Voting with Your Feet: Political Competition and Internal Migration in the United States

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Abstract

Do people "vote with their feet" due to a lack of political competition? We formalize the theory of political competition and migration to show that increasing political competition lowers political rent leading to net in-migration. Our empirical application using US data supports this prediction. We find that an increase in political competition - in the order of magnitude observed in US Southern states during the post-war period - leads to an increase in net migration of approximately 36 individuals per 1000 population. In comparison, birth rates over the last century ranged between 70 and 150 births per 1000 population.

JEL Classification: D72, J61, H70, N92

Key Words: political competition, internal migration, welfare, Voting Rights Act.

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1 Introduction

Economic orthodoxy suggests that a lack of competition allows firms to restrict output and raise prices inefficiently. Competition, on the other hand, is welfare enhancing since it allows consumers to switch producers if their current supplier increases prices. Whether a lack of competition between political parties has similar welfare destroying effects leading voters to "vote with their feet" by moving to a more politically competitive domain is far less discussed. Moreover, the empirical literature on the determinants of migration is virtually silent on whether political competition matters for migratory choices.

Accordingly, we develop and test a general equilibrium model with endogenous structure of division of labor to formalize the theory of political competition and migration. The technical substance of our model is inspired by a model of implicit corruption developed in Yao (2002a). In an economy, each individual is a consumer-producer who can choose her number of goods purchased and her number of goods self-provided, which determine her level of specialization. Each consumer-producer prefers diverse consumption and specialized production due to economies of specialization in producing each good. We assume that there is an occupation providing public goods (financed by tax), such as administration of infrastructure, judicial services, law enforcement, and transaction services. Individuals must consume public goods when they trade goods in the market, and these public goods affect the transaction cost associated with trades. Hence, there is a trade-off between economies of division of labor and transaction costs. Because of this trade-off, as the transaction cost for a unit of traded good decreases, the equilibrium level of division of labour and extent of the market increase.

First consider a setting where there is free entry into every occupation including the public sector (politically competitive). Free entry into each occupation, and flexible prices and tax, generate an equilibrium that not only sorts out the efficient resource allocation, but also determines an efficient level of division of labor, by trading off economies of division of labor against transaction costs and trading off resource costs for production of goods against

that for public goods. The equilibrium level of division of labor and resource allocation under this setting is Pareto efficient.

We then consider a setting where there is limited competition in the political arena. In this setting, tax is not determined by free entry into the public sector. Instead, there is a group of individuals (we call it the elite group) who produce the public goods and manipulate the tax they charged by blocking entry into the public sector and indirectly manipulate the output of public goods relative to outputs in other sectors. The inefficient supply of public goods creates rents that make per capita real income of the elite group much higher than that of commoners. This distorted terms of trade restricts the extent of the market, and lowers the equilibrium level of division of labor. Because of economies of division of labor, the equilibrium level of aggregate productivity in this setting is not Pareto optimal. Within the state, the degree of rent extraction depends on the commoners' level of intolerance for such behaviour by the politically elite - one can think of intolerance being determined by factors such as education, political ideology, social norms, cultural/moral codes, and religion.

Allowing for multiple states with free migration, we consider the impact of an increase in one state's level of political competitiveness on migration between states. We show that increasing political competition lowers political rent leading to net in-migration to the state, which in turn promotes economic development through a higher level of division of labor. That is, political competition is positively associated with net migration.

The application of our model tests this key prediction. We exploit the significant cross-state and within-state variation in political competition to explain internal (state-to-state) migration in the United States (US) using two sources of migration data: (1) Census data, 1940-2010; and (2) the Internal Revenue Service (IRS), 1988-2010. A consistent picture emerges: political competition is positively related to net migration - that is, individuals tend to migrate to more politically competitive states and away from politically uncompetitive states. This result is robust to multiple proxies for net migration, model specifications and estimation techniques. First, using decennial Census migration data we include results with

and with controls for economic and demographic factors. We estimate this model, with and without lagged net migration terms using System-GMM (Arellano and Bond, 1991; Arellano and Bover, 1995; Blundell and Bond, 1998) and least squares respectively. Second, our results are robust when we instrument for political competition to alleviate concerns about reverse causality - indeed, our general equilibrium model predicts a feedback effect from migration to political competition. Third, we perform a similar analysis using annual internal migration data from the IRS and find similar results.

Our findings are not only statistically significant but also economically meaningful. Using five-year migration rates from the Census data we find that an increase in political competition of 0.3 (common among Southern states of the US for the post war period) leads to an increase in net migration of approximately 36 individuals per 1000 population. To put this in context, five-year birth rates over the last century ranged from a maximum of 150 per 1000 population to 70 per 1000 population.

Our work is related to several streams of literature. First, our model reinforces the ideas of early scholars on the relation between political competition and development - broadly defined (see the discussion in Liu and Yang (2007) and the references therein). For example, Baechler (1976, pg. 80) famously argued:

> "[f]undamental springs of capitalist expansion are, on the one hand, the coexistence of several political units within the same cultural whole and on the other, political pluralism which frees the economy."

More recently, Polo (1998) and Svensson (1998) develop models showing that a lack of political competition can lead to excessive rent-seeking behaviour or the inefficient provision of public goods. The latest contribution to this area is a paper by Besley *et al.* (2010), who develop a model showing that political competition forces politicians to pursue growth promoting policies which in turn leads to better economic outcomes. They test their model using US data and find compelling evidence in favor of their conjecture. Our empirical strategy and proxy for political competition follows their work closely.

Second, while our model is closely related to Li and Smyth's (2004) model that shows how competition *between* the two states generated by free migration results in more effective third party protection for property rights, which in turn promotes division of labour and specialization, our model is different from their's in two ways. First, our emphasis is on the migratory response to the level of political competition *within* the state. Second, their model considers two consumer goods, which yield limited implications on the effect of political competition on the extent of the market. Our model considers m goods and furthermore, it simultaneously endogenizes the level of division of labor, the extent of the market, the degree of inequality of income distribution and economic performance. Our paper is also related to Acemoglu and Robinson's (2000) theoretical work on explaining why the west extended the franchise in the nineteenth century. They argue that the decision to extend voting rights is endogenously determined because of the fear of social upheaval. Our application uses the 1965 Voting Rights Act to instrument for political competition (more on this below). Unlike Acemoglu and Robinson's (2000) argument, this law change was exogenous to state-level politics, since it represented a federal intervention into Southern state politics rather than a decision by Southern states to extend voting rights.

Third, our model reinforces Charles M. Tiebout's (1956) pioneering work on competition for public goods provision. Under a set of rather strict assumptions, Tiebout establishes a simple equilibrium model of how consumer-voter's voluntary mobility decision determines the size of local governments (or local communities). Unlike Tiebout's theory, which takes as given the bundle of taxes and public goods in each location, and then considers competition *between* locations, our model studies how political competition *within* a given location endogenously determines the level of taxation and publics goods, before considering the migratory responses of individuals in response to differences in political competition (and hence bundle of taxes and public goods) across locations.

Finally, our work contributes to empirical literature on the determinants of internal migration in the US. To be sure, there are many factors that contribute to the decision to

migrate. This literature is vast so we do not attempt to provide a complete review (see Greenwood 1975; Greenwood 1985; and Greenwood 1997 for extensive reviews). Research on the determinants of migration is typically formulated in the context of individual utility maximization, with early contributions to the literature focusing on economic differences between origin and destination as key drivers. Later research has emphasized the importance of non-economic factors such as distance, personal characteristics and life cycle effects, weather and the environment (Banzhaf and Walsh, 2008), the business cycle (Saks and Wozniak, 2011), and taxes and the availability of public goods (Banzhaf and Walsh, 2008). None however, explicitly look at the impact of differences in political competition between locations on migratory choices.

The remainder of the paper is organized as follows. Section 2 presents the model. Sections 3 provides some historical background and discusses measurement of our key variables, political competition and internal migration in the US. Section 4 discuss the empirical methodology and the results. Section 5 concludes the paper.

2 Model

Consider a state (k) which has a continuum of consumer-producers of mass M_k, with m_k consumer goods. For reasons of notational convenience, we drop k in this section. The state subscript will be used later, when we derive the endogenous population size caused by migration. We assume the absence of a dichotomy between consumers and producers to allow individuals to choose their levels of self-sufficiency, or its reciprocal: levels of specialization. We can then formalize Allyn Young's (1928) idea that individual choices of their level of specialization generates network effects which imply that each person's specialization decision depends on the number of participants in the network of division of labor (the extent of the market), while this number is in turn determined by the specialization decisions of all individuals (the so-called Young theorem: not only does the level of division of labor depend

on the extent of the market, but the extent of the market is also determined by the level of division of labor). Each consumer-producer has the following ex ante identical utility function

$$u = \prod_{i=1}^{m} (y_i + K_i y_i^d). \tag{1}$$

where y_i is the amount of good i self-provided, y_i^d is the amount of good i purchased from the market. K_i is a fraction of a unit of good i purchased that disappears in transit because of transaction cost. Hence, K can be interpreted as a trading efficiency coefficient of a unit of goods purchased.[1] We assume that K_i is increasing in the amount of public goods, g_i, provided by the state, and the public good is consumed exclusively within each respective state. For the sake of simplicity, let

$$K_i = g_i. \tag{2}$$

We consider the sector providing the public goods as political, administrative, judicial, and law enforcement services that affect trading efficiency.[2] The production of this service involves primarily fixed costs but negligible variable costs, which implies significant increasing returns. We assume the state is a monopoly supplier of the transaction service and prices the service indirectly via bundling (implicitly) with other services and taxation.

Suppose, there is free entry into any sector including the public sector. $y_i + K_i y_i^d$ is then the amount of good i that is received for consumption. Each individual has the following system of production functions for good i and transaction services k:

$$y_i + y_i^s = \max\{0, l_i - a\}, \text{ for } a \in (0, 1); \tag{3a}$$

[1] The specification of such "iceberg" transaction costs is common practice in equilibrium models with a trade-off between increasing returns and transaction costs (see Krugman,1995). This specification avoids the notoriously formidable index sets of destinations/origins of trade flows.

[2] In this paper, we do not specifically model the public good nature of the transaction service. We leave this for future research.

(3b) $$g_i = \max\{0, l_{g_i} - b\}, \text{ for } b \in (0,1).$$

where a and b are the fixed learning costs of producing a good and transaction service, respectively. l_i and l_{g_i} are the amount of labour allocated to the production of good i and public goods, respectively. y_i^s is the amount of good i supplied to the market. Each individual is endowed with one unit of working time, and the endowment constraint is:

(4) $$\textstyle\sum_i l_i + \sum_i l_{g_i} = 1, \text{ for } l_i, l_{g_i} \in [0,1];$$

The above system of production functions displays economies of specialization; that is, each person's labor productivity increases as her scope of production activities narrows down since her total fixed learning cost decreases and thereby her production time increases as she becomes more specialized.[3] Here, the endowment of labor is specified for each person since the learning by doing process, which generates economies of specialization, is individual specific and cannot be transferred between individuals. This implies that economies of specialization are localized increasing returns which are compatible with a competitive market. The budget constraint is given by:

(5) $$\textstyle\sum_i^n p_i y_i^d = \sum_i^n p_i y_i^s (1-t),$$

where p_i is the price of good i. The government charges proportional tax on sales income (sales tax). Let t be the tax rate: $t \in (0,1)$. Because the public good is non-rivalrous and non-excludable, we assume the cost of enforcing the property rights of good g is too high. Hence, the government cannot charge a tax per usage of the good.

Each consumer-producer maximizes her utility with respect to y_i, y_i^d, y_i^s, y_j, g_i, l_i, l_j, $l_{g_i} \geq 0$, subject to the production functions, the endowment constraint, and the budget constraint. Since all decision variables can take on zero value, each individual's decision

[3] See Yang and Ng (1993) and Yang and Liu (2009).

problem is a nonlinear programming problem. There are $4m$ independent decision variables y_i, y_i^d, y_i^s, g_i (l_i, l_g are not independent of the other decision variables). Each of them can be either positive or zero. Hence, there are 2^{4m} possible interior and corner solutions of the nonlinear programming problem. Let us assume the public good is homogeneous across good i. Hence we can use l_g instead of l_{g_i}. We use the theorem of optimal configuration (Wen, 1998 and Yao, 2002b) to rule out many combinations of the interior and corner solutions. According to this theorem, an optimal decision does not involve selling and buying the same goods, does not involve self-providing and buying the same good, and sells at most one good although many goods can be produced and self-provided. This theorem, together with the budget constraint and a positive utility requirement, imply that we can divide the population into many occupations. Each occupation is characterized by the good sold by a specialist choosing this occupation. It implies that for a person selling good i, her occupation is characterized by

$$y_i, y_j, y_r^d, y_i^s, l_i, l_j, g_r > 0;$$

$$y_r, y_i^d, y_r^s, l_r, l_g, y_j^d, y_j^s = 0 \text{ for } \forall r \in \mathcal{R} \text{ and } \forall j \in \mathcal{J}, \tag{6a}$$

where $\mathcal{R}$ is the set of $n-1$ goods that are purchased from the market and $\mathcal{J}$ is the set of non-traded goods. The individual specialist produces and supplies good i ($y_i, y_i^s > 0$), demands good r (y_r^d), for $r \neq i$, and produces non-trade good j (y_j). She uses public goods g_r for each purchase of good r. The decision configuration of individuals providing public goods, who might be government officials, politicians, public administrators, middlemen, judges, lawyers, policemen, and infrastructure builders, differs from that of sellers of goods. She specializes in producing and selling transaction services; she has no demand for transaction service as she self-provides it. Therefore, the decision configuration of this occupation is

defined by the following conditions:

$$y_j, y_r^d, l_g, l_j > 0;$$

$$y_r, y_r^s, l_r, y_j^d, y_j^s = 0 \text{ for } \forall r \in \mathcal{R}' \text{ and } \forall j \in \mathcal{J}, \tag{6b}$$

where $\mathcal{R}'$ is the set of n goods that are purchased from the market by a specialist provider of public goods. Note that a specialist provider of public goods does not sell any good. Hence, she buys all n traded goods. Without loss of generality, we assume each person trades goods $1, 2, ..., n$ and self-provides goods $n+1, n+2, ..., m$.

Using the condition (6a) and invoking the symmetry of the model, the decision problem for commoners (or a consumer-producer selling good i) is:

$$\max u_y = y_i (g_r y_r^d)^{n-1} y_j^{m-n}, \tag{7}$$

subject to the production function for traded good i and non-traded good j, the endowment constraint and the budget constraint:

$$y_i + y_i^s = \max\{0, l_i - a\};$$

$$y_j = \max\{0, l_j - a\};$$

$$l_i + (m-n) l_j = 1;$$

$$(n-1) p_r y_r^d = p_1 y_1^s (1-t).$$

p_i and p_r are the price of good i and good r, respectively, $\forall r \in \mathcal{R}$. Under this specification, the consumer-producer self-provides and sells one final good; buys $n-1$ final goods and $n-1$ transaction services for $n-1$ goods purchased from the market. t is the proportional tax on sales income.

Utility maximizing behavior implies that *ex ante* identical individuals will keep changing

occupation until utility is equalized across occupation. Let n indirect utility functions, which involve relative prices of n traded goods to be equalized. We can obtain symmetric equations. These equations hold simultaneously only if prices of all traded goods are the same. Hence, we have $p_i = p_r$ for any i and r. Using this symmetry, we can simplify the decision problem of a representative consumer-producer selling a good (for instance, good 1). The unconstrained optimization problem for the consumer-producer is:

$$\max_{l_1, y_1^s} u_y = (l_1 - a - y_1^s) g^{n-1} \left[\frac{p_r}{p_1} \frac{y_1^s}{(n-1)} (1-t) \right]^{n-1} \left(\frac{1 - l_1}{m-n} - a \right)^{m-n}. \tag{8}$$

The first order conditions for the optimization problem yield the demand functions for good r, y_r^d, the supply function of good 1, y_1^s, and the optimal amount of labor allocated to produce good 1, l_1. Inserting them back into the utility function, the utility of the consumer-producer as a function of a, m, n, g and t can be expressed as follow:

$$u_y = \left[\frac{1 - a(m-n+1)}{m} \right]^m g^{n-1} (1-t)^{n-1}. \tag{9}$$

The above utility function shows that the per capita consumption of each good or service is $[1 - a(m-n+1)]/m$, where $1 - a(m-n+1)$ is the time allocated to produce the good sold and $m - n$ non-traded goods after the total fixed learning cost is deducted. As n increases, the amount of time available for the production increases as the total learning cost incurred for non-traded goods production, $a(m-n)$ reduces. The denominator shows the person's total number of types of goods and services, which includes: (i) $m - n$ non-traded goods; (ii) $n - 1$ traded goods bought in the market; and (iii) one self-provided good, which is sold as well. Additionally, the person consumes $n - 1$ public goods g. Since the marginal labor productivity of each good is 1, the per capita consumption can be considered also as the per capita output of each good or service. Let us now consider the decision problem for a person selling public goods (the ruling elite). Based on the condition (6b) and the symmetry of

the model, her constrained optimization problem is:

$$\max u_g = (g_r y_r^d)^n y_j^{m-n}, \tag{10}$$

subject to the production functions for public good g and non-traded good j, the endowment constraint and the budget constraint:

$$g = \max\{0, l_g - b\};$$

$$y_j = \max\{0, l_j - a\};$$

$$l_g + (m-n)l_j = 1;$$

$$np_i y_i^d = np_i y_i^s t.$$

The public servant buys n traded goods. Each traded good requires public goods $g \equiv g_r$ to facilitate the transaction. Additionally, she produces $m - n$ non-traded goods. Her unconstrained optimization problem is:

$$\max_{l_g} u_g = (l_g - b)^n (y_i^s t)^n \left(\frac{1 - l_g}{m-n} - a\right)^{m-n}. \tag{11}$$

Due to symmetry, we omit subscript r from g when no confusion is caused. The first order conditions for the optimization problem (11) yield the optimum level of specialization in producing the public goods l_g. Cross substituting these solutions we can express the utility of the public servant as a function of relative prices, a, b, m, and n.

$$u_g = \left[\frac{1 - b - a\,(m-n)}{m}\right]^m \left[\frac{[1 - a(m-n+1)]}{m}\right]^n (n-1)^n\, n^n t^n. \tag{12}$$

Since $g = l_g - b$, substituting g into (9) yields the utility of the consumer-producer as a

function of a, m, n, and t,

$$u_y = \left[\frac{1-a(m-n+1)}{m}\right]^m \left[\frac{1-b-a\,(m-n)}{m}\right]^{n-1} n^{n-1}(1-t)^{n-1}. \tag{13}$$

Suppose that there is free entry into each occupation including the public sector (politically competitive). Free entry implies that the utility of a person selling a consumer good and a person producing the public goods must be equalized. That is:

$$u_y = u_g. \tag{14}$$

Free entry also implies that the price and the tax rate are determined when all consumers-producers behave competitively. If the public sector yields a higher utility than other sectors because of a higher tax, competitive entry to public sector will drive up the supply of the public goods and drive down the tax rate until utility between the public sector and other sectors are equalized. The utility equalization condition (14) yields the optimal tax rate t^*, which is obtained by solving (15).

$$t^{*\frac{n}{n-1}} + At^* - A = 0, \tag{15}$$

where $A \equiv \frac{m^{\frac{1}{n-1}}}{n^{\frac{1}{n-1}}(n-1)^{\frac{n}{n-1}}}\left[1-a(m-n+1)\right]^{\frac{m-n}{n-1}}\left[\frac{1}{1-b-a(m-n)}\right]^{\frac{m-n+1}{n-1}}$. Substituting t^* into (12) yields the equilibrium utility which will give utility as a function of n:

$$u(t^*(n), n). \tag{16}$$

The efficiency theorem (see Yang and Liu (2009, pg. 70)) shows that the general equilibrium in such a model with an endogenous structure of division of labor is the Pareto corner equilibrium. In our model here, for a given value of n, utility equalization and market clearing conditions generate a corner equilibrium. The Pareto optimum corner equilibrium

is determined by a value of n that maximizes $u(t^*(n), n)$:

$$du_g(t^*(n^*), n^*)/dn = 0, \tag{17}$$

and the solution yields the equilibrium number of traded goods n^* as a function of a, b and m. Inserting $n^*(a, b, m)$ into (16) yields equilibrium per capita real income when the state is competitive. The level of division of labor and the extent of the market are characterized by $n^*(a, b, m)$. It represents the number of different traded goods, which relates to diversity of occupations. It positively relates to each person's level of specialization.[4]

A general equilibrium is defined by relative prices and numbers of individuals choosing various occupations and associated quantities of goods produced, traded, and consumed, that satisfy the following conditions: (i) Each individual chooses her labour allocation among all production activities of goods and services and her trade plan, which generate her consumption bundle, to maximize her utility for given prices of traded goods and given numbers of individuals choosing various occupation configurations. (ii) The prices of traded goods and numbers of individuals choosing various occupations clear all markets.

Let $M_{k,i}$ be the number (measure) of individuals selling good i in state k. Recall that g_i is non-rivalrous and non-excludable and thus there is no market for it. The market clearing conditions for good i is given by:

$$M_{k,i}y_i^s = \textstyle\sum_{r\in\mathcal{R}} M_{k,r}y_i^d(r) + M_{k,g}y_i^d(g), \ \ \forall i = 1, 2, ..., n, \tag{18}$$

where i is an element of the index set of n traded goods, $y_i^d(r)$ and $y_i^d(g)$ are the demand

[4] As shown in Yang (1996, 2001, ch. 11), each individual's level of specialization, the extent of the market (aggregate market demand for all traded goods by all individuals), and the degrees of commercialization (the ratio of commercialized income to total income which includes self-sufficient income), of trade dependence, of market integration (the reciprocal of the number of separate local business communities), of production concentration (the reciprocal of the number of producers of each trade good), the extent of endogenous comparative advantage (difference in productivity of a traded good between its seller and buyer), and of diversity of occupations and economic structure, all increase with the level of division of labor, while the degree of self-sufficiency (ratio of self-provided income to total income) decreases with the level of division of labor.

function for good i by a person selling good r, and public goods g, respectively. Due to symmetry, $\sum_{r\in\mathcal{R}} M_{k,r}y_i^d(r) = (n-1)M_{k,r}y_i^d(r)$. One of $n+1$ equations in (18) is not independent of other equations due to Walras' law. The n independent equations, together with the population size identity $\sum_s M_{k,s} = M_k$, where $s = 1, 2, ..., n, g$, yield the n equilibrium numbers of specialists selling n traded goods and the number of public servants providing public goods. Let $M_{k,y}$ be the number of specialists selling a traded good. The symmetry of the market clearing conditions across goods generates the number of public servant relative to the number of specialists selling a traded good (or the relative size of the government):

$$\frac{M_{k,g}}{M_{k,y}} = 1, \tag{19}$$

as $y_i^d(g) = y_i^s t$ and $y_i^d(r) = y_i^s(1-t)/(n-1)$.

2.1 Equilibrium when the state is not politically competitive

Suppose the ruling elites of the state have the ability to team up and effectively block the entry into the public sector. They do so by manipulating the number of ruling elite members relative to specialists in other occupations (commoners). A historical example, which we discuss in more detail below, is how the Democratic party in the US Southern states effectively eliminated political competition between 1890 and 1960 by introducing various voting restrictions that impacted on the poor and black population who made up the support base for the Republican party.

To maximize utility of each member of the elite group, to the extent that commoners do not choose to migrate to another location, the ruling elites extract political rent from commoners by charging a high tax (or providing a low quality public goods).

Since there is no free entry into the elite group, the state is, by definition, not politically competitive as utilities between elites and commoners are not equalized. Since the indirect

utility function of the ruling elites is an increasing function of tax relative to the price of goods bought, their utility increases and the commoner's utility decreases as the relative size of elite group to commoners decreases. Define θ as the intolerance level of commoners. If commoners' utility falls below θ, they will migrate away. Hence, the non-migration constraint is:

$$u_y \geq \theta. \tag{20}$$

Exogenous factors such as education, political ideology/freedom, social norms, cultural/moral codes, and religion of individuals in the society determine intolerance levels (θ). Since maximization of the ruling elite's utility is equivalent to the minimization of a commoner's, the ruling elite group will manipulate relative size of public sector to other sectors until:

$$u_y = \theta. \tag{21}$$

If θ is low, the level of political competitiveness within the state tends to be low because the ruling elites can extract more rent from commoners, where the rent equals to the difference between u_g and θ as:

$$u_g > u_y = \theta. \tag{22}$$

u_y and u_g are derived in the same way as outlined in previous section. The intolerance constraint (21), together with utility equalization conditions across all occupations of commoners, yields the optimal tax rate, $\bar{t}$, which is a function of θ:

$$\bar{t} = 1 - \theta^{\frac{1}{n-1}} \mu(n). \tag{23}$$

where $\mu(n) \equiv \frac{m^{\frac{m+n-1}{n-1}}}{n} \left[1 - a(m-n+1)\right]^{\frac{-m}{n-1}} \left[1 - b - a\,(m-n)\right]^{-1}$. Given this optimal tax

rate, the utility of the public servant is:

$$u_g(\bar{t}(\theta,n),n,\theta) = \left[\frac{1-b-a\,(m-n)}{m}\right]^m \left[\frac{[1-a(m-n+1)]}{m}\right]^n (n-1)^n\, n^n \times \left[1-\theta^{\frac{1}{n-1}}\mu(n)\right]^n. \tag{24}$$

The equilibrium level of division of labor $\bar{n}$ is a function of θ, given by the first order condition:

$$du_g(\bar{n}(\theta),\theta)/dn = 0. \tag{25}$$

If education, political ideology/freedom, social norms, cultural moral codes, and religion cause individuals to have a low level of intolerance, the level of political competitiveness within the state is low and the ruling elites will use their monopoly power for rent seeking. This rent seeking behavior by the elite group is called state opportunism, which is considered by North and Weingast (1989) and Sachs, Woo, and Yang (2000) as a major obstacle of economic development. Further, political competition promotes a higher level of division of labor in the economy through a lower political rent. A higher level of division of labor, represented by a larger number of traded goods, means higher aggregate productivity in our model of endogenous structure of division of labor. We now establish the first proposition.

Proposition 1. *Lower political competitiveness is associated with a higher tax rate, inferior economic performance and a higher degree of inequality of income distribution (between the ruling elite and commoners).*

Proof See Appendix A.

This result reinforces earlier work by Polo (1998), Svensson (1998) and Besley *et al.* (2011) who develop models showing that a lack of political competition can lead to excessive rent-seeking behaviour, the inefficient provision of public goods and inferior economic outcomes. Moreover, Besley *et al.* (2011) show empirically that political competition forces politicians to pursue growth promoting policies that lead to higher income growth.

We now extend the model to consider a two-states case ($k = 1, 2$). Let M be the mass of a continuum of consumer-producers, for $M = M_1 + M_2$. There is no goods trade between the states (and public goods produced within the state can only be consumed locally) but individuals are free to migrate between states. The opportunity cost of immigration depends on θ. The non-migration constraint (20) is rewritten as follows:

$$u_{y,1} \geq \max\{\theta_1, u_{y,2}\}; \tag{26a}$$

$$u_{y,2} \geq \max\{\theta_2, u_{y,1}\}. \tag{26b}$$

Consider an increase in the degree of political competitiveness of one state relative to the other, holding all else constant. We model this through an increase in the level of intolerance, θ_k, in one state relative to the other. This exogenous increase in θ_k is empirically akin to the introduction of the 1965 Voting Rights Act which, for the first time, allowed full political participation for the poor and black population in Southern US states (more on this below). In contrast to Acemoglu and Robinson's (2000) argument that the decision to extend voting rights could be endogenous because of the fear of social unrest and revolution, the introduction of 1965 Voting Rights Act is an exogenous event since it is a nationwide prohibition of the denial or abridgment of the right to vote. It gave the Attorney General the right to challenge any discriminatory voting practices in state or local election in the court of law. From the non-migration constraints above, this raises $u_{y,k}$ since the political elite must allow entry into the public sector which leads to less rent extraction. We now establish our second proposition.

Proposition 2 (Voting with your feet)**.** *Ceteris paribus, an increase a state's level of political competitiveness, increases inward migration relative to the other state.*

Proof See Appendix A.

This proposition is the key prediction we focus on in our empirical testing: that political competition is positively related to net migration.

In our general equilibrium model, an increasing population, in turn, promotes economic development through a higher level of division of labor. Such an increase will foster market integration, enhance production concentration, utilize endogenous comparative advantage and increase occupation diversity in the economy.

Finally, we show that in equilibrium, an increase in the level of political competitiveness in one state will increase the level of political competitiveness in competing state because of the threat of out-migration.

Proposition 3. *An increase in the level of political competitiveness in one state will increase the level of political competitiveness in competing state because of the threat of outward migration. The ruling elites will lower the political rent extraction through a lower tax rate. Consequently, income inequality will be lowered and economic performance will be improved.*

Proof See Appendix A.

This result naturally follows due to our general equilibrium framework. Empirically, testing this proposition is outside the scope of this paper, however, it does suggest an avenue for future empirical work studying the *consequences* of migration. This literature is in itself large and diverse, however, there is no systematic study on the impact of migration on political outcomes.

3 Internal Migration & Political Competition

Internal migration has a long history of being a defining characteristic of the US economy. Enhanced mobility of the US labour force allows for better allocation of resources and faster adjustment to change (due to, say, technological advances) relative to other countries. A recent paper by Molly *et al.* (2011) documents a decline in internal migration rates in the

US over the last two decades, this decline marks a noticeable departure from the long term trend reported in studies by Ferrie (2003) and Rosenbloom and Sundstrom (2004) who show a rise in internal migration from 1900 to 1990. Despite this decline, internal migration in the US remains high. Molly *et al.* (2011) estimate that, annually, 1.5 percent of the population moves between the four Census regions (Northeast, Midwest, South, and West) and approximately 1.3 percent of individuals moves to a different state within Census regions (see Figure 2 of their paper).

Because we are interested in migratory responses to political competition at the state level, our study investigates state-to-state migration. We measure migration over two different periods, annually and over a five year period using two different data sources. There are trade-offs with each approach. Over a longer time period, migration is more likely to be observed since the costs of migration - particularly long distance migration to another state - can be high. However, the potential for measurement error is higher. Specifically, a person who lived in the same state five years ago and at the time of the survey would be classified as a nonmigrant even if that person lived in a different state for the period in between surveys. Similarly, individuals who move multiple times will be classified as having only moved once.

To calculate annual migration, we use IRS data over the period 1988 to 2010. The IRS defines tax filing units as the filer, plus all exemptions represented on the forms. From this they compute the number of returns (which approximates households) and the number of exemptions claimed (which approximates people) that flow between pairs of states. The IRS reports flows in both directions between each pair, so both gross flows and net flows can be calculated.

Our other source of migration data come from the decennial Census. For samples since 1940, researchers are able to observe whether an individual is living in the same or a different state than they were five years ago. Using these data, we are able to compute five year migration for the period 1940 to 2010.

Our focus will be on the relation between political competition and net migration rather

than gross migration. There are several reasons for this. First, our theoretical model predicts that higher political competition, all else equal, will attract inward migration that leads to an increase in the size of the overall population in the more competitive state. Accordingly, we need to measure in-migration relative to out-migration at the state level to be able make inferences about the impact of political competitiveness on the population - positive net migration leads to population growth other things equal. This point is even more important in light of the observation that areas with high in-migration also tend to have high rates of out-migration (Greenwood, 1975). Second, by focusing on net migration, we do not need to control for variables that are the same across any pairing of states, such as distance, or the monetary cost of moving (Greenwood, 1975). In the analysis that follows, we use three alternative measures of migration: (1) net migration - the number of individuals that migrate in less those who migrate out of a particular state; (2) net migration rate - net migration as a proportion of the state population; and (3) net migration share - net migration as a fraction of all migrating individuals in a given time period. Panel (b), (c) and (d) in Figure 1 graphs these net migration measures over time using the Census data. We plot net migration for Southern states and non-Southern states separately and show that post-1960 there was a substantial shift in internal migration patterns in the US: away from other states and into the South. We can also see this in Panel C of Table 1, where net migration in the Southern states went from being negative in decades pre-1960 to positive post-1960. This pattern reverses the trend observed in the earlier part of the century reported in Wright (1987 (Table 2); and 1999 (Table 1)) where there was mass exodus from the Southern states. We argue and go on to show that one key reason for these shifts in migration patterns was due to changes in political competition in the US South relative to the non-South throughout the century.

Our measure of political competition follows Besley *et al.* (2010) and uses data originating from the work of Ansolabehere and Snyder (2002), who collected election results for a broad

set of directly elected state executive offices.[5] A competitive election is one where the result is close, accordingly, Besley *et al.* (2010) define a party neutral measure of political competition to be the following:

$$PC_{st} = -|d_{st} - 0.5| \tag{27}$$

Where PC_{st} is political competition in state s at time t and d_{st} is the vote share of the Democrats in all state-wide races in state s at time t. Panel (a) of Figure 1 extends the work of Besley *et al.* (2010) and plots 10-year averages of political competition over time separately for Southern and non-Southern states. As can be seen, there is significant variation in political competition across states and over time. There are some noteworthy trends to point out. First, there is a significant difference in the level of political competition between Southern and non-Southern states. Second, this difference increases between 1890 and 1940 due to a reduction in political competition in Southern states. Third, beginning in 1940s, there is an increase in political competition in the US South relative to the US non-South to such a degree that, today, the US Southern states are more politically competitive than non-Southern states. Panel C in Table 1 also shows the changing disparity in political competition between Southern states and the rest of the US pre- and post-1960. Over this period political competition in Southern states increased from an average of -0.197 (a winning margin of about 70% to 30%) to -0.073 (a winning margin of about 51% to 49%).

As pointed out by Besley *et al.* (2010), amongst others, the first half of the 20th century was characterized by the virtual monopoly of the Democratic Party in many of the Southern states. By 1880s, the Democrats were firmly in power in the Southern states. However, because the US South had a large black (and low income) majority, white Democrats still feared a possible resurgence of minorities and the poor at the polls. Accordingly, several

[5] These elections range from US representatives, over the governorship, to down-ballot officers, such as Lieutenant Governor, Secretary of State, Attorney General, and so on. We thank James Snyder for generously providing us with an updated version of the data.

voting restrictions including the white primary, multiple ballot boxes (e.g. South Carolina's "Eight Box Law" which was an indirect literacy test), poll taxes, literacy tests, and ultimately violence were employed over the years to restrict minorities and the poor from voting. This effectively eliminated opposition to the Democrats during this period, and the fall in political competition is clearly visible in Figure 1.

Over time, a number of these practices were eliminated, and by the late 1950s, the remaining two major obstacles to full political participation were the poll tax and the literacy test. It was not until the 1960s that the dominance of the Democrats in US South was challenged with the Twenty-fourth Amendment to the U.S. Constitution, ratified in 1964, prohibiting poll taxes in federal elections, and the introduction of the 1965 Voting Rights Act which did two things: (1) it authorized the US attorney general to challenge the constitutionality of the use of poll taxes in state and local actions; and (2) it provided for direct federal action in "covered jurisdictions" to prohibit the use of the literacy test.[6] Consequently, federal courts quickly struck down the remaining poll taxes in Alabama, Mississippi, Texas, and Virginia.[7] The 1965 Voting Rights Act also targeted the states of Georgia, Louisiana, Mississippi, South Carolina, Virginia, 40 counties in North Carolina, Apache County in Arizona, and Honolulu County in Hawaii because of their literacy tests and low turnout. The resultant impact on political competition in the US South was a reversal of the pre-war decline. Wright (1987 pg. 173) sums up the transformation of Southern politics during this period nicely:

> "To the economic historian taking a view of the South and its political economy in the broadest sense, it appears that a more fundamental transformation was underway, a basic change in the priorities of the region's economic interest groups"

Before moving onto to our main analysis, we first perform a simple difference-in-difference

[6] A covered jurisdiction was defined to be a state, county, parish, or town that used a test or device (e.g., a literacy test) and had less than a 50 percent turnout in the 1964 presidential election.

[7] Florida, Georgia, Louisiana, and North Carolina repealed theirs by 1945, followed by South Carolina and Tennessee in 1951 and Arkansas in 1964.

analysis of our key variable of interest PC_{st} as well as our measures of net migration. Our treatment group is all States for which the 1965 Voting Rights Act targeted (i.e. Alabama, Georgia, Louisiana, Mississippi, South Carolina, Virginia, North Carolina, Arizona, and Texas). The baseline period is dates prior to 1965 and the follow up period is dates after 1965.[8] The results for the univariate analysis are presented in Panel A of Table 2 and the multivariate version where we control for time and state fixed effects are reported in Panel B. For all four variables, the difference-in-difference statistic is positive and significant which suggests that political competition in the Southern states increased significantly relative to all other states after the introduction of the Voting Rights Act in 1965. This same result was also found for our measures of net migration.

4 Empirical Approach & Results

We will discuss our empirical strategy in two steps, our approach differs slightly depending on the migration data that we employ. First, we discuss our approach using Census data covering the period 1940-2010. Second, we discuss our empirical approach using the more recent IRS annual migration data.

The spirit of our model is to capture long term shifts in political competition and the resultant impact on migratory choices. Using the Census data, we are considering migratory choices over a longer time period (data are decennial) in response to longer-term changes in political competition and other economic variables. Accordingly, the analysis here can be considered as our main results. Proposition 2 states that higher political competition leads to higher inward migration (positive net migration). To test this empirically, we estimate regressions of the form:

$$NM_{st} = \alpha_s + \theta_t + PC_{st} + \boldsymbol{\beta}^{'}\mathbf{X} + \varepsilon_{st}, \tag{28}$$

[8] Note that we are using 10 year averages for PC_{st} - see discussion below.

where NM_{st} is the net migration in state s at time t. PC_{st} is political competition in state s at time t, α_s and θ_t are state and time fixed-effects. $\mathbf{X}$ is a vector of state-specific, time-varying economic and socio-demographic characteristics including: personal income growth (*Growth*), taxation as a fraction of personal income (*Tax*), capital expenditure as a fraction of taxes (*Capital*), the proportion of the population that is non-white (*Non-white*), the proportion of the population over 25 with high school education (*High School*), and the proportion of the population who are female (*Female*). Unconditional sample means for these variables are contained in Table 1.[9] We estimate robust standard errors adjusted for clustering at the state level. We emphasize the long-term shifts in two ways: we instrument for political competition (see below), and average the data over longer periods. Since net migration figures are obtained from the Decennial Census, we only have an observation every decade. Accordingly, PC_{st} and all controls are averaged over the 10 year period leading up to the decade in question. For example, the figure for PC_{st} in, say, 1960 is the average of the variable from 1951 to 1960. The results are robust to the period chosen to average over as well as using end of decade figures rather than averaging.

Tables 3, 4 and 5 present the results for our different measures of net migration: net migration, net migration rate, and net migration share respectively. In each table, column (1) is an estimation of (28) without control variables contained in $\mathbf{X}$. The second column of results addresses the possibility of reverse causation from net migration to the degree of political competition (indeed, we argue there is reverse causation in Proposition 3). To minimize such endogeneity, which would likely bias our estimates downwards (since Proposition 3 argues that negative net migration leads to an increase in political competition), we use the exogenous intervention of the federal government in the Southern states via the 1965 Voting Rights Act to instrument for political competition.[10] Specifically, we instrument political competition with a variable which is equal one after 1965 if a state was the target of federal

[9] State personal income is available from the Bureau of Economic Analysis for the period after 1929. Tax and Capital are published in the annual census publication State Government Finances. Non-white, High School and Female are collected from the decennial Census.

[10] Similar approaches have been used by Besley *et al.* (2010) and Husted and Kenny (1997).

intervention due to having either a literacy test or a poll tax (or both) and zero before 1965.

In column (3) we follow Besley *et al.* (2010) and create binary indicators for high, medium and low competition and include these, rather than the continuous measure of political competition. These indicators correspond to values of political competition larger than -0.10 (*PC1*), -0.25 (*PC2*), and -0.4 (*PC3*) respectively.[11] Finally, columns (4) and (5) repeat the analysis in columns (2) and (3) respectively with our additional control variables as well as lagged net migration (*LNM*). Since we include fixed-effects as well as a lagged dependent variable, we report results from System-GMM (Arellano and Bond, 1991; Arellano and Bover, 1995; Blundell and Bond, 1998) estimation (rather than IV or least squares).

A consistent picture emerges across all three tables. Political competition is positively related to net migration. That is, we find strong support for Proposition 2 which states that an increase in political competition will lead to positive net migration, even after controlling for other factors.

To be consistent with existing studies of net migration, we focus the rest of our discussion on Table 4 where our dependent variable is the state net migration rate (net migration as a proportion of state population). Comparing column (1) with (2) we see that OLS estimates do in fact underestimate the impact of competition on net migration. When we include additional control variables in column (4), the coefficient on political competition increases. Columns (3) and (5) show that the effect of political competition indeed appears to be nonlinear - it seems that net migration only responds to greater competition when competition exceeds -0.10.

Our results are not only statistically significant but also economically significant. Our coefficient estimates range from a conservative 0.07 in column (1) to 0.12 in column (4). This suggests that an increase in political competition by about 0.3 - typical for many Southern states over the last century - will lead to an increase in the net migration rate of between 0.021 (or 21 individuals per 1000 population) and 0.036 (or 36 individuals per 1000 population).

[11] Note the interpretation, for example, the estimated effect of a change in political competition from below -0.4 into the range [-0.10, -0.25], is the sum of the coefficients on the variables *PC3* and *PC2*.

To help put this in context, annual birth rates in the US over a similar period have declined from just over 30 births per 1000 population in 1910 to less than 14 per 1000 population by 2010.[12] These figures are not directly comparable since birth rates are annual and the migration numbers are five-year migration rates, so to help with comparison, if we take the 1910 and 2010 birth rates as upper and lower bounds respectively, then 5-year birth rates are somewhere between 150 per 1000 population and 70 per 1000 population. Our estimation suggests that the impact of increasing political competition on net migration go quite some way to arresting the impact of declining birth rates on (Southern) state economies.

Looking at the other results from our main regression with controls (column 4) there does not seem to be much controversy. As expected, higher income growth and a larger proportion of the state that has high school education is positively related to net migration, while higher taxes as a proportion of income is negatively related to net migration. There is evidence to suggest that higher capital expenditure relative to taxes is negatively related net migration, while at first this seems counterintuitive, this may simply reflect that high capital expenditure is correlated with larger governments, which impose higher taxes. There is no relation between the proportion of non-whites in the population and net migration while the proportion of females is negatively related (we do not have an a priori expectation as to why this may be). Finally, surprisingly, past net migration does not seem to be related to current migration.

We reestimate (28) using annual migration data from the IRS. During the IRS sample period of 1988-2010, there is significantly less variation (both across states and overtime) in political competition, the analysis here explains current state level variation in short-term migratory decisions in response to short-term changes in political competition. Since our model emphasizes longer term shifts, we consider this analysis to be a robustness test to the preceding results.

State elections are on a two year cycle, and we have annual migration data, accordingly,

[12]Sources: Department of Health and Human Services, National Center for Health Statistics, web: www.dhhs.gov

we need to either (1) aggregate net migration over a two year window; or (2) follow Besley *et al.* (2010) and interpolate our political competition variable in between elections. We do both and the results are the same. We report results using migration aggregated over two years as these are our conservative estimates. The final decision we need to make is whether we calculate net migration based on the number of filers (which approximates households) or exempt individuals (which approximates people). We choose the former to provide the most conservative estimate of net migration.

The drawback using this second data set is that we cannot look at longer term trends and we cannot adequately control for the potential of endogeneity using the introduction of the Voting Rights Act to instrument for political competition (we do however treat political competition as an endogenous variable in the System-GMM estimation). A benefit, however, is we are able to control for additional political variables of interest that may also explain migration patterns.

In this analysis our vector $\mathbf{X}$ of state-specific, time-varying economic and socio-demographic characteristics include: *Growth*, *Capital* and *Tax*, which are defined in the same way as before, the percentage of high school dropouts (*Dropout*), the proportion of blacks (*Black*), and the proportion of female-headed households (*Female*), and the proportion of employed individuals (*Employed*).[13] In addition, to investigate whether our results are indeed due to changes in political competition rather than differences between the Democratic and Republican Party, we follow Besley *et al.* (2010) and use an indicator variable of the governor's party affiliation (*Democrat*) equal to one if the governor is a Democrat, equal to zero if he is a Republican, and missing in the case of Independents.[14] To measure state-level party composition or control (*Control*), we use the fraction of Democrat incumbents: $D/(D+R)$ less the fraction of Republican incumbents $R/(D+R)$ in all statewide races (excluding the president).[15]

[13] Employment is from Bureau of Economic Analysis. Demographic variables are taken from Beck, Levine and Levkov (2012) and originally sourced from the Bureau of Labor Statistics.

[14] This information was obtained from the National Governors Association at www.nga.org.

[15] These data come from Ansolabehere and Snyder (2002), and a recent update of this data was kindly

Tables 6, 7 and 8 present the results for our different measures of net migration: net migration, net migration rate, and net migration share respectively. In each table there are six columns: without controls or lagged net migration (column 1), with controls but without lagged migration (column 3), with controls and lagged migration (column 5), and columns (2), (4) and (6) repeat the analysis in columns (1), (3) and (5) respectively replacing the continuous measure of political competition with binary indicators for competition defined previously.[16]

With few exceptions, our results are consistent with those using the Census migration data. Again, focusing on the results for net migration rate (Table 7), our main regression in column (5) reports an estimated coefficient of 0.01 or 1 *household* per 1000 population (for a 0.1 increase in political competition - one third of the approximate 0.3 increase in political competition in Southern states during the post-war period). Again, comparing this to current approximate two-year birth rates of 28 per 1000 population the resultant impact of political competition on net migration is not only statistically significant but also economically significant - even in this later period when political competition across states is much more homogeneous.[17] Growth and lagged net migration are positively related to net migration as is the proportion of high school dropouts. The first two results just mentioned are to be expected however the result suggesting that states with a higher dropout rate tends to have positive net migration is puzzling, it may be the case that this result reflects the fact that high dropout rates tend to be correlated with a less skilled labour force, implying that there is a relatively higher demand for skilled labour in these states. Looking across the tables, the only other consistent evidence we find is that higher taxes tend to be negatively related to net migration.

supplied by James Snyder in electronic form.

[16]Note that due to the reduced variability in political competition in this sample period, we only use the first two indicators variables instead of all three.

[17]It is worth noting that the coeffcient on political competition is positive but insignificant in columnn (1) of Table 7. This is to be expected since there are no additional controls and we use OLS to estimate the relation. We argued earlier that endogeneity will likely bias our least squares estimates downward and against finding a result. We see that using System-GMM and instrumenting for political competition the coeffcient increases and is significnat.

5 Concluding Remarks

We develop and test a model of political competition and migration. Our model predicts that an increase in political competition (in one state relative to the other) leads to an increase in net migration.

Our application uses the substantial variation in political competition across US states to study its impact on net migration flows. Using migration data from the Decennial Census for the entire post-war period we show that political competition is positively related to net migration. That is, people tend to migrate towards more politically competitive states. This result is robust to specification and estimation technique. Further, to alleviate endogeneity concerns, we use the introduction of the 1965 Voting Rights Act to instrument for political competition. Results remain unchanged.

In further tests, we use annual migration data from the IRS covering the last two decades to investigate if the longer term relationship between political competition and migration is still observed for a more recent period where there is significantly less variation in political competition across the states. We again find consistent evidence that political competition is important for migratory choices. So to answer our original question: do individuals "vote with their feet" in response to a lack of political competition? Yes.

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A Appendix (Proofs of Propositions)

Proof of Proposition 1. To prove the inverse relation between political competitiveness and tax, we differentiate $\bar{t}$ with respect to θ:

$$\frac{d\bar{t}}{d\theta} = -\frac{1}{n-1}\theta^{\frac{n}{n-1}}\mu(n) < 0. \tag{29}$$

Since θ is positively related to the state's political competitiveness, states with a lower level of political competitiveness will have a higher equilibrium tax rate.

Next we prove that states with a lower level of political competitiveness will have inferior economic performance. To prove this statement, it is sufficient to show that the equilibrium level of division of labor $\bar{n}$ increases with θ, as $\bar{n}$ is positively related to the degree of commercialization, market integration, trade dependence, production concentration, occupation diversity, and the extent to which the endogenous comparative advantage is utilized. Define $G \equiv \ln u_g(n(\theta),\theta) = h(n) + n\ln[1-\theta^{\frac{1}{n-1}}\mu(n)]$, where $h(n) = m\ln[1-b-a\,(m-n)] + n\ln\left[1-a(m-n+1)\right] -(m+n)\ln m + n\ln(n-1) + n\ln n$. The first order condition in (25) is equivalent to:

$$\frac{\partial G}{\partial \bar{n}} = h'(\bar{n}) + \frac{\bar{n}\theta^{\frac{1}{\bar{n}-1}}}{1-\theta^{\frac{1}{\bar{n}-1}}\mu(\bar{n})}\left[\frac{\ln\theta}{(\bar{n}-1)^2}\mu(\bar{n}) - \mu'(\bar{n})\right] + \ln[1-\theta^{\frac{1}{\bar{n}-1}}\mu(\bar{n})] = 0. \tag{30}$$

Differentiating (30) again (with respect to $\bar{n}$ and θ) and using the implicit function theorem, it can be shown that:

$$\frac{d\bar{n}}{d\theta} = -\frac{\overbrace{\partial^2 G/\partial\theta\partial\bar{n}}^{>0}}{\underbrace{\partial^2 G/\partial\bar{n}^2}_{<0}} > 0. \tag{31}$$

$\partial^2 G/\partial^2\bar{n} < 0$ because of the second order condition for utility maximization. Expanding

$\partial^2 G/\partial\theta\partial\bar{n}$:

$$\frac{\partial^2 G}{\partial\theta\partial\bar{n}} = \frac{\theta^{\frac{-\bar{n}+2}{\bar{n}-1}}}{(\bar{n}-1)(1-\theta^{\frac{1}{\bar{n}-1}}\mu(\bar{n}))}\left[\frac{\bar{n}}{1-\theta^{\frac{1}{\bar{n}-1}}\mu(\bar{n})}\left[\frac{\ln\theta}{(\bar{n}-1)^2}\mu(\bar{n})-\mu'(\bar{n})\right]+\frac{\mu(\bar{n})}{\bar{n}-1}\right]. \tag{32}$$

It can be easily seen that $\partial^2 G/\partial\theta\partial n > 0$ because for the first order condition (30) to hold, $\frac{\ln\theta}{(\bar{n}-1)^2}\mu(\bar{n})-\mu'(\bar{n})$ must be positive since $\ln[1-\theta^{\frac{1}{\bar{n}-1}}\mu(\bar{n})] = \ln\bar{t} < 0$. Expression (31) implies that as the degree of intolerance θ decreases, the state becomes less politically competitive (more rent extraction), the equilibrium level of division of labor, $\bar{n}$, decreases, and thus lowers economic performance. *Q.E.D.*

Proof of Proposition 2. Suppose there is a positive exogenous shock to the level of political competitiveness in state 1. For example, an extension of voting rights in state 1 raises θ_1 to θ_1'. If the revised constraint is binding, $u_{y,1}$ will increase to $u_{y,1}'$ due to the result of proposition 1; when θ rises, the tax rate falls and the level of division of labor increases. The real per capita income of commoners in state 1, $u_{y,1}$, increases. Meanwhile, if the impact of the shock is sufficiently high, the non-migration constraint for commoners in state 2 may be violated:

$$u_{y,2} < \max\{\theta_2, u_{y,1}'\}. \tag{33}$$

State 2's commoners will move from state 2 to state 1. As the population in state 1, M_1, increases, the scope for further specialization and division of labor increases, which implies that the total number of consumer goods will increase. For example, if the state consists of two individuals, the maximum number of consumer goods is two when both are fully specialized. When the population increases to three, the maximum number of consumer goods increases to three. Because of the preference for diverse consumption (see (1)), the real per capita income of commoners in state 1 must increase. *Q.E.D.*

Proof of Proposition 3. If the impact of the positive shock to θ_1 is sufficiently high, state 2's commoners will move from state 2 to state 1. The population in state 2, M_2, tends to zero and the population in state 1 tends to M. Since the utility of the ruling elite increases as the population size increases (more tax revenue), and as M_2 tends to 0, their utility goes to zero. As both states compete and undercut (through lowering the tax rate), in equilibrium,

$$u'_{y,1} = \max\{\theta'_1, u'_{y,2}\}; \tag{34a}$$

$$u'_{y,2} = \max\{\theta_2, u'_{y,1}\}, \tag{34b}$$

for $u'_{y,2} > u_{y,2}$ due to lower tax rate. This completes the proof. *Q.E.D.*

B Appendix (Tables and Figures)

Table 1: Summary Statistics

This table reports the mean of variables that are used in the empirical analysis. Political competition (PC) data come from Ansolabehere and Snyder (2002) and the data covers the period from 1890 to 2010. Migration data come from two sources: (1) individial income tax returns filed with the IRS from 1988 through 2010, and (2) the US Census from 1940 through 2010. *Net Migration* is the net interstate migration - the number of individuals that migrate in less those who migrate out of a particular state. *Net Migration Rate* is the net migration as a proportion of the state population. *Net Migration Share* is the net migration as a fraction of all migrating individuals in a given time period. *Growth* is the income growth. *Employment* is total employed persons as a percentage of population. *Tax* is total tax collected as a percentage of total income. *Capital* is total capital expenditure as a percentage of taxes. *Black* is the percentage of black population. *Dropout* is total high school dropouts as a percentage of population. *Democrat* is a dummy variable that equals 1 if the Governor is a Democrat. *Control* the fraction of Democrat incumbents less the fraction of Republican incumbents in all statewide races (excluding the president). *Female* is the percentage of female population. *Non-white* is the percentage of non-white population. *High School* is the percentage of adults (>25 years old) with high school diploma.

PANEL A: Political Competition and Migration

	1988-2010				**1940-2010**			
	Mid West	*North East*	*South*	*West*	*Mid West*	*North East*	*South*	*West*
PC	-0.056	-0.080	-0.065	-0.077	-0.068	-0.071	-0.149	-0.069
Net migration	4161	11959	-9724	-2855	-0.521	-0.865	0.485	0.486
Net migration rate	0.001	0.000	-0.001	-0.002	-0.017	-0.005	0.001	0.018
Net migration share	0.002	0.005	-0.004	-0.001	-0.003	-0.005	0.002	0.003

PANEL B: Demographic and Economic Variables

	1988-2010				**1940-2010**			
	Mid West	*North East*	*South*	*West*	*Mid West*	*North East*	*South*	*West*
Growth	0.061	0.052	0.061	0.069	0.044	0.047	0.051	0.063
Tax	0.063	0.063	0.065	0.071	0.052	0.051	0.059	0.061
Capital	0.169	0.158	0.178	0.196	0.260	0.268	0.270	0.312
Employment	0.609	0.582	0.553	0.590	-	-	-	-
Black	0.067	0.063	0.188	0.026	-	-	-	-
Dropout	0.072	0.085	0.126	0.086	-	-	-	-
Democrat	0.359	0.448	0.552	0.488	-	-	-	-
Control	-0.017	0.168	0.046	-0.110	-	-	-	-
Female Head	0.338	0.392	0.369	0.343	-	-	-	-
Female	-	-	-	-	0.520	0.522	0.562	0.510
Non-white	-	-	-	-	0.071	0.069	0.269	0.131
High School	-	-	-	-	0.551	0.553	0.488	0.616

PANEL C: Variables Separated Out by Pre-1960 Period and Post-1960 Period

	Mid West		*North East*		*South*		*West*	
	Pre-1960	*Post-1960*	*Pre-1960*	*Post-1960*	*Pre-1960*	*Post-1960*	*Pre-1960*	*Post-1960*
PC	-0.079	-0.050	-0.073	-0.068	-0.197	-0.073	-0.071	-0.067
Net Migration	-0.079	-0.606	-0.341	-1.180	-0.016	0.785	0.682	0.380
Net Migration Rate	-0.021	-0.015	-0.005	-0.005	-0.004	0.005	0.025	0.014
Net Migration Share	-0.003	-0.003	-0.003	-0.006	0.000	0.004	0.006	0.002
Growth	0.017	0.065	0.020	0.068	0.021	0.075	0.038	0.080
Tax	0.037	0.058	0.033	0.059	0.048	0.064	0.045	0.067
Capital	0.324	0.234	0.383	0.222	0.350	0.238	0.414	0.274
Ethnic	0.035	0.098	0.028	0.100	0.229	0.299	0.055	0.183
High School	0.344	0.706	0.344	0.710	0.278	0.646	0.424	0.745
Female	0.501	0.534	0.498	0.540	0.507	0.604	0.485	0.527

Table 2: Difference-in-Difference Analysis (US Census Data)

This table presents the diff-in-diff analysis of political competition and net migration using data from the US Census data. In Panel A, we report results of the univariate diff-in-diff analysis. The treatment group is Southern states including Alabama, Mississippi, Texas, Virginia, Georgia, Louisiana, South Carolina, North Carolina, and Arizona. The control group is all other states. The baseline period is from 1940 to 1960 (inclusive) and the follow up period is 1970 onwards. In Panel B, we regress net migration variables and political competition against a dummy variable that equals 1 if the state belongs to the treatment group and the time period is 1970 onward. All regressions in Panel B include individual (state) fixed effects and time effects but they are not reported. t-statistics based on robust cluster standard errors (clustered by state) are reported in parentheses. *, ** and *** represent significance levels of 10%, 5% and 1%, respectively.

PANEL A: Univariate Difference-in-Difference Analysis

	Base Line			**Follow Up**			
	Control	**Treated**	**Diff(BL)**	**Control**	**Treated**	**Diff(FU)**	**Diff-in-Diff**
PC	-0.078	-0.250	-0.172	-0.066	-0.062	0.004	0.176
Std. Error	0.004	0.008	0.009	0.005	0.012	0.013	0.015
t-statistics	-21.010	-21.950	-19.780	2.090	14.970	13.600	11.380
P-value	0.000	0.000	0.000	0.000	0.000	0.757	0.000
Net migration	-0.003	0.038	0.041	-0.221	1.067	1.288	1.247
Std. Error	0.135	0.288	0.319	0.134	0.288	0.318	0.450
t-statistics	-0.020	0.140	0.130	-1.640	4.140	3.960	2.770
P-value	0.983	0.894	0.897	0.099	0.000	0.000	0.006
Net migration rate	-0.002	0.002	0.004	-0.002	0.019	0.021	0.017
Std. Error	0.003	0.007	0.008	0.003	0.007	0.008	0.011
t-statistics	-0.720	0.620	0.560	0.030	2.430	2.210	1.560
P-value	0.470	0.781	0.576	0.481	0.007	0.006	0.120
Net migration share	0.000	0.000	0.001	-0.001	0.005	0.007	0.006
Std. Error	0.001	0.002	0.002	0.001	0.002	0.002	0.003
t-statistics	-0.070	0.290	0.270	-1.350	3.520	3.200	2.260
P-value	0.946	0.793	0.790	0.158	0.002	0.001	0.024

PANEL B: Multivariate Difference-in-Difference Analysis

	Net Migration	*Net Migration Rate*	*Net Migration Share*	*Political Competition*
Post-1970 Southern State	1.246***	0.0167**	0.00603**	0.170***
	(3.185)	(2.123)	(2.654)	(5.934)
Constant	-8.62×10^{-4}	-1.82×10^{-4}	-5.62×10^{-6}	-0.0902***
	(-0.00549)	(-0.0539)	(-0.00929)	(-12.00)
N	404	404	404	627
R^2	0.036	0.025	0.024	0.407
No. of states	51	51	51	50

Table 3: Panel regressions for net migration (US Census data: 1940-2010)

This table presents results of the panel regressions of net migration. The migration data is sourced from the US Census from 1940 through 2010. The dependent variable is the net migration (individuals) in state i in year t (scaled by 100,000). Our explantory variables contain the following state-year variables: the level of political competition within the state (*PC*), indicator variables=1 if *PC*>-0.10 (*PC1*), *PC*>-0.25 (*PC2*), and *PC*>-0.4 (*PC3*), the income growth (*Growth*), tax collected as a percentage of total income (*Tax*), total capital expenditure as a percentage of taxes (*Capital*), the percentage of non-white population (*Non-white*), the percentage of adults (>25 years old) with high school diploma (*HighSchool*), and the previous period's net migration (*LNM*). All regressions contain individual (state) fixed effects and time fixed effects but they are not reported. t-statistics based on robust cluster standard errors (clustered by state) are reported in parentheses. *, ** and *** represent significance levels of 10%, 5% and 1%, respectively.

	(1)	(2)	(3)	(4)	(5)
PC	3.961***	7.518***		3.702*	
	(3.430)	(2.783)		(1.919)	
PC1			0.376**		0.477
			(2.678)		(1.461)
PC2			0.756		0.184
			(1.659)		(0.245)
PC3			-0.129		0.307
			(-0.300)		(0.232)
Growth				66.12***	58.01***
				(9.056)	(7.825)
Tax				-9.886	-14.43
				(-0.525)	(-0.716)
Capital				-0.101	-0.595
				(-0.0652)	(-0.381)
Gender				2.581*	9.893***
				(1.927)	(4.866)
Non-white				-4.098*	-16.68***
				(-1.880)	(-4.955)
High School				0.00985	0.0543**
				(0.446)	(2.351)
LNM				0.261***	0.169***
				(5.564)	(3.620)
Constant	0.484***		-0.946**	-4.522*	-9.730***
	(2.688)		(-2.364)	(-1.925)	(-3.492)
N	396	396	404	290	290
R^2	0.030	0.006	0.026		
No. of states	50	50	51	50	50
Method	OLS	IV	OLS	SYS-GMM	SYS-GMM

Table 4: Panel regressions of net migration rate (US Census data: 1940-2010)

This table presents results of the panel regressions of net migration. The migration data is sourced from the US Census from 1940 through 2010. The dependent variable is the net migration of state i in year t as a percentage of state i's population. Our explantory variables contain the following state-year variables: the level of political competition within the state (PC), indicator variables=1 if PC>-0.10 ($PC1$), PC>-0.25 ($PC2$), and PC>-0.4 ($PC3$), the income growth ($Growth$), tax collected as a percentage of total income (Tax), total capital expenditure as a percentage of taxes ($Capital$), the percentage of non-white population ($Non\text{-}white$), the percentage of adults (>25 years old) with high school diploma ($HighSchool$), and the previous period's net migration (LNM). All regressions contain individual (state) fixed effects and time fixed effects but they are not reported. t-statistics based on robust cluster standard errors (clustered by state) are reported in parentheses. *, ** and *** represent significance levels of 10%, 5% and 1%, respectively.

	(1)	(2)	(3)	(4)	(5)
PC	0.0657**	0.0968**		0.120***	
	(2.066)	(2.071)		(4.201)	
PC1			0.0142*		0.0156***
			(1.788)		(3.081)
PC2			-0.00139		0.00476
			(-0.122)		(0.399)
PC3			0.00244		0.00234
			(0.233)		(0.111)
Growth				1.769***	1.714***
				(16.78)	(15.10)
Tax				-0.479*	-0.432
				(-1.959)	(-1.586)
Capital				-0.0790***	-0.0847***
				(-3.643)	(-3.727)
Gender				-0.0369*	-0.000964
				(-1.851)	(-0.0326)
Non-white				0.0337	-0.0273
				(1.039)	(-0.560)
High School				0.00132***	0.00165***
				(4.045)	(4.504)
LNM				-0.00715	-0.0480
				(-0.203)	(-1.313)
Constant	0.00837*		-0.00611	-0.145***	-0.205***
	(1.700)		(-0.648)	(-4.525)	(-5.045)
N	396	396	404	290	290
R^2	0.031	0.028	0.039		
No. of states	50	50	51	50	50
Method	OLS	IV	OLS	SYS-GMM	SYS-GMM

Table 5: Panel regressions of net migration share (US Census data: 1940-2010)

This table presents results of the panel regressions of net migration. The migration data is sourced from the US Census from 1940 through 2010. The dependent variable is the net migration of state i in year t as a fraction of all migrating individuals in time t. Our explantory variables contain the following state-year variables: the level of political competition within the state (*PC*), indicator variables=1 if *PC*>-0.10 (*PC1*), *PC*>-0.25 (*PC2*), and *PC*>-0.4 (*PC3*), the income growth (*Growth*), tax collected as a percentage of total income (*Tax*), total capital expenditure as a percentage of taxes (*Capital*), the percentage of non-white population (*Non-white*), the percentage of adults (>25 years old) with high school diploma (*HighSchool*), and the previous period's net migration (*LNM*). All regressions contain individual (state) fixed effects and time fixed effects but they are not reported. t-statistics based on robust cluster standard errors (clustered by state) are reported in parentheses. *, ** and *** represent significance levels of 10%, 5% and 1%, respectively.

	(1)	(2)	(3)	(4)	(5)
PC	0.0178**	0.0365**		0.0101	
	(2.588)	(2.438)		(1.257)	
PC1			0.00161*		0.00193
			(1.816)		(1.555)
PC2			0.00440		0.00228
			(1.662)		(0.791)
PC3			-0.00234		-0.00693
			(-0.949)		(-1.363)
Growth				0.320***	0.258***
				(10.44)	(8.920)
Tax				-0.0717	-0.0875
				(-0.929)	(-1.157)
Capital				-0.000690	-0.00237
				(-0.108)	(-0.399)
Gender				0.0151***	0.0687***
				(2.671)	(8.058)
Non-white				-0.0245***	-0.117***
				(-2.665)	(-8.247)
High School				-3.61×10^{-5}	1.59×10^{-4}*
				(-0.383)	(1.757)
LNM				0.146***	-0.0145
				(3.746)	(-0.373)
Constant	0.00228**		-0.00342	-0.0143	-0.0326***
	(2.600)		(-1.104)	(-1.454)	(-3.015)
N	396	396	404	290	290
R^2	0.017	-0.002	0.017		
No. of states	50	50	51	50	50
Method	OLS	IV	OLS	SYS-GMM	SYS-GMM

Table 6: Panel regressions of net migration (IRS data: 1988-2010)

This table presents results of the panel regressions of net migration. The migration data is sourced from US IRS from 1988 through 2010. The dependent variable is the net migration (households) in state i in year t (scaled by 100,000). Our explantory variables contain the following state-year variables: the level of political competition within the state (*PC*), indicator variables=1 if *PC*>-0.10 (*PC1*) and *PC*>-0.25 (*PC2*), the percentage of people employed (*Employment*), tax collected as a percentage of total income (*Tax*), total capital expenditure as a percentage of taxes (*Capital*), the percentage of black population (*Black*), the percentage of highschool dropouts (*Dropout*), the percentage of female (*Female*), a dummy variable that equals 1 if the Governor is a Democrat (*Democrat*), the fraction of Democrat incumbents less the fraction of Republican incumbents in all statewide races (excluding the president) (*Control*), and the previous period's net migration (*LNM*). All regressions contain individual (state) fixed effects and time fixed effects but they are not reported. t-statistics based on robust cluster standard errors (clustered by state) are reported in parentheses. *, ** and *** represent significance levels of 10%, 5% and 1%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
PC	82,265**		87,081**		95,220***	
	(2.270)		(2.259)		(3.446)	
PC1		8,509**		8,930*		7,542**
		(2.164)		(1.790)		(1.988)
PC2		-6,587**		-1,095		-384.1
		(-2.133)		(-0.196)		(-0.0373)
Growth			-236,763	-242,197	89,796	75,128
			(-1.106)	(-1.105)	(1.257)	(0.953)
Employment			88,043	81,514	207,397*	195,252
			(0.454)	(0.417)	(1.735)	(1.253)
Tax			-1.053×10^{6}**	-1.020×10^{6}**	-979,029***	-943,684**
			(-2.207)	(-2.116)	(-3.407)	(-2.415)
Capital			-63,042	-68,892	16,310	22,582
			(-0.865)	(-0.946)	(0.371)	(0.421)
Black			65,985	73,578	159,402**	186,871*
			(0.546)	(0.597)	(2.085)	(1.740)
Dropout			-45,405	-44,107	-40,723	-39,131
			(-0.407)	(-0.392)	(-0.458)	(-0.414)
Female			12,535	12,372	11,969	23,846
			(0.171)	(0.167)	(0.246)	(0.441)
Democrat			-4,464	-3,975	-1,546	-1,328
			(-0.711)	(-0.622)	(-0.451)	(-0.356)
Control			-3,639	-3,258	-3,890	-4,233
			(-0.848)	(-0.761)	(-1.516)	(-1.564)
LNM					0.980***	0.992***
					(17.89)	(16.85)
Constant	5,436***	-1,925	41,374	32,002	-85,746	-100,944
	(3.696)	(-0.788)	(0.376)	(0.280)	(-1.062)	(-1.043)
N	487	1,025	371	371	326	326
R^2	0.020	0.005	0.063	0.058		
No. of states	50	52	47	47	47	47
Model	OLS	OLS	OLS	OLS	SYS-GMM	SYS-GMM

Table 7: Panel regressions of net migration rate (IRS data: 1988-2010)

This table presents results of the panel regressions of net migration. The migration data is sourced from US IRS from 1988 through 2010. The dependent variable is the net migration of state i in year t as a percentage of state i's population. Our explantory variables contain the following state-year variables: the level of political competition within the state (PC), indicator variables=1 if PC>-0.10 ($PC1$) and PC>-0.25 ($PC2$), the percentage of people employed (*Employment*), tax collected as a percentage of total income (*Tax*), total capital expenditure as a percentage of taxes (*Capital*), the percentage of black population (*Black*), the percentage of highschool dropouts (*Dropout*), the percentage of female (*Female*), a dummy variable that equals 1 if the Governor is a Democrat (*Democrat*), the fraction of Democrat incumbents less the fraction of Republican incumbents in all statewide races (excluding the president) (*Control*), and the previous period's net migration (LNM). All regressions contain individual (state) fixed effects and time fixed effects but they are not reported. t-statistics based on robust cluster standard errors (clustered by state) are reported in parentheses. *, ** and *** represent significance levels of 10%, 5% and 1%, respectively.

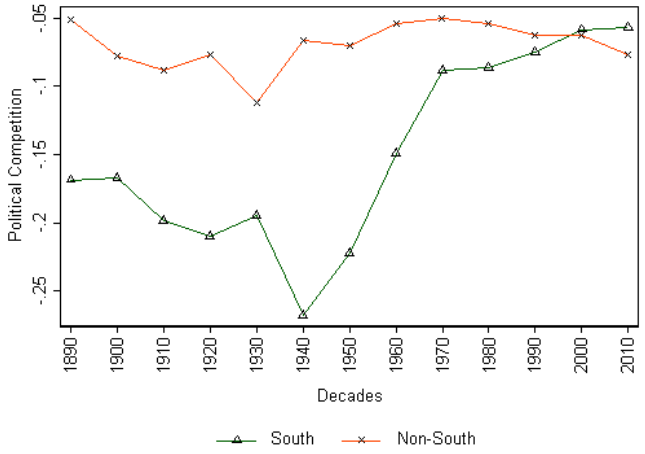
	(1)	(2)	(3)	(4)	(5)	(6)
PC	0.00438		0.0116**		0.0101***	
	(0.943)		(2.167)		(2.653)	
PC1		0.000577		0.000893		0.000747
		(1.272)		(1.396)		(1.514)
PC2		-0.000852		-0.000266		0.00239
		(-1.145)		(-0.232)		(1.580)
Growth			-0.0160	-0.0182	0.0372***	0.0393***
			(-0.584)	(-0.635)	(4.225)	(4.009)
Employment			-0.0148	-0.0158	-0.00906	-0.0241
			(-0.358)	(-0.367)	(-0.531)	(-1.049)
Tax			-0.173***	-0.165**	-0.0185	-0.0286
			(-2.752)	(-2.657)	(-0.535)	(-0.598)
Capital			-0.00402	-0.00516	0.00244	0.00469
			(-0.467)	(-0.571)	(0.499)	(0.771)
Black			0.00197	0.00448	-0.00219	-0.00487
			(0.0970)	(0.214)	(-0.291)	(-0.508)
Dropout			0.0166	0.0182	0.0342***	0.0417***
			(0.803)	(0.863)	(2.731)	(3.114)
Female			-0.0146	-0.0142	-0.00165	-0.00434
			(-1.245)	(-1.198)	(-0.285)	(-0.678)
Democrat			-0.00128	-0.00123	-0.000485	-0.000360
			(-1.347)	(-1.280)	(-1.115)	(-0.764)
Control			-0.000127	-3.40e-05	-5.49e-06	-0.000107
			(-0.258)	(-0.0694)	(-0.0153)	(-0.288)
LNM					1.018***	1.026***
					(17.71)	(16.67)
Constant	-0.000399	0.000190	0.0273	0.0257	0.00250	0.00877
	(-0.159)	(0.307)	(1.178)	(1.069)	(0.233)	(0.676)
N	437	916	326	326	280	280
R^2	0.074	0.033	0.167	0.158		
No. of states	50	51	47	47	47	47
Model	OLS	OLS	OLS	OLS	SYS-GMM	SYS-GMM

Table 8: Panel regressions of net migration share (IRS data: 1988-2010)

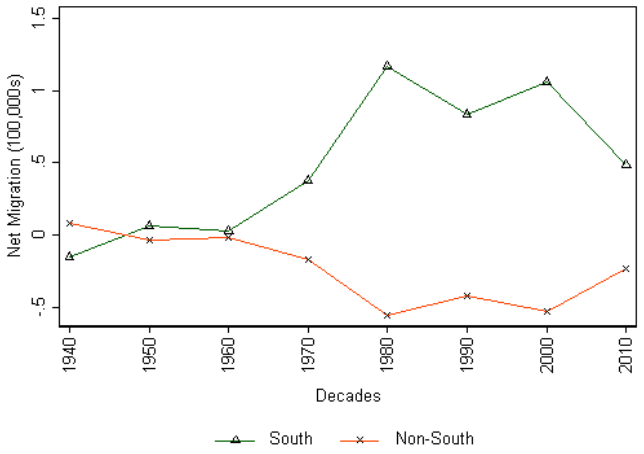
This table presents results of the panel regressions of net migration. The migration data is sourced from US IRS from 1988 through 2010. The dependent variable is the net migration of state i in year t as a fraction of all migrating households in year t. Our explantory variables contain the following state-year variables: the level of political competition within the state (PC), indicator variables=1 if PC>-0.10 ($PC1$) and PC>-0.25 ($PC2$), the percentage of people employed (*Employment*), tax collected as a percentage of total income (*Tax*), total capital expenditure as a percentage of taxes (*Capital*), the percentage of black population (*Black*), the percentage of highschool dropouts (*Dropout*), the percentage of female (*Female*), a dummy variable that equals 1 if the Governor is a Democrat (*Democrat*), the fraction of Democrat incumbents less the fraction of Republican incumbents in all statewide races (excluding the president) (*Control*), and the previous period's net migration (*LNM*). All regressions contain individual (state) fixed effects and time fixed effects but they are not reported. t-statistics based on robust cluster standard errors (clustered by state) are reported in parentheses. *, ** and *** represent significance levels of 10%, 5% and 1%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
PC	0.0243**		0.0264**		0.0187**	
	(2.225)		(2.289)		(2.272)	
PC1		0.00255**		0.00247*		0.00161
		(2.250)		(1.700)		(1.438)
PC2		-0.00197**		-0.000167		-0.000220
		(-2.182)		(-0.0929)		(-0.0726)
Growth			-0.0818	-0.0841	0.0110	0.0174
			(-1.227)	(-1.224)	(0.515)	(0.752)
Employment			0.0172	0.0151	-0.0265	-0.0421
			(0.318)	(0.277)	(-0.749)	(-0.919)
Tax			-0.276**	-0.264**	-0.122	-0.0491
			(-2.167)	(-2.067)	(-1.418)	(-0.423)
Capital			-0.0154	-0.0171	0.00707	0.0161
			(-0.821)	(-0.909)	(0.539)	(1.014)
Black			0.00949	0.0120	0.0148	0.00949
			(0.307)	(0.381)	(0.660)	(0.304)
Dropout			-0.0152	-0.0150	-0.0149	-0.0139
			(-0.499)	(-0.487)	(-0.556)	(-0.494)
Female			0.00559	0.00565	0.00733	0.0119
			(0.273)	(0.272)	(0.505)	(0.746)
Democrat			-0.00136	-0.00122	-0.000835	-0.000875
			(-0.742)	(-0.649)	(-0.817)	(-0.797)
Control			-0.00118	-0.00108	-0.000960	-0.00109
			(-0.874)	(-0.788)	(-1.258)	(-1.368)
LNM					0.730***	0.713***
					(15.90)	(14.56)
Constant	0.00161***	-0.000573	0.0152	0.0123	0.0114	0.0105
	(3.554)	(-0.704)	(0.481)	(0.374)	(0.478)	(0.372)
N	487	1,025	371	371	326	326
R^2	0.021	0.006	0.072	0.064		
No. of states	50	52	47	47	47	47
Model	OLS	OLS	OLS	OLS	SYS-GMM	SYS-GMM

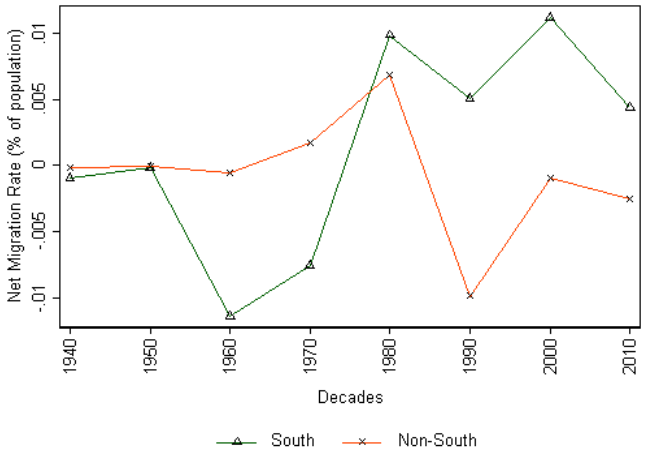
Figure 1: Time series plot of the level of political competition and net migration in southern and non-southern states



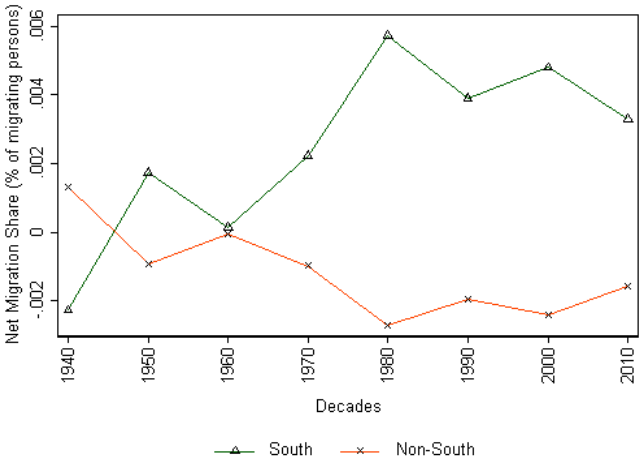
(a) Political Competition by Decades



(b) Net Migration by Decades



(c) Net Migration Rate by Decades



(d) Net Migration Share by Decades