

# A Theory of Clientelistic Politics versus Programmatic Politics<sup>1</sup>

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## Abstract

We provide a theoretical analysis of the distinction between clientelistic and programmatic politics and resulting consequences for policy choices and political competition. Clientelism arises when elected officials exercise ex post discretion over delivery of government transfers to citizens in an informal sector, and condition this on political support. Two party Downsian competition features ‘programmatic’ equilibria involving policy convergence and close elections if parties are equally popular ex ante. If the informal sector is large enough, these equilibria are locally unstable, and multiple asymmetric ‘clientelistic’ locally stable equilibria arise. Clientelistic equilibria involve policy divergence, lower supply of public goods, and higher inequality in vote shares. Comparative statics and welfare properties of the two classes of equilibria are related to existing empirical evidence.

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# 1 Introduction

The pervasiveness of vote-buying and clientelistic ‘machine’ politics in traditional societies has been extensively documented in various case-studies and political ethnographies.<sup>4</sup> Besides studies from 19th and 20th century USA, UK and Italy (Stanton (2003), Kitchelt-Wilkinson (2007), Chubb (1982), Golden (2000)), they include contemporary practices in many middle and low income countries, such as vote buying in Argentina (Stokes (2005)), practices followed by PRI operatives in Mexico (Rizzo (2015)) or political brokers in a Mumbai municipal ward election (Bjorkman (2013)). While clientelism has sometimes been hailed for its redistributive impact and filling in gaps in social services provided by the state, many writers believe the broader systemic consequences to undermine democracy and development in a variety of ways: raising private transfers at the expense of lowering public goods, accountability of elected officials and political competition (e.g., see Stokes (2007)). This paper presents a simple theoretical model formalizing these heuristic arguments, and then discusses empirical evidence relating to the predictions of the model.

A systematic analysis requires a precise definition of clientilism that highlights its distinctive features, allowing derivation of analytical propositions that can be empirically tested and allow inferences concerning its normative consequences. Clientelism refers to discretionary provision of private or local public goods or privileges by government officials and political parties to particular groups of citizens, in exchange for their votes. Particular examples include provision of low interest loans and short term employment in public work programs. As Hicken (2011) argues, the key element is the contingent and reciprocal nature of the exchange, wherein state benefits are delivered selectively by elected officials to those citizens it believes supported them in the recent past. We shall focus on this definition, rather than vote-buying via upfront or pre-election unconditional transfers.

The alternative to clientelism is programmatic politics, where delivery of public services to individual citizens cannot be conditioned on their political support. Policy platforms in programmatic politics may be designed by political contestants to influence future (or reward past) political support from specific constituencies via pork-barrel programs. The line that divides pork-barrel politics from the wider definition of clientelism therefore seems rather

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<sup>4</sup>See Hicken (2011) for an extensive survey of these studies.

thin. In the theory we develop, we adopt a narrower definition of clientelism: the key issue is whether the receipt of benefits by individual citizens (rather than entire constituencies) is at the (ex post) discretion of elected officials. The hallmark of clientelism is the discretionary and informal nature of the decision made by a political agent to deliver a benefit to any given citizen. This enables political agents to incentivize citizens to provide them political support.

By contrast, programmatic politics involves policies with clearly defined eligibility rules based on publicly verifiable characteristics, to whom the state can directly remit formula-based transfer payments. The execution of payments to such citizens is not subject to ex post discretion exercised by any political agent, elected official or bureaucrat. Examples are recipients of social security or other welfare benefits, based on suitable identification documents (such as social security cards, residency or citizenship documents), who have functioning bank accounts to which transfers can directly be made. The entitlements of holders of these documents are defined explicitly in legislation, and enforced by functioning courts. We refer to such citizens as comprising the *formal* sector. Those lacking suitable identification documents or bank accounts, and those living in regions with poor legal enforcement of associated entitlements, comprise the *informal* sector. The relative size of the formal sector is a parameter of institutional quality, which plays a key role in our analysis. Empirical evidence (reviewed in Section ??) shows the informal sector constitutes the majority in developing countries, in contrast to developed countries. In countries with a large formal sector, political competition primarily takes the form of programmatic politics, wherein policy platforms of rival contestants propose income taxes, social security and welfare benefits that define citizen entitlements as a function of verifiable characteristics, which are effectively enforced. This is not the case in countries with a large informal sector, where the state has to rely on bureaucrats or local government officials as intermediaries, with considerable discretionary power in selecting beneficiaries of government welfare programs.

Existing theoretical models of political economy have mostly focused on distortions that can result within programmatic politics. The list includes populism (a la Downs, such as Alesina-Rodrik (1994)), limited commitment (Besley-Coate (1997), Dixit-Londregan (1995)), non-issue-based loyalties and swing voters (Dixit-Londregan (1996)), capture by elites or special interest groups (Acemoglu-Robinson (2008), Grossman-Helpman (1995)), unevenness of political turnout or awareness (Benabou (2000)) or voter coordination

problems (Myerson (1993))). There are relatively few formal models of clientelistic politics in the literature (reviewed in Section ??). Similar to the papers cited above, our model is static, so does not address important questions concerning the dynamics of clientelism.

This paper develops a Downsian model of probabilistic voting and electoral competition between two parties, which embeds the Dixit-Londregan (1996) theory of programmatic pork-barrel politics and previous theories of clientelism (Bardhan-Mookherjee (2012), Sarkar (2014)) as special cases. It shows how the relative size of the formal sector affects the nature of locally stable Nash equilibrium outcomes. Clientelistic practices are rendered possible owing to existence of a large informal sector. Electoral contestants have an incentive to withhold benefit delivery to informal sector citizens that do not extend their political support. Section ?? reviews a variety of mechanisms by which political agents can gauge how specific citizens voted. Our model builds in one such mechanism, though other mechanisms would also end up delivering similar results. Once informal sector citizens know their political support will be effectively observed by the candidates, their voting strategies will be significantly affected: voting for the candidate that ends up losing the election will be personally costly. In contrast, formal sector citizens can vote according to their true preferences since the winning candidate cannot condition benefit delivery on the way that they voted.

This generates two distinctive implications for the way citizens in the informal sector vote, compared to those in the formal sector. First, informal sector votes are unaffected by public good components of electoral platforms. Second, they generate the phenomenon of ‘contagious voting’, where voter beliefs regarding the voting strategies of other voters plays an important role: informal sector voters are unwilling to support the candidate that is not favored to win. The first feature implies that politicians have low incentives to provide public goods. The second feature implies inherent lopsidedness of electoral competition resulting in large asymmetries in vote shares driven by voter beliefs rather than substantive differences among candidates. When the relative size of the formal sector is sufficiently small, we show that policy platforms diverge in (locally stable) Nash equilibria, with one candidate disproportionately favored to win, co-existence of multiple equilibria, and the favored candidate selecting a platform biased in favor of directed private transfers at the expense of public goods. We refer to these as ‘clientelistic equilibria’. These are contrasted to ‘programmatic equilibria’ which arise in societies with a large formal sector. These exhibit policy convergence even

if one party has an advantage in terms of popularity on non-policy grounds; both parties select platforms involving higher supplies of public goods compared to clientelistic equilibria.

The model implies that welfare comparison between resulting outcomes of clientelistic politics and programmatic politics is ambiguous in general. Directed private benefits are biased in favor of poorer citizens, unless they are substantially less amenable to switch votes on the basis of material inducements. At the same time clientelism is associated with lower supplies of public goods which tend to benefit all citizens in a similar way. Hence clientelistic politics can result in greater redistribution. On the other hand, this can be offset by adverse welfare effects of lower supply of public goods. To the extent that growth rates are related more to public goods such as investment in infrastructure, public health or general education rather than private transfers, clientelistic societies are more likely to exhibit lower growth rates.

The paper is structured as follows. Section ?? describes the range of mechanisms used by political operatives to monitor how specific voters vote in order to target clientelistic benefits. Section ?? presents the model and main results, while Section ?? concludes by discussing relevant empirical evidence and related literature.

## **2 Institutional Setting: Enforcement Mechanisms**

Any description of political clientelism has to explain how votes can be bought in democracies with secret ballots. In the narrower definition of clientelism, benefits are delivered conditional on their voting behavior; hence party operatives need to verify how a client voted. The broader definition includes vote buying via unconditional pre-election transfers: how do these affect incentives of recipients to vote subsequently? The literature has provided a number of answers to this question.

In many contexts, the secret ballot is not properly enforced: party operatives can monitor votes cast by various means. Stokes (2006) describes how (marked) ballots can be handed out by party operatives; this is still legal in Argentina, Uruguay and Panama. Modern technology can sometimes be harnessed creatively: there are informal accounts from southern Italy how

voters are required to take a picture of their cast ballot on their cell phones and show these to party operatives in order to claim clientelistic benefits.

More sophisticated mechanisms rely on public signals of political support to their patrons by individual voters (e.g., in the form of participation in pre-election rallies), as elaborated by Sarkar (2014) and incorporated in the model in Section ???. Each citizen is required to choose a party or candidate to declare public support for. In turn parties would restrict benefit delivery (once elected) to those expressing it support. Citizens would then have a private incentive to vote for their chosen patrons, thereby obviating the need for any monitoring of their vote by the parties. Attendance in political campaign events in middle and low income countries tends to be quite high, with a global median rate of 32% households reporting campaign attendance, second only to the proportion that participate in elections (78%), and much larger than proportions participating in political protests (15%), signing political petitions (9%) or posting political comments online (9%). Campaign attendance rates also tend to be higher in low income countries: e.g., 48% in Africa, 35% in the Middle East and 30% in Asia, compared to 12% in Latin America and less than 20% in Eastern Europe.<sup>5</sup>

A number of empirical accounts of clientelism assign a role to intermediaries acting as brokers for the political ‘transaction’, for which empirical evidence is provided by a number of authors (Bjorkman (2013), Rizzo (2015), Larraguy, Marshall and Querebin (2015)). Our model abstracts from the role of brokers for the sake of simplicity; see Marcolongo (2017) for a model of brokers mediating clientelistic transactions.

While our model incorporates one of these mechanisms, the main conclusions of our model would obtain even if any of the other mechanisms are used by political contestants to verify votes cast by individual voters.

### 3 The Model

There are a number of voter groups  $i = 1, \dots, I$  with positive demographic weights  $\alpha_i$  that sum to one. The number of citizens is large, so that strategic considerations associated with the likelihood of any single citizen’s vote being pivotal will be negligible; we assume voters assign zero probability to this

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<sup>5</sup>These facts are reported in a Pew Center Report on political engagement in emerging and developing countries: see Pew Center (2014).

event. Nevertheless we restrict attention to equilibria involving weakly undominated strategies (where the state space includes zero probability events), which insures that formal sector citizens will vote sincerely.<sup>6</sup> Specifically, as voters in the formal sector do not expect their vote to count in determining the election outcome, their expected utility does not depend on how they cast their vote. However, in the (zero probability) event that they are pivotal, they would be better off voting for the party that they prefer, so they vote sincerely. For voters in the informal sector, their expected utility turns out to depend on how they vote, hence they vote strategically.

Each citizen group is defined by verifiable characteristics such as location, occupation, education and citizenship status which affect incomes and can be used as a basis of differentiation in delivering public benefits. All citizens in group  $i$  have the same pre-tax income  $y_i$ . They receive private transfer  $t_i$  from the government, and additionally derive utility from a public good  $g$ , resulting in utility  $u(y_i + t_i) + v(g)$ .  $u$  and  $v$  are smooth, strictly increasing, strictly concave functions satisfying Inada conditions that ensure interiority of equilibrium allocations.

There are two competing parties or candidates  $k = L, R$ . Citizens within any group also exhibit heterogenous non-policy-based loyalty  $\epsilon_i$  to party  $L$ , relative to party  $R$ , which is uniformly distributed with bias  $b_i$  and constant density  $s_i$  which represents the *swing propensity* of group  $i$ . We assume  $s_i$  is small enough for each group that vote share expressions given below will be well-defined for the relevant range of policies chosen by the parties.

In Downsian fashion, prior to the election each party  $k$  selects a policy platform defined by non-negative private transfers  $\{t_i^k, i = 1, \dots, I\}$  and nonnegative public good provision  $g^k$  satisfying the budget constraint  $\sum_i \alpha_i t_i^k (1 + \lambda_i) + c g^k \leq B$ , where  $B > 0$  denotes an exogenous expenditure limit,  $\lambda_i$  is a leakage rate in delivering private benefits to group  $i$ , and  $c$  is the cost of supplying the public good.<sup>7</sup>

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<sup>6</sup>See Besley and Coate (1997) for a theory with a finite number of voters, based on equilibria with undominated strategies. The corresponding equilibrium concept in the game with a ‘large’ number of voters can be rationalized as the set of limit points of the corresponding set of equilibria in undominated strategies of a sequence of games with finite number of voters which tends to infinity. We eschew these technical issues for the sake of brevity.

<sup>7</sup>With two contestants, Besley and Coate (1997) show a close correspondence between equilibria in citizen candidate and Downsian models. Our model also relies on a form of partial commitment (to public goods and transfers to formal sector citizens).

Each party is purely opportunistic, and selects an electoral platform to maximize the probability of winning. Note that delivery leakage rates do not vary across parties. As pointed out by Dixit and Londregan, an extension where the leakage rate varies parties would induce policy non-convergence in the context of programmatic politics. We abstract from such sources of policy divergence, so as to focus on the role of clientelism.

An exogenous fraction  $\theta$  of every voter group belongs to the *formal* sector, officially identified as citizens of group  $i$  (on the basis of legal documents that they own), who are thereby entitled to receiving public benefits earmarked for group  $i$  citizens. Party  $k$  is thereby committed to delivering  $t_i^k$  to group  $i$  citizens in the formal sector. The remaining citizens who constitute the *informal* sector have no such entitlement. Delivery of benefits to citizens in the informal sector is at the discretion of the party in power. In practice  $\theta$  could vary across citizen groups. This can be easily be added to the model, at the cost of complicating it without altering any of the essential results.

The model reduces to the Dixit-Londregan model of pork-barrel politics when  $\theta = 1$ . Hence the distance of  $\theta$  from 1 is a measure of the relative importance of clientelism vis-a-vis programmatic politics.

When  $\theta < 1$  clientelism operates as follows. Prior to the election, each party holds a rally. Each citizen decides whether to attend the rally of any given party at zero cost.<sup>8</sup> Attendance is observable by both parties, who can condition delivery of benefits to citizens in the informal sector on that basis. Specifically, party  $k$  if elected will deliver  $t_i^k$  only to those informal sector group  $i$  citizens that attend its pre-election rally and do not at the same time attend the rally of the competing party.<sup>9</sup>

The timing of moves is as follows. First, each party announces its policy platform. Next, each party organizes a rally; each citizen decides which of these to attend. At the third stage, citizens cast a vote for one of the two parties. Finally, votes are counted. Party  $L$  wins the election with probability  $\phi(V^L)$ , where  $V^L$  denotes the vote share of party  $L$ , and  $\phi$  is a strictly increasing and smooth function taking values in an interval  $[\underline{p}, \bar{p}]$  where  $1 > \bar{p} > \underline{p} > 0$ . This function includes the effect of random shocks

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<sup>8</sup>We abstract here from the cost of attending rallies.

<sup>9</sup>These delivery promises are assumed to be credible, being mediated through local brokers with credibility among citizens and who monitor attendance at rallies. It is then in the interest of each party to threaten to deny benefits to voters that either do not attend its own rally or attend the rival's rally, since such voters would not be subsequently as motivated to vote for them.



to vote turnout or counting errors. The election is not intrinsically biased in favor of either party, so  $1 - \phi(V^L) = \phi(1 - V^L)$  for every  $V^L$ , which in particular implies  $\phi(\frac{1}{2}) = \frac{1}{2}$ .

We restrict attention to weak Perfect Bayesian equilibria in weakly undominated strategies. This implies that at the third stage, formal sector citizens in group  $i$  will vote sincerely, i.e., they will vote for party  $L$  if their loyalty  $\epsilon_i$  to the party is large enough:

$$u(y_i + t_i^L) + v(g^L) + \epsilon_i > u(y_i + t_i^R) + v(g^R) \quad (1)$$

implying that the vote share of this party from the formal sector equals

$$\frac{1}{2} + \sum_i \alpha_i s_i b_i + \sum_i \alpha_i s_i \{u(y_i + t_i^L) + v(g^L) - u(y_i + t_i^R) - v(g^R)\} \quad (2)$$

As these citizens are entitled to the announced benefits, their rally attendance decisions are irrelevant.

Citizens in the informal sector decide at the second stage of the game which political rally to attend.<sup>10</sup> A citizen attends the rally of party  $L$  (resp.  $R$ ) expects to receive  $t_i^L$  (resp.  $t_i^R$ ) if  $L$  (resp.  $R$ ) wins the election, and no transfers if  $R$  (resp.  $L$ ) wins instead. Given the restriction to weakly undominated strategies, each citizen has an incentive to vote for the party whose rally they attended at stage three. This obviates any need for parties to monitor how citizens vote.<sup>11</sup> Hence clientelism is self-enforcing despite the static nature of the model. The size of the informal sector drives attendance in pre-election rallies; relative attendance in the rallies of the two parties are good predictors of their subsequent vote shares.<sup>12</sup>

An informal sector citizen in group  $i$  will decide to support party  $L$  if

$$p^L[u(y_i + t_i^L) + v(g^L)] + (1 - p^L)[u(y_i) + v(g^R)] + \epsilon_i > p^L[u(y_i) + v(g^L)] + (1 - p^L)[u(y_i + t_i^R) + v(g^R)] \quad (3)$$

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<sup>10</sup>For these citizens, not attending any rally, or attending both rallies is dominated by attending one of the two rallies.

<sup>11</sup>They do however need to monitor voting turnout, otherwise voters will have no positive incentive to go to vote. In practice, party operatives do monitor, and often provide explicit incentives to their supporters to turn out to vote, while discouraging supporters of their political rivals from voting.

<sup>12</sup>Some theories of political rallies are based on their role in signaling respective popularity to one another and undecided voters. We abstract from such signaling motives, and focus on the role of clientelism instead.

where  $p^L$  denotes the citizen's prior probability that  $L$  will win. This implies that the share of informal sector citizens that will vote for  $L$  is

$$\frac{1}{2} + \sum_i \alpha_i s_i b_i + \sum_i \alpha_i s_i \{p^L [u(y_i + t_i^L) - u(y_i)] - (1 - p^L) [u(y_i + t_i^R) - u(y_i)]\} \quad (4)$$

*Note that in stark contrast to vote shares in the formal sector, this expression is independent of public goods promised by either party!* The reason is that decisions by informal sector citizens regarding which party to support (i.e., attend the rally, and then vote) has direct 'instrumental' consequences for their own welfare. Informal sector residents, particularly poor ones heavily reliant on state services, face a high stake choice regarding which party to support: they would want to back the eventual winner. They need to guess how other voters will vote.<sup>13</sup> The instrumental consequences for their own private transfers would outweigh the non-existent likelihood that their vote would be pivotal; for this reason informal sector vote shares do not depend on public good components of the electoral platforms. Formal sector residents by contrast are protected against the risk of losing access to state services, hence they vote sincerely — whence public goods promised by the parties do play a role.

The dependence of vote shares in the informal sector on voter beliefs regarding the eventual winner of the election, is a feature of clientelism that differentiates it qualitatively from a model of programmatic politics. The effectiveness of private transfers promised in generating votes for any given party will depend on voter beliefs: a party in a stronger competitive position will be able to extract more votes from a given increase in these transfers to any group. In equilibrium, voter beliefs will be self-fulfilling. As we show below, this gives rise to the possibility of multiple 'sunspots' equilibria if the informal sector is large enough.

The aggregate vote share of party  $L$  is

$$\begin{aligned} V^L(\pi^L, \pi^R; p^L) &= \frac{1}{2} + \sum_i \alpha_i s_i b_i + \sum_i \alpha_i s_i \{ \theta [u(y_i + t_i^L) + v(g^L)] \\ &\quad + (1 - \theta) p^L [u(y_i + t_i^L) - u(y_i)] - \theta [u(y_i + t_i^R) + v(g^R)] \\ &\quad - (1 - \theta) (1 - p^L) [u(y_i + t_i^R) - u(y_i)] \} \end{aligned}$$

where  $\pi^k \equiv (\{t_i^k\}_i, g^k)$  denotes the platform of party  $k$ , and  $p^L$  the voters expectation concerning party  $L$ 's winning probability.

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<sup>13</sup>This is similar to the 'contagious voting' phenomenon in Sarkar (2014).

Since each party seeks to maximize its vote share, party  $k = L, R$  will select its policy platform to maximize

$$\sum_i \alpha_i s_i \{ \theta [u(y_i + t_i^k) + v(g^k)] + (1 - \theta) p^k [u(y_i + t_i^k) - u(y_i)] \} \quad (5)$$

subject to the budget constraint  $\sum_i \alpha_i (1 + \lambda_i) t_i^k + c g^k \leq B$ , where  $p^R \equiv 1 - p^L$ . In this exercise, each party takes voter assessments of their respective electoral prospects  $p^L, 1 - p^L$  as given. This problem has a unique optimal solution which is interior and continuous in  $p^L$ . Let the best response of each party to voter expectation  $p^L$  be denoted  $\pi^k(p^L)$ .

An equilibrium is defined by the condition that

$$p^L = \psi(p^L) \equiv \phi(V^L(\pi^L(p^L), \pi^R(p^L); p^L)) \quad (6)$$

It is evident that  $\psi(\cdot)$  is continuous: hence a pure strategy equilibrium always exists. Properties of these equilibria are characterized in the next result.

**Proposition 1** *In an equilibrium in which  $L$  wins with probability  $p^L$ , the platform  $(\{t_i^k\}_i, g^k)$  of party  $k$  will be chosen to maximize*

$$\sum_i \alpha_i s_i \{ [1 + p^k \frac{(1 - \theta)}{\theta}] u(y_i + t_i) + v(g) \} \quad (7)$$

*subject to the budget constraint  $\sum_i \alpha_i t_i (1 + \lambda_i) + c g \leq B$ , where  $p^R \equiv 1 - p^L$ .*

The implicit welfare weight assigned by party  $k$  to private transfers to group  $i$  voters relative to the public good depends on three terms:  $s_i$ , the swing propensity of this group,  $p^k$  perceived odds of party  $k$  winning, and  $\frac{(1 - \theta)}{\theta}$ , which is decreasing in the size of the formal sector. When  $\theta = 1$ , only the swing propensity matters, as in the Dixit-Londregan model. Otherwise, both parties assign a higher weight to private transfers relative to the public good. The extent of this bias increases with the relative size of the informal sector. It is also greater for the party that has a higher likelihood of winning. The magnitude of the bias becomes infinitely large as  $\theta$  approaches zero, whence the supply of the public good approaches zero.

The next result describes equilibrium beliefs which are fixed points of the map  $\psi(\cdot)$ . We focus on a symmetric contest, where both parties are equally

popular *ex ante*. We also focus on locally stable equilibria, i.e., satisfying  $\psi'(p^{*L}) < 1$ .<sup>14</sup>

**Proposition 2**<sup>15</sup> *Suppose the two parties are equally popular ex ante, i.e.,  $b_i = 0$  for all  $i$ .*

(a) *There is an equilibrium with  $p^L = \frac{1}{2}$  and policy convergence.*

(b) *This equilibrium is locally unstable if*

$$\phi'(\frac{1}{2}) > \phi^* \equiv \frac{1}{2(1-\theta) \sum_i \alpha_i s_i [u(y_i + t_i^*(\theta)) - u(y_i)]} \quad (8)$$

*and locally stable if the direction of the inequality is reversed (where  $t_i^*(\theta)$  denotes the common policy resulting in the symmetric equilibrium, i.e., the solution to (??) with  $\theta$  and  $p^k = \frac{1}{2}$ ).*

(c) *If*

$$\phi'(\frac{1}{2}) > \frac{1}{2 \sum_i \alpha_i s_i [u(y_i + t_i^*(0)) - u(y_i)]} \quad (9)$$

*there exists  $\theta^* \in (0, 1)$  such that the symmetric equilibrium is locally stable if  $\theta > \theta^*$ , and locally unstable if  $\theta < \theta^*$ . In the latter case, for some  $\gamma \in (\frac{1}{2}, 1)$  there is an asymmetric locally stable equilibrium with  $p^L = \gamma$ , and another such equilibrium with  $p^L = 1 - \gamma$ .*

While there always exists a symmetric ‘programmatic’ equilibrium involving intense competition ( $p^L = \frac{1}{2}$ ) and convergent policies, this equilibrium is locally unstable if vote-counting and turnout errors are small enough (i.e.,  $\phi'(\frac{1}{2})$  is large enough) relative to the size of the formal sector, as represented

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<sup>14</sup>If this inequality is reversed, a small exogenous perturbation of voter beliefs from the equilibrium will cause parties to select new policies that will reinforce the initial asymmetry in vote shares, leading further away from the initial equilibrium. Local stability pertains to dynamic properties of the ‘Cournot tatonnement’  $p_{t+1}^L = \psi(p_t^L)$  where expectations based on outcomes at the previous period.

<sup>15</sup>The proof is straightforward: here is an outline. Part (a) follows since  $p^L = \frac{1}{2}$  implies (given Proposition ??) that both parties will select the same policies, which in turn implies that they will earn equal vote shares since  $b = 0$ . Part (b) follows upon calculating the slope of  $\psi(\cdot)$  at  $p^L = \frac{1}{2}$ , where Proposition ?? allows the Envelope Theorem to be applied to ignore the effects of changes in  $p^L$  on equilibrium policies. Part (c) follows from using (b) and checking that symmetric equilibrium transfers  $t_i(\theta)$  are strictly decreasing in  $\theta$ .

by condition (??). Under condition (??), the symmetric equilibrium is unstable if and only if the size of the informal sector is large enough. When clientelism is significant in this sense, the only stable equilibria involve unequal vote shares and policy divergence. We refer to these as ‘clientilistic’ equilibria. Proposition ?? implies that the favored winner in any such equilibrium will exhibit a larger bias in favor of private transfers against the public good, compared both to the outcome of the symmetric equilibrium, and to the policy chosen by its competitor. And there will be multiple asymmetric equilibria with self-fulfilling expectations — a ‘contagion’ property.

By contrast, Proposition ?? implies that when  $\theta$  approaches one and programmatic politics dominates, voter expectations play a shrinking role, and policies of both parties in *every* equilibrium converge to the common Downsian-Dixit-Londregan platform  $\{t_i^*\}_i, g^*$  which maximizes

$$\sum_i \alpha_i s_i [u(y_i + t_i) + v(g)] \quad (10)$$

subject to the budget constraint. This programmatic equilibrium features policy convergence, higher public goods and greater political competition compared to clientilistic equilibria.

In dynamic extensions of the model along the lines of Kandori, Mailath and Rob (1993) where players are subject to inertia, myopia and small random mutations in behavior, clientilistic equilibria will exhibit greater hysteresis and lower political turnover: incumbents will not be unseated by small random shocks in turnout or popularity. However a sufficiently large shock which crosses a tipping point will shift the system into the basin of attraction of a different stable equilibrium where the other party wins the election by a large margin, following which the latter will continue to remain in power for a long time. Clientelism exhibits ‘pro-incumbency’ bias in this sense. In contrast the programmatic equilibrium will exhibit less persistence: when the two parties are equally popular *ex ante*, there will be more frequent alternation between contesting parties, driven by small shocks to turnout or popularity.

Other interesting results concerning differences in comparative statics and welfare properties of the two classes of equilibria:

- (a) *Redistribution and Welfare Comparisons*: If utility of the private good exhibits constant elasticity ( $u(y) = \frac{y^{1-\sigma}}{1-\sigma}$  with  $\sigma > 0, \neq 1$ ), clientelis-

tic and programmatic equilibria generate similar distributions of post-transfer incomes:

$$\frac{y_i + t_i^k}{y_j + t_j^k} = k_{ij} \equiv \left[\frac{\delta_i}{\delta_j}\right]^{\frac{1}{\sigma}} \quad (11)$$

where  $\delta_i \equiv \frac{s_i}{1+\lambda_i}$  denotes the *distributional characteristic* of group  $i$ , representing the bias imparted to the welfare of group  $i$  owing to its swing propensity and the leakage involved in transferring resources to this group.<sup>16</sup> Transfers of the private good can exhibit either a progressive or regressive bias, depending on how distributional characteristics correlate with pre-transfer incomes. If they are negatively correlated, or are uncorrelated with income, transfers will exhibit a progressive bias. Transfers are progressive if all groups share the same distributional characteristic (e.g., are equally prone to swing and leakages), since post-transfer consumptions are equalized across all groups. However, if poorer groups are less prone to swing and/or transfers to the poor exhibit more leakages (as is often the case), this progressive bias is moderated and can even be reversed.

The key point to note is that the pattern of distribution of the private transfers does not differ across parties, or type of equilibria. However, clientelistic equilibria involve larger private transfers to all groups (with less spending allocated to private goods). Hence in the presence of progressive bias in private transfers, clientelistic equilibria exhibit higher (absolute amounts of) redistributive private transfers. A more comprehensive measure of redistribution however would be based on utility rather than private good consumption alone. Since the public good generates the same utility to all groups, it follows that (with progressive bias) a total-utility-based measure would generate greater pro-poor redistribution in a clientelistic equilibrium. Utilitarian welfare comparisons between clientelistic and programmatic equilibria are ambiguous in general (even with progressive bias) since the former are associated with greater redistribution and lower supply of public goods. However if public goods matter enough in utility relative to private transfers, clientelism will be associated with lower welfare.

- (b) *Effects of Increasing Size of the Formal Sector*: One measure of institutional development is  $\theta$ , the size of the formal sector. Starting from a

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<sup>16</sup>This result follows straightforwardly from Proposition ??.

clientelistic equilibrium, political competition will become more intense (differences in electoral platforms and vote shares will narrow); both parties will provide more public goods and less private transfers.

- (c) *Effects of Asymmetric Popularity:* An increase in bias  $b_i$  of voters in favor of party  $L$  will tilt the election in favor of party  $L$ , under either type of equilibrium. The programmatic equilibrium will continue to exhibit policy convergence, and the convergent policy platform will be unaffected, while party  $L$  will be elected with higher probability.<sup>17</sup> In contrast, equilibrium policies in clientelism will be affected: if the ‘incumbent’ party becomes more popular for exogenous reasons, this party will alter its policy in favor of larger private transfers and lower public goods, while the challenger’s policy will move in the opposite direction. These changes in policies will compound the effects of the exogenous change in popularity, and further skew the electoral advantage in favor of the incumbent. Hence lower political competition adversely affects the supply of public goods under clientelism, unlike the case of programmatic politics.

## 4 Related Literature and Empirical Evidence

The main feature distinguishing this paper from other theoretical papers on clientelism and vote-buying is our focus on the contrast between clientelism and programmatic politics, Dal-Bo (2007) and Dekel, Jackson and Wolinsky (2008) study the effect of vote buying by a single external interested party. Both these papers examine contexts of direct democracies where policy outcomes are determined by votes cast (e.g., where an external interest group buys votes of committee members deciding a policy). In contrast our paper pertains to indirect democracies where voters elect politicians and delegate policy decisions to them. For indirect democracies, Stokes (2005) provides a model of repeated interaction between voters and a single party ‘machine’ facing a single passive challenger, and focuses on problems ensuring that voters provided with clientelistic benefits will respond by voting for the party machine. Our model differs by presenting a different enforcement mecha-

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<sup>17</sup>Conditions (??) and (??) for local instability of the convergent equilibrium will be modified slightly, with the left-hand-side being evaluated at the equilibrium probability of winning instead of  $\frac{1}{2}$ .

nism that does not depend on monitoring of ballots cast by party operatives, and allows both contesting parties to compete in the provision of clientelistic benefits. The theories of Keefer (2007), Keefer and Vlaicu (2008) and Robinson and Verdier (2013) differ insofar as clientelism emerges owing to problems faced by program politics owing to low credibility of policy promises of politicians. In our theory, clientelism emerges instead owing to a large informal sector. Closer to the theory in this paper are those studied in our earlier paper (Bardhan and Mookherjee (2012)), and in Sarkar (2014). Our earlier paper contrasts effects of clientelism with elite capture in a similar two-party Downsian model of electoral competition. Sarkar (2014) examines implications of clientelism in an incumbent-challenger setting. Neither paper focuses on the contrast between clientelistic and non-clientelistic regimes.

The relevant definition of the ‘formal sector’ includes certification of identity (in the form of citizenship, residence, registration or employment status documents) and financial inclusion (owning accounts in formal financial institutions or access to mobile money services that permit direct transfers from the government). The state has no means of providing financial transfers to those not satisfying this definition. Provision of transfers to those in the informal sector therefore require reliance on government officials or community representatives acting as intermediaries, providing the latter with discretionary power to withhold transfers. On any relevant dimension (registration, employment, financial inclusion), the informal sector constitutes the majority of the population in developing countries, in contrast to more affluent countries. World Bank ID4D data indicates average birth registration rates in South Asia and sub-Saharan Africa to be less than 50%, in contrast to rates exceeding 80% in the rest of the world (Dahan and Hammer (2015)). The ILO estimates the proportion of workforce in the informal sector (i.e., working in an unregistered enterprise) to be 86% in Africa, 68% in the Asia-Pacific region, 69% in the Arab states, 40% in the Americas and 25% in Europe and Central Asia (ILO (2018)). The Global Findex Report of the World Bank estimates of financial inclusion of the adult population was 63% in developing countries compared with 94% in rich countries (World Bank (2018)). In India the inclusion proportion was only 35% in 2013 and 53% in 2015 but rose to 80% in 2017 as a result of a major policy thrust to increase financial inclusion. In parallel the Indian government has been pursuing another policy to create a nationwide biometric identification system which will facilitate direct bank transfers by the government. Muralidharan, Niehaus and Sukhtankar (2016) provide evidence of how introduction of bio-



metric identification system to pay workers employed in a public employment program reduced leakages in payment (the excess of disbursed payment over payments received) from 30% to 18% primarily by reducing ‘ghost beneficiaries’ that local government officials claimed to have paid. Ethnographic accounts provide detailed evidence of the effect of lack of identity documents on entitlements and deprivations of poor citizens in South Asia (Chhotray and McConnell (2018))

While there is a sizeable empirical literature on clientelism in developing countries, those most directly relevant to this paper are the following. Household survey evidence in Khemani (2015) from a sample of 60 villages in rural Philippines indicates widespread vote-buying (with 38% reporting being aware of offers being made by party operatives). Across villages, the incidence of vote-buying was negatively correlated with measures of health service provision (staff in local government health clinics) and child health measures (proportion of children with normal weight), after controlling for village poverty, population, location, road quality, electoral competition, municipal fiscal capacity and remoteness. This is consistent with the prediction that clientelism lowers supply of public goods. De Janvry *et al* (2014) and Dower and Pfutze (2015) show that *Procede* a land titling program in Mexico in the 1990s lowered vote shares of PRI the incumbent party owing to a resulting decline in clientelism as local party officials could no longer allocate land use rights on a discretionary basis. Fried (2012) confirms that *Bolsa Familia* a conditional cash transfer program was implemented in a non-discretionary manner in Brazil . Hence it represented an expansion in the scope of program politics. Frey (2015) shows using a sophisticated identification strategy that the expansion of *Bolsa Familia* reduced incumbency advantages of local mayors, increased political competition, and increased health care and education spending shares. Bardhan *et al* (2017) use plausibly exogenous determinants of political competition and program budgets for various benefits disbursed by local village governments in West Bengal as instruments to estimate the effects of political competition on voter responses to receipt of different kinds of private benefits and local public goods. Consistent with the predictions of the model in this paper, voters were more responsive to benefits received from an incumbent that was considered more likely to win the next election. Leight, Pande and Ralston (2016) conduct laboratory experiments in the US and Kenya, and find that vote buying reduces voters’ willingness to punish politicians for corrupt rent-seeking; politicians respond by appropriating more rents. Hence there is considerable evidence consistent with the

predictions of our theory.

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