

Bureaucratic Corruption, Openness and Public Policy in an Endogenous Growth Model

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Abstract

This paper develops a microfounded dynamic general equilibrium monetary endogenous growth model of a financially repressed small open economy characterized by bureaucratic corruption in an overlapping generations framework, and, in turn, analyses optimal policy decisions of the government following an increase in the degree of corruption. Given, that the government has income taxation and seigniorage at its disposal for raising revenue, we show that, higher degree of corruption should be optimally accompanied by a fall in the ratio of seigniorage as a percentage of the tax revenue.

In addition to this, another interesting observation that could be made based on the results of the paper is that, bureaucratic corruption and financial repression, modelled through “high” cash reserve requirements that the banks in the economy are obligated to hold, are negatively correlated. That is, welfare optimization entails higher optimal reserve requirements, as the degree of corruption falls, or alternatively, highly corrupted economies, should ideally have relatively lower levels of financial restriction, when one controls for the other structural aspects of the economies.

The motivation for our analysis emanates from a recent paper by Chang et al., (2005). In this study, based on a panel of 82 countries, the authors point out that openness tends to have a bigger impact on growth for less corrupted economies. Given this piece of empirical evidence, a relevant question to ask would be: What is the optimal policy mix of the government when bureaucratic corruption, leading to a loss in the size of productive public expenditures, not only negatively affects output directly, but also does so via a fall in the productivity of openness on output. And, then, more importantly, does the optimal policy mix suggested by the model, is observed in the data.

The Basics of the Theoretical Model

The economy is populated by five types of agents, namely, consumers, banks (financial intermediaries), firms, bureaucrats and an infinitely-lived government. The consumers live over two periods. They work when young and consume only

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when old. The consumption bundle comprises of a domestically produced good and an imported foreign good. They seek to maximize their utility, where, the utility function is assumed to be separable and additive in the two goods.

The financial intermediaries, in this economy, behave competitively but are subject to cash reserve requirements. In period t banks accept deposits and make their portfolio decision, loans and cash reserves choices, with a goal of maximizing profits. The banks provide a simple pooling function by accumulating deposits of small savers and loaning them out to firms after meeting the cash reserve requirements. Bank deposits are assumed to be one period contracts for simplicity, guaranteeing a positive nominal rate of interest.

Firms operate in a competitive environment and maximize profit taking the wage rate, the price of the consumption good, the level of government expenditure and the loan rate as given. We follow Diamond and Yellin (1990) and Chen et al. (2000) in assuming that the goods producer is a residual claimer, i.e., the producer ingests the unsold consumption good, in a way consistent with lifetime maximization of the value of the firms. The ownership assumption avoids unnecessary Arrow-Debreu redistribution from firms to households and simultaneously maintains the general equilibrium nature. All firms are assumed to be identical and produce a single final good, which can be allocated to investment, consumption and exports. We assume that producers are capable of converting bank loans into fixed capital formation, and that the production transformation schedule is linear, so that the same technology applies to both capital formation and production of the consumption good for domestic consumption and export, hence, investment and consumption goods sell for the same price.

The government is assumed to be infinitely-lived and purchases some units of the consumption good. The government is assumed to be productive, as in Barro, (1990), to the agents. Government expenditures are financed through income taxation, and seigniorage. We assume that the government expenditure is a non-rival and non-excludable input in the production process. The government has at its disposal two tools of monetary policy, the reserve requirement and the rate of money supply growth, while, the tax rate and government expenditure are the tools of fiscal policy. The bureaucrats are delegated the responsibility for the provision of public goods on behalf of the government. Bureaucrats have the opportunity to appropriate public funds due to their administrative discretion and information advantage, which are difficult for the government to monitor, given that monitoring is costly. They maximize their expected profits depending on the probability of whether they get caught or not, with having to pay a penalty when caught. We assume that the cost of monitoring is equivalent to the revenues generated by penalties paid by the bureaucrats who get caught. In the external sector, for simplicity, we assume away capital mobility, and, thus, in equilibrium trade balance needs to be equal to zero.

Given the non-linear nature of the welfare optimization problem, the economic environment needs to be parameterized, for this purpose, the theoretical model is numerically analyzed by calibrating it to the world economy. However, it must be noted that our model is a general one and can be applied to any open economy subjected to financial repression and bureaucratic corruption.

The corresponding empirical analysis of the paper would involve doing panel estimation on a set of African countries, to see whether our results, outlined above, holds. Given the importance of financial repression, productive public expenditure and bureaucratic corruption in the growth process of economies, the results of the theoretical model clearly have important policy implications, which if validated by the empirical analysis, would indicate that governments in these economies have been following optimal policy rules, but if not supported empirically, then the theoretical analysis should be providing the path of optimal policy design for the policy makers in these economy. Either way, the importance of the analysis is of paramount significance for developing small open economies.