but], the growing consensus based on the empirical literature is that corruption is associated with negative growth outcomes" (Bose, 2010). Indeed, there are those who like Baretto (2001) maintain that "[c]orruption is positively and significantly correlated with growth, implying that corruption has efficiency-enhancing qualities", others at the other end who like Hodge et al. (2009) ascertain that "corruption hinders growth through its adverse effects on investment in physical capital, human capital, and political instability", and in the middle still others like Sindzingre and Milelli (2010) who emphasize that "the relationships between corruption and economic growth are difficult to demonstrate".

At the same time, Choi and Thum (2005), Johnson et al. (1997) and Friedman et al. (2000) observe that corruption sends firms to the underground economy, even partially Hibbs and Piculescu (2005) would add: "the 'grabbing hands' of corrupt bureaucrats function… as…'helping hands' giving firms the capacity to exploit profitable opportunities in the unofficial economy;...the profit maximizing firms may operate simultaneously in both the official and unofficial sectors". Here the consensus is unanimous in that "[t]he unofficial economy…mitigates government-induced distortions and, as a result, leads to enhanced economic activities in the official sector" (Choi and Thum, 2005, 817). And, specifically about corruption: "the presence of the shadow economy may have adverse effects on corruption" (Echazu and Bose, 2008, 534). It depends on the course of the business cycle, this paper comes to add to these conclusion by employing a version of Chang and Smyth's (1971) approach to Kaldor's model of cyclical fluctuations with regard to bureaucracy corruption and the official sector of the economy.

2. The Analysis

Let *F* be investment in the official economy and *Q* be this economy's output, always being absorbed by the consumer. Such investments presuppose interaction with a *given* body of bureaucrats handling a *specific* body of regulations, which bureaucracy can benefit *per se* from this interaction by securing for itself income *B*. That is, $F = F(Q, B)$, with $\partial F/\partial Q > 0$ and $\partial F/\partial B < 0$, (Ndikumana and Baliamoune, 2008; Asiedu and Freeman, 2009; Hodge et al. 2009) and *B* changes according to the difference between the planned official

investment and the actual one, Φ. Writing Φ as a percentage φ of B as a technical matter to match the mathematics of Kaldor's model, the change in B, $\dot{B}$, is:

$$\dot{B} = F - \varphi B. \qquad (1)$$

Nevertheless, investments in the unofficial sector are absolved from the burden of B and are decided when more than Q is demanded, which is always the case regardless the phase of the cycle; i.e. $H = H(Q)$, with $dH/dQ < 0$. The change in Q, $\dot{Q}$, depends on the difference ($F-H$) and more precisely, on the speed of adjustment of official investment to the unofficial one that the excess demand has prompted: $\dot{Q} = s(F - H)$, where s is the adjustment speed parameter. $\dot{Q}$ depends not only on the responsiveness of F to increased consumer demand, but also on its adjustment to some exponentially increasing autonomous demand, $D_0 e^{\delta t}$, so that:

$$\dot{Q} = s\left(F - H + D_0 e^{\delta t}\right), \qquad (2)$$

where t is time. That is, the shadow economy is treated as a leakage out of the official economy like exactly savings in Kaldor's model but under the paradox of thrift.

Noting next that $b = De^{-\delta t}$ and $q = Qe^{-\delta t}$, the model becomes:

$$\dot{b} = F(q, b) - (\delta + \varphi)b \qquad (3)$$

and $$\dot{q} = s[F(q, b) - H(q) + D_0] - \delta q. \qquad (4)$$

Under the stationary state of $\dot{q} = 0 = \dot{b}$, these two equations give that:

$$q = \frac{s[F(q, b) - H(q) + D_0](\delta + \varphi)}{\delta F(q, b)} b,$$

with

$$\frac{dq}{db} = \frac{s[F(q, b) - H(q) + D_0](\delta + \varphi)\left[\delta F(q, b) - \frac{\partial F(q, b)}{\partial b}\right] + sb(\delta + \varphi)\delta F(q, b)\frac{\partial F(q, b)}{\partial b}}{\delta^2 F(q, b)^2}. \qquad (5)$$

One would expect this derivative to be always negative. And, it is, because $\partial F/\partial b < 0$, rendering thereby the numerator negative since $|\{b\delta F(q, b) + [F(q, b) - H(q) + D_0]\}\partial F/\partial b| > [F(q, b) - H(q) + D_0]\delta F(q, b)$.

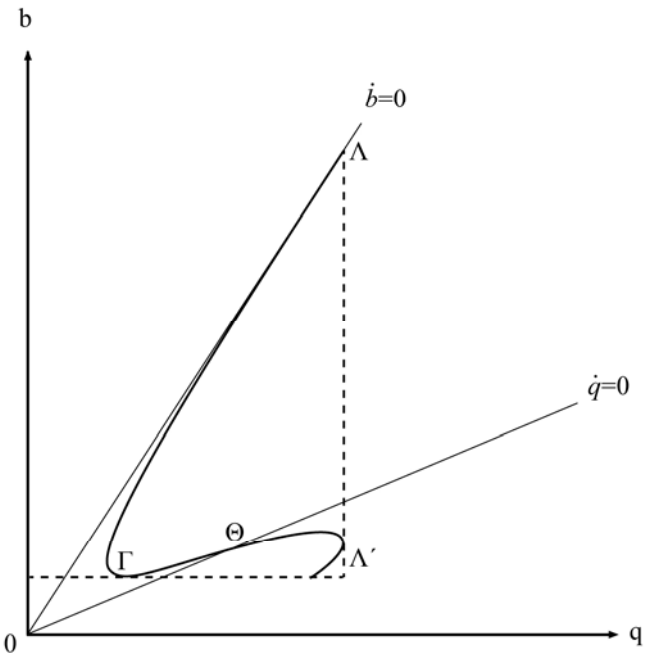

Figure 1: Phase Diagram

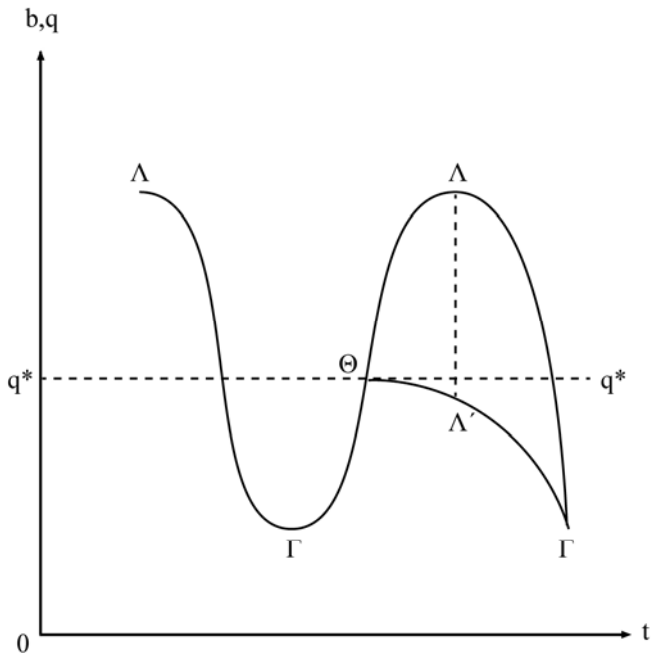

Figure 2: The Limit Cycle

But, it is so once steady state is disturbed. To see the relationship between *q* and *b* when already at disequilibrium, one has to check the path of the trajectories (Chang and Smyth, 1971).

Figure 1 illustrates that they point to a sort of limit cycle depicted by Figure 2 where the dark line corresponds to the cycle of *b*, as follows: Both *q* and *b* decline during the downward phase until the trough *Γ* is reached; shrinking official output and investment weaken the revenue basis of bureaucrats. This trend of *q* and *b* is reversed by recovery until point *Θ* on steady state *q* line, after which point they start following opposite trends until points *Λ*-*Λ´*; *q* continues increasing peaking at *Λ* under a slowly declining *b*.

It is this only part of the cycle that (5) captures, but the negative relationship between *q* and *b* in this part does suggest that bureaucracy checks official output growth as follows. A declining *b* does not imply a declining *B* too on this part; *B* continues rising *ex hypothesi* until point *Λ*, but at a declining rate, and starts decreasing along with *b* only once that point is left behind. But, equally *ex hypothesi*, unofficial activities choose to come to light in this booming, phase of the cycle, starting reconsidering this decision in view of the increasing *B* as *Λ* is approached, and reversing it once *Λ* is reached. Bureaucracy checks the official economy and the unofficial economy checks bureaucracy exactly from this point of view.

It appears that when the economy is booming and underground activities seek to enter the official economy, bureaucrats have the upper hand but until point *Λ*, after which formerly underground businesses cannot tolerate bureaucrats and start reentering the informal sector. This is what checks the growth of the official output and gets it into its downward phase. Once in this phase, bureaucrats lose control and just follow passively the developments in the economy. At the trough of the contraction, point *Γ*, official activities reach

their nadir whereas the unofficial ones are at their zenith and seek to buy whatever has been left from the staggering official businesses. This is what leads to recovery in the absence of stabilization policies. Bureaucracy benefits from this development too, but continues being passive until steady state *q* is reached.

3. Concluding Remarks

What is the autonomous demand, *D*? It is certainly the demand by the public sector. When Jean Baptiste Colbert enacted what de Gournay would call later *bureaucratie* (Starbuck, 2003), he did it in order to put order in the anarchy of a mostly "undeclared" we might say today, economy, and tax it to the benefit of the well-known extravagances of Louis XIV (1643-1715) (Wolf, 1968), serving later under Louis XV (1715–1774) and Louis XVI (1774–1793), a France being "*plagued by ruinously expensive warfare along with economic instability*" (McElroy, 2010). So, was Colbert right? This is really the question the vast literature on corruption has been trying to answer while the attention on underground economy connotes the weaknesses of the public sector in general.

This tract did hopefully help towards an understanding of this matter from this broader perspective, too. It seems to suggest that calling for an invisible-hand minded minarch state is equivalent to calling for officializing the unofficial economy or unofficializing the official one. What bureaucracy does is to be keeping the two distinct and getting paid officially and unofficially for it. But, that's important once the need for a regulatory regime and broader public sector is recognized. Equally important as to be controlling rather than combating unofficial economy so that it can be checking the excesses of bureaucrats. In any case, given the circumstances of Colbert's France, it appears that he was right…

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