

## INSTITUTIONS, LOBBYING, AND GROWTH

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### Abstract

We ask whether the impact of institutions depends not just on their current state, but also on how they came to be. In particular, we hypothesize that while economic freedom that emerges spontaneously may be growth promoting, economic freedom that is bought with costly lobbying efforts may be less fruitful. In an extreme case, costly lobbying efforts may even negate the growth-enhancing effect of economic freedom. This hypothesis implies that growth analyses which fail to control for lobbying activities will yield biased estimates of the impact of economic freedom. Preliminary findings from a cross-country panel analysis reveal the expected positive relation between economic freedom and growth, and the expected negative relation between lobbying and growth. Moreover, consistent with our hypothesis, the findings reveal a negative relation between growth and an interaction between economic freedom and lobbying.

*JEL classification:*

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## 1. Introduction

A growing literature has highlighted the importance of institutional structures for economic growth. Although scholars have used a variety of measures to proxy for the institutional environment in a country, the most comprehensive measure is the Fraser index of economic freedom. The current index is based on five categories which represent size of government; protection of property rights; sound monetary policy; openness to international trade; and general market regulations. Higher values of the index represent greater freedom in market oriented institutions and policies. Dawson (1998) was one of the first to empirically show a positive relationship between the index and economic growth. Many other studies followed which generally also found a positive impact on economic growth in both cross-country and panel data analyses (Doucouliagos 2005). Yet, some studies have identified the effect may not be robust to specification or alternative weighting schemes (De Haan and Sturm 2001). We seek to explain these mixed findings. In particular, we ask whether the impact of institutions depends not just on their current state, but on how they came to be.

Policy-makers may choose policies that reduce or enhance economic freedom for a number of reasons. Ideology may drive market interventions as well as support for free markets. For example, one might favor tariffs in order to redistribute rents into a particular sector due to a preference for equity over efficiency; or one might favor free trade due to a preference for efficiency over equity.<sup>1</sup> In democratic settings, a desire to win votes from a rationally ignorant public may drive market interventions. In autocratic settings, market interventions may produce rent that can be used to buy-off opposition or reward cronies. We focus on yet another catalyst for policy choices: special interest groups that pressure politicians via lobbying and other activities. Unlike the other catalysts, lobbying may exert both a direct and an indirect effect on economic activity. Via its impact on policy and the institutional environment, lobbying may have an indirect effect on economic activity. Because lobbying

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<sup>1</sup> McChesney's (1987, 1997) model of rent extraction suggests a more convoluted possibility. If a tariff is in place, government officials may threaten to remove the tariff in order to encourage rent-protecting behavior on the part of the protected group from which officials may benefit.

requires resources - resources that otherwise could have been put to productive use - lobbying may also have a direct and *negative* impact on economic activity. Furthermore, the interplay between lobbying and institutions suggests the effect of institutions may be non-linear with the interaction of lobbying. In other words, the more lobbying that takes place, the more distorting are market interventions. Similarly, the benefits of economic freedom may be reduced to the extent that economic policy is influenced by lobbying. If policy-makers believe in the primacy of free markets and protecting property rights, economic freedom is likely to naturally emerge. However, if groups have to lobby to protect against market interventions, the benefits from economic freedom will not be as great. As a result, failure to control for lobbying activities in growth regressions may yield a biased estimate of the impact of institutions, and may also explain the mixed findings in the literature.

Put differently, we hypothesize that two countries with similar institutional structures should not be expected to generate similar growth outcomes if one country used a great deal more resources in the process of producing those structures. All economic freedom, in other words, may not be created equally. It may well matter how institutions came to be. Suppose, for example, policy-makers propose an excise tax in a particular market. Suppose further that industry groups lobby to ensure the tax does not become law, and succeed. Although the market-distorting tax does not exist, an analysis confined to examination of current policies, without consideration for the process that induced the outcome, would fail to account for the opportunity costs of lobbying to prevent the tax. The deadweight losses of non-existing policies don't get counted if no consideration is given to such opportunity costs. Moreover, as Varian (1989) has noted, cumulative deadweight losses from collective rent seeking can be quite large relative to the rents under consideration. As a result, the more lobbying that is necessary to prevent the imposition of a tax, the less efficient it may be not to have the tax.

Lobbying may therefore not only affect the level of economic freedom (positively or negatively), it may also affect the impact of economic freedom (negatively). We estimate a growth model that takes both effects into account. As expected, our findings indicate that economic

freedom is positively related to growth. Also as expected, we find that the overall effect of lobbying on growth is negative, consistent with Mancur Olson's theory of institutional sclerosis, unless groups promote economic freedom to an implausibly large degree. Most importantly, we find that an interaction between economic freedom and the extent of lobbying is negatively related to growth, consistent with our hypothesis that economic freedom bought by the efforts of lobbying is less growth enhancing than economic freedom that emerges spontaneously.

## 2. Derivation

We begin with the growth framework utilized by Barro, Mankiw, and Sala-I-Martin (1995), presenting a brief overview.<sup>2</sup> Starting from a Cobb-Douglas production function, Barro, Mankiw, and Sala-I-Martin show that during the transition to steady-state,

$$y(t) = (1 - \gamma)y^* + \gamma y(0), \quad (1)$$

where  $y(t)$  represents the log of per capita output at time  $t$ ,  $y^*$  represents the log of steady-state per-capita output,  $y(0)$  represents the log of initial per capita output, and  $\gamma = e^{-\beta t}$ . Before proceeding further, some notes are in order. Written in this form, the log of per capita output (shortened as output hereafter) for a country at any time  $t$  can be seen as the weighted average (i.e.  $0 \leq \gamma \leq 1$ ) between its initial output and its steady-state level, as long as  $\beta \geq 0$ . Thus,  $\beta$  represents the rate of convergence to the steady-state. Because  $\beta = 0 \implies \gamma = 1$ , in this case  $y(t) = y(0) \forall t$  which implies a stagnant economy with no movement toward the steady-state. For this reason, we assume  $\beta > 0$ . Then, given a long enough period such that  $t \rightarrow \infty$ , it can be shown that  $y(t) \rightarrow y^*$ .

The average annual growth rate over any specified  $T$  periods can be found by rewriting (1) as

$$\frac{y(T) - y(0)}{T} = \frac{(1 - \gamma)y^* + (\gamma - 1)y(0)}{T}. \quad (2)$$

Our interest is in specifying the determinants of  $y^*$ . As in Sachs and Warner (1997b), we treat  $y^*$  not as a constant value to which a country is converging, but rather as a variable with

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<sup>2</sup> See also Sachs and Warner (1997a).

a constant trend growth rate. Various factors may influence the steady-state, and Sachs and Warner focus on the national savings rate and efficiency. Barro, Mankiw, and Sala-I-Martin (1995) detail how these are affected by openness, tax rates, inflation, and real interest rates, all of which have been used in various combinations by empirical growth scholars under the current rubric of “institutions”. As detailed below, our proxy of institutional quality contains measures for all these, and additional policy/institutional variables as well.

We therefore model  $y^* = f(I)$  as a function of institutions. Specifically,

$$f(I) = \lambda_0 + \lambda_1 I(L) + \lambda_2 L + \lambda_3 I(L) * L, \quad (3)$$

where in the empirical work which follows,  $I$  is an index of institutional quality, and  $L$  represents the amount of lobbying which takes place. (To foster our discussion, we assume throughout that, unless otherwise noted,  $I, L > 0$ .) Our central hypothesis is that both the quality and impact of institutions are affected by the amount of lobbying which takes place. The parameter  $\lambda_0$  measures initial efficiency independent of institutions, which may be due to culture or other unobservable factors.

The rent-seeking costs of lobbying would tend to directly reduce growth, as efficiency is lowered throughout the economy by the opportunity cost of otherwise productive resources being devoted instead to influencing policy (Tullock 1967; Varian 1989). The standard assumption is that interest groups will focus on redistributive policies in their favor, even if such policies may be socially inefficient (Olson 1982).<sup>3</sup> For example, an industry group may lobby to enact a protective tariff. Thus, lobbying may lower growth both through the socially inefficient use of resources devoted to policy instead of production, and the weakening of the institutional environment which further retards growth. However, the symmetry of rent-protection (McChesney 1987, 1997) suggests lobbying may also occur to prevent inefficient policy which targets specific groups, such as a proposed windfall profits tax on oil revenues, or

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<sup>3</sup> The exception would be if an interest group is so large it encompasses close to the entire society. As Olson (1982) details, such groups would have difficulty forming due to collective action problems. In the empirical section which follows, our proxy for lobbying by interest groups does not include any such groups.

the imposition of wage and price controls.<sup>4</sup> Thus, lobbying may either weaken or protect the institutional environment (Becker 1985).

Substituting (3) into (2) results in the reduced-form growth specification

$$\dot{y} = b_0 + b_1 I + b_2 L + b_3 I * L - b_4 y(0), \quad (4)$$

where  $\dot{y} = \frac{y(T)-y(0)}{T}$  and  $b_j = \frac{\lambda_j(1-\gamma)}{T}$ . The general representation for  $b_j$  holds for  $b_4$  by defining  $\lambda_4 \doteq 1$ . We can sign all parameters except for  $b_1$ . If institutions spontaneously evolve, strong institutions should promote growth. Thus  $\lambda_1 > 0$  which implies  $b_1 > 0$ . Yet, to the extent that resources are used in the course of lobbying which accompanies institutional formation, growth will be negatively impacted. That is, strong institutions in the absence of lobbying are growth-enhancing. Institutions which are strong only due to self-preserving lobbying may or may not be. In particular, a country may exhibit stronger growth if institutions are allowed to weaken without resistance than if a great deal of social resources are devoted to protecting the institutions instead of being used for production. Such an extreme case is unlikely, but in general we expect that between two countries with the same institutional structure, the country whose institutional environment evolved with less lobbying will experience greater growth. Therefore,  $\lambda_3 < 0$  which implies  $b_3 < 0$ . Overall, though, except under the most severe case of resource misallocation (where  $L$  is extremely large), we expect that  $\partial \dot{y} / \partial I = b_1 + b_3 L > 0$ .

Because lobbying may either promote or weaken strong institutions, the overall effect from lobbying is ambiguous. Specifically,

$$\frac{\partial \dot{y}}{\partial L} = b_1 \frac{\partial I}{\partial L} + b_2 + b_3(I + \frac{\partial I}{\partial L} L). \quad (5)$$

If lobbying were completely ineffective in affecting policy, then  $\partial I / \partial L = 0$  and the only economic impact from lobbying would be the directly unproductive use of resources. Thus, devoting resources to lobbying can only lower growth. Then, (5) simplifies to

$$\partial \dot{y} / \partial L = b_2 + b_3 I < 0. \quad (6)$$

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<sup>4</sup> To be clear, rent protection need not be limited to socially inefficient policy. Rent protective lobbying may occur, for example, when a tariff already in place is threatened with removal, as described in the previous section.

From above,  $b_3I < 0$ . Thus, for (6) to hold,  $b_2$  may be less than zero, or greater than zero as long as  $b_2 < -b_3I$ . The parameter  $b_2$  can only be isolated when  $I$  is fixed at a value of zero. This implies not only that lobbying has no impact on the institutional structure, but that the institutional structure is the worst possible. In such an extreme scenario, resources may already be so severely misallocated and/or underutilized that there may not be much, if any, further resource misallocation from devoting resources to lobbying. But because these assumptions are inconsistent with our model, we cannot a priori determine the expected sign of  $b_2$ . In the next section, we will attempt to estimate the overall impact of lobbying as determined by (5), and the conditions under which it holds.

### **3. Findings**

Describe data...

Discuss tables...

TABLE 2 - Growth Regressions

Groups form	(1) Linear	(2) Log	(3) Linear	(4) Log	(5) Linear	(6) Log	(7) Linear	(8) Log
Groups	0.018** (2.669)	13.337** (2.527)	0.020** (2.527)	10.545* (1.967)	0.009 (1.291)	5.252** (2.308)	0.006 (0.943)	3.299 (1.324)
EF	9.871** (6.794)	17.086** (5.130)	7.544** (4.869)	13.490** (4.488)	4.240** (4.731)	7.796** (5.135)	3.664** (4.120)	5.725** (3.468)
EF×Groups	-0.002** (-2.825)	-2.287** (-2.923)	-0.003** (-3.195)	-1.897** (-2.500)	-0.002* (-1.662)	-0.989** (-3.106)	-0.001 (-1.108)	-0.585 (-1.632)
Pop	0.196** (2.726)	0.206** (3.495)	0.188** (2.527)	0.194** (3.027)	0.017** (5.062)	0.017** (5.449)	0.008** (2.214)	0.008** (2.116)
Log GDP	-39.253** (-7.387)	-37.857** (-7.461)	-42.851** (-10.024)	-41.761** (-9.975)	-2.430** (-2.238)	-2.392** (-2.083)	-3.373** (-2.946)	-3.348** (-2.791)
GCF							0.765** (3.784)	0.725** (3.409)
Country dummies?	yes	yes	yes	yes	no	no	no	no
Time dummies?	no	no	yes	yes	yes	yes	yes	yes
Colonial dummies?	no	no	no	no	yes	yes	yes	yes
n	346	346	346	346	346	346	336	336
Adj. R2	0.282	0.301	0.343	0.354	0.196	0.205	0.241	0.244

Notes: Dependent variable is PPP converted real GDP per capita total growth over five-year intervals. t-statistics in parentheses derived from bias-adjusted HAC standard errors. GCF is Gross Capital Formation to GDP ratio averaged over five year intervals Colonial dummies include Great Britain, France, Spain, Netherlands, Portugal, Belgium, Japan, South Africa, United States and Russia. The default category is never a colony. \*,\*\* indicates significance at the 10, 5 percent level Unreported: When GCF was added to other models, the interaction term in specifications 2,3,4, and 6 retained its significance.

TABLE 2a - Estimated Marginal Impact from TABLE 2

Groups form	(1) Linear	(2) Log	(3) Linear	(4) Log	(5) Linear	(6) Log	(7) Linear	(8) Log
$dY/dGroups < 0$ when $EF >$	9.00	5.80	6.67	5.55	4.50	5.25	6.00	5.50
$dY/dEF > 0$ when $Groups <$	4935	1694	2515	1218	2120	2440	3664	14520

Note: EF mean = 6.04, EF median = 6.09 which implies Groups are generally harmful for majority of sample when using log form for Groups; true for unlogged Group specifications only when country dummies replaced by colonial dummies Groups mean=210, median=24 which implies EF generally beneficial for majority of sample (at low end in (4) only not true for outliers such as Germany, USA, France, GB, Austria); controlling for GCF makes this true for all.

TABLE 3 - Robustness Checks

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Log Groups	5.222** (2.353)	5.204** (2.220)	5.526** (2.431)	5.128** (2.279)	4.854** (2.069)	4.997** (2.164)	8.072** (3.574)
EF	7.713** (5.173)	7.573** (4.934)	7.295** (4.974)	7.706** (5.137)	7.601** (5.002)	8.228** (5.485)	8.822** (5.375)
EF×Log Groups	-1.035** (-3.368)	-1.004** (-3.209)	-1.001** (-3.203)	-0.968** (-3.073)	-0.914** (-2.749)	-0.959** (-3.012)	-1.360** (-4.315)
Pop	0.020** (5.302)	0.018** (4.772)	0.019** (6.705)	0.016** (4.790)	0.017** (4.889)	0.017** (5.626)	0.021** (5.201)
Log GDP	-2.966** (-2.583)	-2.583** (-2.203)	-2.448** (-2.001)	-2.699** (-2.157)	-2.490** (-2.219)	-3.268** (-2.616)	-2.000 (-1.021)
PRCL	1.278** (2.488)						
Polity		0.206 (1.145)					
Violence			-0.619 (-0.969)				
Ethnic				-3.736 (-1.032)			
Religious					-3.597 (-0.966)		
Linguistic						-6.347** (-2.299)	
Education							0.591 (0.919)
n	344	326	326	346	346	338	279
Adj. R2	0.213	0.210	0.209	0.205	0.205	0.210	0.162

Notes: Dependent variable is PPP converted real GDP per capita total growth over five-year intervals. t-statistics in parentheses derived from bias-adjusted HAC standard errors. All regressions include time and colonial dummies. Colonial dummies include Great Britain, France, Spain, Netherlands, Portugal, Belgium, Japan, South Africa, United States and Russia. The default category is never a colony. Ethnic, Religious, and Linguistic represent fractionalization categories. \*\*, \* indicates significance at the 10, 5 percent level Unreported: PRCL still significant using smaller Polity sample Ethnic, Religious still insignificant using smaller Linguistic sample

TABLE 4 - Investment Regressions

Specification	(1) Fixed Effect and Time Dummies	(2) Fixed Effect and Time Dummies	(3) Colonial
Log Groups	4.042** (3.183)	4.138** (3.084)	2.513** (2.158)
EF	3.200** (3.996)	3.854** (4.902)	2.893** (3.791)
EF×Log Groups	-0.621** (-3.057)	-0.650** (-3.127)	-0.554** (-3.351)
Pop	0.013 (1.404)	0.018** (2.081)	0.013** (6.324)
Log GDP	-2.524 (-1.496)	-1.634 (-1.011)	1.428** (3.185)
n	336	336	336
Adj. R2	0.581	0.589	0.311

Notes: Dependent variable is average Gross Capital Formation to GDP ratio over five year intervals. t-statistics in parentheses derived from bias-adjusted HAC standard errors. Colonial dummies include Great Britain, France, Spain, Netherlands, Portugal, Belgium, Japan, South Africa, United States and Russia. The default category is never a colony. \*\*, \* indicates significance at the 10, 5 percent level Unreported: None of the additional variables from Table 3 were statistically significant (Violence just misses 10% when added to (3) and inclusion does not affect sign or significance of EF, Log Groups, or interaction term

TABLE 5 - EF Categories

EF area	(1) Size of Govt	(2) Legal Structure	(3) Sound Money	(4) International Trade	(5) Regulation
Log Groups	0.950 (0.286)	7.574 (1.534)	1.568 (0.401)	-0.188 (-0.039)	8.362 (1.577)
EF	2.105 (1.140)	6.454** (3.251)	2.758** (1.977)	2.368 (0.862)	7.509** (2.792)
EF×Log Groups	-0.275 (-0.472)	-1.304** (-2.316)	-0.301 (-0.771)	-0.016 (-0.023)	-1.361* (-1.917)
Pop	0.176** (2.474)	0.206** (2.564)	0.187** (2.775)	0.152** (2.250)	0.132** (3.285)
Log GDP	-39.936** (-9.242)	-40.896** (-9.408)	-43.175** (-10.203)	-39.040** (-7.883)	-41.315** (-10.242)
n	347	344	349	337	341
Adj. R2	0.293	0.296	0.299	0.291	0.340

Notes: Dependent variable is PPP converted real GDP per capita total growth over five-year intervals. t-statistics in parentheses derived from bias-adjusted HAC standard errors. All regressions include country and time dummies. \*,\*\* indicates significance at the 10, 5 percent level For Area 1, cannot reject the null of joint insignificance of groups and EF vars For Area 4, reject null of joint insignificance of groups and EF vars at 6Unreported: If unlogged Groups used, interaction term is significant for Area 3 and Area 4

#### **4. Concluding Remarks**

Is all economic freedom created equally? No. Does it matter how economic freedom emerges? Yes. In particular, our findings suggest that economic freedom that emerges through costly lobbying efforts is less growth enhancing than economic freedom that emerges spontaneously. Our findings therefore suggest that the findings of previous studies that did not control for lobbying activities in growth regressions may have produced biased estimates of the impact of economic freedom.

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