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Comment Zhigang Li

Gordon and Li adapt the Tiebout framework to the institutional setting of China to model the decisions of its local governments. The model generates rich and important predictions, which are broadly consistent with the stylized facts of China. The Gordon-Li framework makes it possible to systematically analyze a number of economic phenomena in China, and to diagnose and improve the efficiency of the fiscal system.

I first summarize the major features of the chapter. I then discuss competing theories and the feasibility of empirically distinguishing them from the Gordon-Li model.

Main Features

In the Gordon-Li model, local officials share the objective of the governments they serve, which is to maximize the local fiscal revenue net of the cost of public services. The model accommodates rich and realistic sources of local fiscal revenues and items of expenditure. This facilitates analyzing distortions in the resource allocation between agricultural and nonagricultural production, and between capital-intensive and labor-intensive industries. The model has important implications for the efficiency of the tax system, for example, that efficiency could be increased by replacing the production-based VAT in China with a consumption-based VAT. Another important source of efficiency loss explicitly analyzed in the chapter is the different objective functions, due to taxes, of state-owned and non-state-owned firms.

Even with its realistic features, however, the model is highly simplified. Except for the fiscal revenue, other incentives for local officials are not considered. For example, the model does not include the promotion incentive provided by upper-level governments, which may be relevant (Xu 2010). Moreover, the model assumes that tax rates are exogenous even though the effective rates may be endogenous: local governments can affect the actual tax rates through various preferential tax schemes, such as establishing special industrial zones. In addition, in the Gordon-Li model prices are exog-

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Table 8C.1 Predictions of Gordon-Li model and their empirical relevance

Predictions	Empirical relevance
1. Local governments force state-owned firms to increase employment.	Consistent
2. Local governments allocate less credit and land to private firms than to government-owned firms.	Consistent
3. Overinvestment in industry as compared to agriculture.	Consistent
4. Local governments convert less land from agricultural to industrial or residential use than they should, thus keeping land prices high in the urban areas and low in the rural areas.	Unavailable
5. Local governments oversupply infrastructure that benefits industries but undersupply public goods that benefit agricultural production.	Consistent
6. Local governments have inadequate incentives to supply public services or to implement regulatory policies that benefit local private firms.	Consistent
7. Local governments may use local protectionism to intervene in interregional trade.	Consistent
8. More capital-intensive regions are more likely to provide hukou to skilled labor.	Unavailable

Note: Empirical relevance here simply means that the stylized facts of China are consistent with the model predictions. The predictions have not been rigorously tested.

enously set. Although endogenizing prices may not affect the static analysis of allocation efficiency, it could affect the implications of a tax reform.

Despite the potential complications due to the omitted factors, the predictions of the Gordon-Li model fit well with a number of stylized facts about China. Table 8C.1 summarizes the major predictions of the model. Some of the predictions have been suggested by earlier research, but some are original. For example, the model implies that regional governments have an incentive to convert less land from agricultural to industrial or residential use than they should. As a result, land prices are high in the urban and low in the rural areas.

Alternative Models

Can other models of regional government generate similar predictions as in the Gordon-Li framework? It is possible. An example of this is a model in which the decision of local government officials is affected by the central government. The central government may impose a list of "targets" for local governments to achieve (Tsui and Wang 2004). To motivate local government officials to fulfill those targets, the central government may introduce certain rewards, such as the promotion of officials based on their performance. Xu (2010) formalizes how a promotion scheme can provide incentives for local officials. Aware of this influence of the central government, in section 8.4 the authors extensively discuss its implications that are *different* from those by their model. Here, in addition, I would like to draw readers' attention to *similar* predictions of the different models. For example, as the list of "targets" typically includes fiscal revenue, this target system can motivate local officials to behave as if they are maximizing tax revenue.

The policy implications of the two models may differ. The behavior of local government officials would be more sensitive to the change of the central-local relationship under the promotion incentive than under the revenue-maximizing incentive. Moreover, the efficiency implications may also differ by model. Hence, it is important to be able to determine whether it is the centrally provided incentives or the local governments' own incentives that have been the main driving force of their behavior.

In addition, corruption revenues may also be a relevant incentive for officials. For example, the Gordon-Li model predicts that local governments may convert less agricultural land to urban use because local officials stay in position for limited periods. Anecdotal evidence, however, suggests that local officials have a strong incentive to convert farm land to industrial and residential use. This might occur because the private benefits to local officials (e.g., bribery) from the land conversion dominate the incentive to maximize local fiscal revenue.

Suggested Further Tests

Given the rich predictions of the Gordon-Li model, it is possible to test its relevance by testing its unique predictions. One possible way to do so is to identify major tax reforms and test their impacts as predicted by the Gordon-Li model. A key condition of this test is that at the same time as the tax reform, there should not be a major change in the central-local relationship or the target system to avoid their confounding effects.

To illustrate, consider a prediction of the Gordon-Li model as follows. The 1994 tax reform would change the incentive for local governments to invest in agriculture: low investment before the reform and high investment afterwards. Since the target responsibility system evolved gradually for the mid-1980s and became fully developed by 1995, one would need to identify some regions in which the target system developed early and changed little around 1994. The agricultural investment in these regions can then be investigated to test whether it significantly increased after the tax reform, as the Gordon-Li model implies.

Other Comments

One assumption required in the Gordon-Li model to achieve efficient outcomes is that regional public investments do not have spillover effects on other regions. This might be violated, for example, in the case of transport infrastructure investment. In a recent study, Li and Li (2010) find that the highway investment in China has a strong effect on the inventory holding of firms in neighboring provinces. In this case, the choices that are efficient for regional governments may not be efficient nationwide.

In comparing stylized facts about China to model predictions, the authors typically use national aggregates. On several occasions, it would be more consistent with theory to present more disaggregated information. For example, figure 8.1 in the chapter shows the variation of investment in agriculture over time. As the Gordon-Li model focuses on the behavior of regional governments, a more relevant diagram would show the investment by local governments. It is important to distinguish between investment by the regional and central governments because the fiscal ability of the central government also changed significantly due to the 1994 tax reform. Separating the investment by the regional and central governments may thus reduce the confounding effects of the changing fiscal capacity of the central government.

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