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The dual policy in the dual economy—The political economy of urban bias in dictatorial regimes

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ABSTRACT

In many developing countries, public resource allocation is often biased against the rural population. Since a vast majority of the poor live in rural areas, the bias is highlighted as one of the most important institutional factors contributing to poverty. This paper develops a political economy model of urban bias in a dictatorial regime. A novel result of the model is that urban bias can emerge in predominantly agrarian economies even if there is *no* bias in political power toward urban residents. The empirical evidence from a recently compiled country-level panel dataset on agricultural taxes/subsidies is consistent with the prediction of the model.

1. Introduction

One of the major policy features that characterize many developing countries is a heavy bias against the rural population. This bias is highlighted as one of the most important policy obstacles to poverty reduction as a vast majority of the poorest households depend on farming for their livelihood. According to the Rural Poverty Report (2011), "1.4 billion people continue to live in extreme poverty, struggling to survive on less than US $1.25 a day. More than two thirds of them reside in rural areas of developing countries." The bias was first articulated by Lipton and he coined the term "urban bias" in his influential book *Why Poor PeopleStay Poor: Urban Bias in World Development* (Lipton, 1977). Lipton identified such a systematic bias against rural residents as the single most important source of deprivation for the majority of the poor across the world. Moreover, Bates (1984) provides extensive accounts of various tax instruments that governments use to extract resources from the rural sector. For example, government-owned marketing boards with monopsony power buy export products from peasants at administratively set low prices, sell those products at prevailing world prices, and pocket the surplus. Bates (1984) also shows how governments in Sub-Saharan Africa manipulated exchange rates against exportable farm products and used other domestic policies to suppress the prices of agricultural products (particularly food) in the domestic market. More recently, Bezemer and Headey (2008) single out urban bias as "the largest institutional impediment to growth and poverty reduction in the world's poorest countries."

This paper presents a model to shed some light on the political economy mechanism driving the bias. It also provides empirical support for the main prediction of the model. As previous studies of urban bias have shown that the bias is primarily a feature of non-democratic regimes (e.g., see Ades and Glaeser, 1995), the focus in this paper is on dictatorial regimes. One of the main regime features that characterize a dictatorial regime is the role of intra-elite conflict in power transfer (Lizzeri and Persico, 2004). In many dictatorial regimes, conflicts within the ruling elite are major sources of threat to political power. Citizens may also play a role in those conflicts. For example, citizens can support certain factions within the ruling circle. On the other hand, regime insiders may use popular sentiments against the current leader to come into power. It is not unusual for regime insiders to capitalize on citizens' dissatisfaction to justify coups d'état against leaders (Bates, 1984, pp. 30–35; Wiseman, 1986). The model combines these features in a dynamic setting.

I derive a testable prediction regarding political incentives and economic structure as defined by the relative size of different sectors in the economy. A novel result of the model is that anti-agricultural biases can emerge in predominantly agrarian economies even if there is no bias in political power between urban and rural citizens. In the political game, it is assumed that the insider can stage a coup and take over power with the support of either the rural or the urban residents. To

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avert a coup, the leader has two options: either to bribe the insider or to lower the taxes to citizens so that they do not provide any support for the insider. Urban residents are said to be politically more powerful the higher is the probability that the insider needs their support to overthrow the leader. Urban bias is then defined as the expected tax rate on the rural residents relative to the expected tax rate on urban residents. I show that relative tax rate becomes higher when the share of output by the rural sector is larger. The reason is that, as the relative size of agriculture increases, appeasing the rural population may require giving up a large amount of rent. And the leader reverts to bribing the insider whenever the insider needs the support of the rural residents. On the other hand, whenever the insider needs the support of the urban residents, the leader prefers to lower taxes on urban residents rather than bribing the insider. Using a recently compiled country-level panel dataset on taxation of the agricultural sector (see Anderson and Valenzuela, 2008), I show that the empirical evidence is consistent with the prediction of the model.

Previous literature on the political economy of urban bias emphasizes the role of disproportionate political power by urban residents as a driving force of urban bias.[1] A common explanation follows the "collective action logic" forwarded by Olson (1971), where a larger size of the agricultural labor force is argued to weaken farmers' lobbying ability by worsening the free-riding problem (Olson, 1986). This explanation is motivated by what appears to be a general pattern that poorer countries, which tend have a larger share of their labor force in the agricultural sector, tend to tax agriculture while rich countries subsidize agriculture (Bale and Lutz, 1981; Honma and Hayami, 1986; Krueger et al., 1988). The informational advantage for urban residents is argued to be an alternative explanation for urban bias. Using a voting model with imperfect information, Majumdar et al. (2004) show how an informational advantage for urban residents can lead to a disproportionate political influence of urban residents. Ades and Glaeser (1995) emphasize differences in regime types as a source of differences in political power between urban and rural residents. They argue that dictatorships favor urban residents since urban residents are assumed to have a higher political power in dictatorships than in democracies. In this paper, I expand on this idea. Specifically, I show that the extent to which dictatorships are biased towardthe urban sector varies substantially depending on the relative size of the rural economy. A key finding of the paper is that dictatorship may feature urban bias in predominantly agrarian economies even if there is no bias in political power between urban and rural residents.

The remainder of this paper proceeds as follows. The model is presented in Section 2. This is followed by an analysis of the equilibrium outcomes in Section 3. Section 4 looks at correlates of agricultural policies and economic structure under different regime types to examine the major prediction of the model. The final section presents concluding remarks.

2. The model

2.1. Setup: players, strategies and timing

Consider a dynamic game among various groups within a society. Specifically, assume that there are four groups of players: an incumbent leader (denoted by L), a regime insider (denoted by I), a continuum of urban citizens (denoted by U) and a continuum of rural citizens (denoted by R).

Political influences are carried out through non-democratic means. The leader's objective is to maximize his rent (taxes collected) from the output produced by the citizens. While doing so, however, he faces certain constraints depending on the relative political strength of each group within society. The main constraint is the threat that he faces from his own insider.

There are two states of the world, denoted by $q \in \{q_u, q_r\}$. In order to overthrow the leader, the insider needs the support of R if the state is q_r. He needs the support of U if the state is q_u.[2]

If the leader is overthrown, there is uncertainty regarding the relative political power of each group in the future (i.e. the state of the world may change). Such uncertainties are typically the case following political uprisings in weakly institutionalized states. Following Besley and Kudamatsu (2007) and Padro-I-Miquel (2007), the uncertainty is captured by random changes in the state variable q whenever there is a change in power (i.e. leader overthrow). In each period, assume that y_u and y_r quantities of output are produced by the urban and rural sectors, respectively.

The timing of the game and the strategies by each player are as follows:

Step 1 At time $t = 0$ (the initial period), nature randomly selects a leader and an insider from the citizens, and determines the type of the state $q_t \in \{q_u, q_r\}$ according to the probability distribution $p(q_u) = p_u > 0$ and $p(q_r) = p_r = 1 - p_u > 0$.

Step 2 All players observe the state of the world q_t.

Step 3 The leader announces tax rates on both sectors $\tau'_{u,t}, \tau'_{r,t} \in [0, \overline{\tau}]$ for some $\overline{\tau} \in [0, 1)$, and the share of the rent to be given to the insider $\delta'_t(\tau'_{u,t} y'_u + \tau'_{r,t} y_r)$, with $\delta'_t \in [0, 1]$.[3]

Step 4 The insider proposes whether to overthrow the leader and, if so, whether to do it with the support of U or R. Denote the insider's strategy by $\psi_t = (\psi_{u,t}, \psi_{r,t}) \in \Psi \equiv \{0,1\} \times \{0,1\}$. We have $\psi_u = 1$ ($\psi_r = 1$) if the insider calls for support from the urban (rural) citizens; otherwise, $\psi_u = 0$ ($\psi_r = 0$).

Step 5 Citizens decide whether to offer support for the insider's call: $z_{u,t}, z_{r,t} \in \{0,1\}$. Following Acemoglu and Robinson (2006), I assume that participating in a revolution to overthrow an incumbent is a costly activity. Hence, if $z_{s,t} = 1$ for $s \in \{u,r\}$ (i.e. if citizens participate in an overthrow), it costs them γy_s for some $\gamma > 0$.[4]

Step 6 If the leader is not overthrown, $q_{t+1} = q_t, \tau'_{u,t} = \tau_{u,t}, \tau'_{r,t} = \tau_{r,t}$ and $\delta_t = \delta'_t$; and the game continues from Step 2 in period $t + 1$.

Step 7 If the leader is overthrown, $\tau_{u,t} = \tau_{r,t} = 0$. The leader gets 0 in the future.[5] q_{t+1} takes either of the values with probabilities p_u and p_r. In period $t + 1$, the game continues from Step 2 with the insider as a new leader and a randomly selected citizen as an insider. This assumption implies that an insider who overthrows a leader and takes over power will face similar rivalry from his own insider. Leaders change, but the political regime remains the same.

The payoffs for player j, denoted by V^j, are the discounted sum of instantaneous consumptions C^j_t:

$$V^j = \sum_{t=0}^{\infty} \beta^t C^j_t$$

[1] Swinnen (2010) provides a detailed review of the literature.

[2] The main results do not change if more states are allowed for. For example, we can consider two additional states—the insider can overthrow the leader by himself (with no support) and the insider can overthrow the leader with the support of *either* U or R.

[3] The assumption that $\overline{\tau} < 1$ is a reduced form for non-political constraints faced by the leader. One such constraint is what is called the "dead-weight loss" where the actual revenue for the leader from a tax rate of τ will be $\tau - \alpha\frac{\tau^2}{2}$ for some $\alpha > 0$; see Meltzer and Richard (1981). The other constraint is what Acemoglu (2005) calls "economic power" of citizens where citizens can hide their output and evade taxes albeit at certain costs (such as resorting to informal activities which may give them lower returns) if the taxes are too high.

[4] The sequence between Steps 4 and 5 is not necessary for the conclusion on tax rates. The equilibrium tax rates will still be the same even if we interchange Step 5 and Step 4.

[5] An interpretation could be that he loses everything after having been purged.