

A JURISDICTIONAL THEORY OF ELECTION FRAUD

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ABSTRACT

Very little of the voting literature addressing election fraud considers federalism and its effect on the election apparatus. Largely this is due to attention focused away from malfeasance in established democratic nations. Evidence of electoral fraud in canton democracies is becoming more common. This paper develops a simple general equilibrium model of jurisdictional choice that provides insight into what now appears to be a routine degradation of elections in democratic nations. Using a standard neoclassical construct of production in tandem with a collective-choice procedure for making local public decisions, the model centers on a jurisdiction's choice of a tax rate and the level of allowed election fraud. Within a basic model of homogeneous jurisdictions it is shown that the collective-choice rule generates socially efficient decisions in both taxes and election standards. The model is then extended to a Leviathan based Niskanen-type of local government behavior that leads to suboptimal outcomes.

Keywords: Election Fraud, General Equilibrium, Federalism

JEL Codes: D72, H73, R13

"The people rushed greedily upon the spoils..." 1 Samuel 14:32, NAS Bible

Introduction

Over the last three decades, the number of elections in the world have increased substantially (Moller and Skaaning 2013). Concurrently, the quality of elections are in decline. Baghdasaryan, et al (2019) examined around 560 elections worldwide and found illicit influence increasing from around 15% of elections in the late 1980s through the 1990s to almost 40% from the early 2000s to 2010. Contrary to conventional wisdom, election fraud is not limited to the developing world. Evidence emerging from the United Kingdom (Wilks-Heeg 2008, Purdam 2016), Japan (Fukumoto and Horiuchi 2011), European Union countries (Simpser 2013, EUobserver 2014), and even the United States (Wiling 2011, Douglas 2013, Gilbert 2015,

Navarro 2020) is becoming more routine. Fraud may infiltrate elections in various forms and procedures (Bratton 2008, Collier and Vicente 2012, Navarro 2020). Among them, electoral suppression, vote buying, ballot stuffing and illicit tabulation practices are most egregious and receive most of the attention in the election fraud literature (Lehoucq 2003, Dekel et al 2008).

With the incidence of election fraud becoming more common, its integration into theoretical voting models is inadequate. One strand of the literature focuses on how electoral fairness effects voter participation or voter satisfaction with democracy (Birch 2010, 2011, Carreras and Yasemin 2012, Fortin-Rittberger et al 2017). The theoretical prediction generally supported posits that pervasive election fraud that purges competition will motivate voters to abstain and lose confidence in democracy (Lehoucq 2003, Norris 2014). Contrarily, a measured amount of fraud may mobilize strategic voting or provoke voter behavioral responses to election procedures deemed unfair (Baghdasaryan, et al 2019). The latter proposition occurs when the limited electoral fraud is common knowledge to the electorate. Voters armed with the knowledge that the limited fraud still leaves room for a competition tend mobilize to overcome the malfeasance.

A vast literature exists examining the evolution of democratization. Efforts specifically focused on electoral fraud center on the notion of "electoral authoritarianism" (Magaloni 2010). Schedler (2002) finds that the most common form of autocracies in the world hide behind a democratic facade. "The dream is to reap the fruits of electoral legitimacy without running the risks of democratic uncertainty" (Schedler 2002, p. 37). Underpinning the motivation of this farce lies with certain political unrest and violence (Ellman and Wantchekon 2000). Electoral authoritarians do not ban opposing interests, instead they encourage divided alternative party organization and contested elections. In 2000, 62% of autocracies in the world were holding multi-candidate elections (Magaloni 2010). Authoritarian elections tend to possess distinct characteristics. Militaries are generally partisan to the ruling regime; autocrats have large incumbency advantages and unparalleled access to state resources and spoils of power; rulers control the mass media and propaganda wing generally misleading voters or providing no information at all; electoral rules and law favor the ruling party; autocrats control courts, electoral commissions and prosecutors allowing complete control of the organization, monitoring, certification, and adjudication of elections. Under the assumption of divided opposition, the opposing forces must decide whether to revolt against the fraud or acquiesce and collect their taste of the spoils.

Very little of the literature addressing election fraud considers federalism and its effect on the election apparatus. Largely this is due to attention focused away from established democratic nations (Atkeson and Saunders 2007). Europe like the United States diffuses management of elections across jurisdictions. In the U.S. "election contests are typically the province of state

law" (Douglas 2013, p. 3). Interestingly, U.S. election standards are somewhat endogenous in that they are determined by the same voters who will be governed by them post election. These state specific rules and laws are rather unique, Switzerland is one other exception where election decisions are made at the canton level (Massicotte, Blais and Yoshinaka 2004). U.S. elections possess the distinct problem of being complex - multiple elections decided with a single long ballot. The problem with counting ballots in the U.S. is that counting by hand, which is prevalent in Europe, is close to impossible due to down ballot complexity. In the U.S., most jurisdictions count ballots with computer tabulators or directly through electronic voting machines (Alvarez, Hall and Llewellyn 2008). Machines and the associated software that tabulate votes illustrate the essence of the notion that technology is indeed a double-edged sword.

The purpose of this paper is to develop a simple general equilibrium model of jurisdictional choice that may provide insights into what now appears to be a routine degradation of elections in democratic nations. Nearly all relevant models in the related literature suffer from partial equilibrium failings. Moreover, focus on devolved election apparatus has been largely ignored, yet appears paramount in understanding fraud motives in developed democracies. Using a standard neoclassical construct of production in tandem with a collective-choice procedure for making local public decisions, the model centers on a jurisdiction's choice of a tax rate and the level of allowed election fraud. Within a basic model of homogeneous jurisdictions it is shown that the collective-choice rule generates socially optimal decisions in both taxes and election standards. The model is then extended to a Leviathan based Niskanen-type of local government behavior that leads to expected suboptimal outcomes (Brennan and Buchanan 1980).

The Basic Model

Envision a nation with a large number of jurisdictions where fully informed homogeneous residents live and work in the same jurisdiction (the local fixed factor). Jurisdictions suitable under this framework would include, for example, states, counties or large metropolitan areas in the United States. The assumption of homogeneous jurisdictions avoids the Tiebout-type inefficiencies incongruously stratified by class, information, wealth or size. Moreover, the model focuses on allocative issues rather than distributive questions. If inefficiencies are shown in a homogeneous setting where actors possess full information, they are likely to be exacerbated in a less informed, heterogeneous framework. Jurisdictional election authorities facilitate and administer local elections as well as national contests. This construct includes the electoral college system for presidential elections in the United States.

Suppose each jurisdiction produces a private good, Q , sold in a national market - the numeraire. Output is produced using the labor of local residents, L , and the jurisdictional election fraud apparatus, ψ , where allowed election fraud is treated as an input to local production. It is assumed jurisdictions will facilitate enough fraud to elect the favored candidates thus generating spoils that enhance local production and incomes (Ernesto and Powell 2009). This form of modeling election fraud allows the analysis of both election tactics and production output in terms of a single parameter, ψ , that enters both the technology and utility functions. The production function exhibits constant returns to scale and possesses the curvature properties of a standard neo-classical technology. Moreover, the model concentrates on local choices rather than industry formation and market entry.

An important part of the model is the specification of local election policy and the way it enhances local production activity. Following a command and control strategy, each local authority facilitates the level of election fraud and the size and complexity of the apparatus. Increasing ψ therefore represents more pervasive election fraud in the jurisdiction. The production function for a particular jurisdiction takes the form,

$$Q = F(L, \psi) \tag{1}$$

for notational simplicity, without loss of generality, jurisdictional indexing is suppressed. Throughout the paper subscripts indicate partial derivatives therefore marginal products are denoted, F_L and F_ψ . From the linear homogeneity of production, the election fraud apparatus generates 'spoils',

$$S = F_\psi \psi \tag{2}$$

where locals rush greedily upon them. The jurisdiction provides local public goods (G) by taxing residents, L , levying a tax of t dollars where,

$$G = tL. \tag{3}$$

Each identical resident's income, X , consists of an exogenous component, y , and endogenously determined returns from production net of tax revenues, w , where the budget constraint requires,

$$\begin{aligned} X &= y + w \\ &= y + \frac{1}{L} [F(L, \psi) - tL]. \end{aligned} \tag{4}$$

Moreover, each resident receives utility from income X , Samuelsonian public goods G , and the level of election fraud ψ . Since the level of election fraud depends on the jurisdiction's choice of ψ , utility takes the form,

$$U = U(X, G, \psi) \tag{5}$$

where U is a well behaved, quasi-concave function increasing in X and G , but decreasing ψ . Allowed election fraud challenges local integrity and is considered a public bad - therefore the marginal utility U_ψ is negative (Norris 2013). In keeping with the Arrow-Debreu separation assumption for general equilibrium constructs, the representative resident has two distinct roles in the model. First, as a consumer, seeking to maximize utility over a bundle of goods and services. Second, supplying production inputs (labor) and in return receiving income. Election fraud enhances local production and can provide locals with higher income through a share of the spoils (Kesebir and Oishi 2017), but the stigma of fraud lowers utility directly setting up a standard economic tradeoff.

Interestingly, the normative issue is whether jurisdictions will choose other than optimal values for t and ψ . To examine this, a collective-choice rule is specified and compared to the socially optimal outcome. Given identical residents in each jurisdiction, the collective-choice rule can be determined by a benevolent local official (dictator) maximizing the utility of any representative resident. Formally, the rule requires the maximization of the utility function in equation (5) over the choice variables t and ψ subject to the budget constraint denoted in equation (4). The general first order conditions in differential form are,

$$dU = U_X dX + U_G dG + U_\psi d\psi = 0 \tag{6}$$

where,

$$dX = \frac{1}{L} [F_L dL + F_\psi d\psi - (t dL + L dt)] \cdot \backslash (dG) / \tag{7}$$

Evaluating (6) and (7) simultaneously with respect to t , ψ , and a bit of algebra yields the maximization requirements,

$$L \frac{U_G}{U_X} = 1, \text{ and} \tag{8}$$

$$L \frac{-U_{\psi}}{U_x} = F_{\psi} \tag{9}$$

Equation (8) depicts the seminal Samuelson rule for efficient provision of local public goods. In any jurisdiction, the sum of the marginal rate of substitution equals the marginal rate of transformation which in this case equals one. Efficient provision is certain in the presence of a fixed factor tax (Kunce and Shogren 2005). Equation (9) suggests that the jurisdiction should choose a combination of income and allowed election fraud such that the marginal rate of substitution between the two is equal to F_{ψ} the 'marginal product of the fraud apparatus'. This result implies ψ is set so the change in income equals the incremental output linked with a marginal change in election fraud policy, a voting fraud Samuelson rule if you will.

Social optimum

It now becomes necessary to define social efficiency as the comparative benchmark. The social optimum for conventional utility maximization problems is familiar so discussion in this section is kept to a minimum (see Kunce 2006). Efficiency requires the maximization of a representative resident's utility in one jurisdiction subject to the constraints: (i) resident's utility in all other jurisdictions is equalized to a fixed level, (ii) aggregate production and consumption clear. The social problem becomes $Max_{x,\psi} U^1(X_1, G_1, \psi_1)$ subject to $U^i(X_i, G_i, \psi_i) = \bar{U}^i$ for all $i = 2, \dots, I$. Ignoring any corner solutions, social efficiency corresponds with the results found in Equations (8) and (9). The basic model derived above leads to a social efficient solution thus becomes the comparative benchmark.

Alternative model of public choice

What if jurisdictional governments have their own set of concerns that do not completely align with the interests of their constituents? One common hypothesis (akin to Niskanen 1971) is that bureaucrats seek to maximize and capture the spoils (S). In the Niskanen spirit, the function g is specified,

$$g = g[S, U(X, G, \psi)] \tag{10}$$

where the utility of the residents is included because they cannot, at least sensibly, be completely ignored. It is posited that the partial derivatives of g with respect to S and U are positive, similar to marginal utilities in a conventional well behaved utility function. Each resident's income, X , is also modified and now becomes net of G and S , where,

$$X = y + \frac{1}{L}[F(L, \psi) - tL - S]. \tag{11}$$

The Niskanen bureaucrat's problem is the maximization of equation (10) over t and ψ subject to the budget constraint, equation (11). The first order conditions in differential form become,

$$dg = g_s dS + g_U U_X dX + g_U U_G dG + g_U U_\psi d\psi = 0. \tag{12}$$

Evaluating equation (12) with respect to t and ψ yields the Samuelson condition shown in equation (8) for public goods and the following result regarding the choice of ψ ,

$$L \frac{-U_\psi}{U_X} = F_\psi + \frac{\frac{dS}{d\psi} [Lg_s - g_U U_X]}{g_U U_X} \tag{13}$$

where the second element on the right hand side of equation (13) is the wedge between the Niskanen choice and the social optimum. It is posited that all marginal utility terms in the second element are signed positive and L (jurisdiction population) is sufficiently large. The sign of the second element rests on how spoils respond to changes in the level of allowed election fraud, $dS/d\psi$. The direction of this comparison is not implied by the maximization construct. Intuition suggests positive - spoils increase with fraud allowed. In order to examine this comparative static, equations (2) and (11) provide the necessary system of equations required to determine that $dS/d\psi = F_\psi + \psi F_{\psi\psi}$. From concavity of the production technology, $F_{\psi\psi}$ is negative. If $F_{\psi\psi}$ is sufficiently small and $dS/d\psi$ is positive, the sum of the marginal rate of substitution between allowed election fraud and income is greater than the marginal product of election fraud. This implies that ψ is set above the basic model result and the social optimum. Here, the Niskanen authority benefits from the increased spoils and the outcome provides incentives for authorities to allow excessive election fraud. However, if $F_{\psi\psi}$ is sufficiently large and $dS/d\psi$ is negative, allowed election fraud is set below the social optimum. In this second proposition, more malfeasance simply does not pay.

Implications and Conclusion

Though the model is admittedly stylized, outcomes do have some interesting implications. For homogeneous jurisdictions where benefits and costs are clearly understood and collective choices reflect the well being of the residents, the analysis produces results that are, in this context, efficient. This outcome is established when jurisdictional residents internalize the spoils. However, if public decisions deviate from the resident's welfare (as in the Leviathan

framework) then feasible efficient outcomes are not expected. In the worse case, spoils maximizing behavior leads to pervasive election fraud.

"American democracy has long suffered from electoral fraud" (Gilbert 2015, p. 740). Within the U.S. and perhaps some E.U. nations, devolved jurisdictions must be a willing partner in these illicit election practices. Analysis herein shows that as long as jurisdictional residents do not suffer much and share in the political favor (spoils), a certain amount of electoral fraud will be tolerated and in fact is considered efficient. A favored municipal alderman looking the other way on particular industrial zoning issues, a compromised U.S. senator advocating legislation that grants his state's largest industry favorable exemptions from regulations, a pliable nation's prime minister that champions foreign trade arrangements that tip the scales in favor of local production - the political favors (subtle or overt) at all levels of public authority are seemingly endless. Conversely, when public choice and jurisdictional welfare no longer align, suboptimal results dominate. As spoils increase with allowed fraud and are not locally internalized, public despots possess incentives to exacerbate the malfeasance.

Interestingly, parallels can be drawn with the electoral fraud voter turnout literature. Results from the basic model above align with the moderate illicit intervention proposition in the turnout theory. When electoral fraud is tempered, turnout can be higher or hover around baseline model predictions. Within this corollary, voter turnout may be motivated by strategic reasons but also by behavioral reactions to unfair election apparatus. However, when election fraud is so pervasive (as in the first Leviathan outcome above) constituents have less incentive to bother to cast a vote (Levine and Palfrey 2007).

Future work in this area could proceed by drawing attention to the impact of strategic reaction between devolved jurisdictions. This could be accomplished by deriving a Nash game where jurisdictions compete for the spoils. Moreover, adding more factors of production to the model, perhaps making them mobile across jurisdictions (capital for example), could broaden the devolved analysis by introducing complex factor interactions. Regarding empirical connections, analysis of the spoils appears most fruitful. Spring-boarding from Ernesto and Powell (2009) seems a good starting point. Linkages and data from the 2020 U.S. election should be exploited, my prediction - this one election will be probed for decades.

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