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## Do Democracies Breed Rent-Seeking Behavior?

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## DO DEMOCRACIES BREED RENT-SEEKING BEHAVIOR?

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## **Abstract**<sup>\*</sup>

Using objective institutional historical data we test the link between extent, duration, and transparency in democracies and rent-seeking behavior using time-series and panel data approaches. In this paper we focus on the case of Uruguay, an ethnically homogeneous country. We find three main results. First, democratic regimes are negatively linked with rent-seeking actions. Second, the longer the duration of democracy, the less rent-seeking in a society. Third, legislation enacted more transparently is negatively correlated with rent-seeking behavior. Our results are robust to the use of different econometric methods and basic robustness tests and are consistent with prevailing theory.

**Keywords:** Rent-Seeking, Corruption, Democracy, Transparency, Governance

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## 1. Introduction

In this paper we empirically test the possible link between democracy and institutional quality, with particular focus on the extent to which political processes within a democracy may be related with rent-seeking behavior. According to recent theoretical research, not only do democracies reduce rent-seeking behavior, but they also improve the quality of a country's institutions over time.<sup>1</sup> Furthermore, the more transparent the laws and regulations within democracies, the less likely the presence of bad institutions; likewise, the less opaque the political process, the better the property rights in the country and the lower the rent-seeking behavior in the society. In fact, while passing laws may require a lengthy and widely discussed process in the legislature, other statutes, such as government resolutions, may require lower levels of political coordination, perhaps no more than executive approval. Furthermore, some regulations are likely to require even less political interaction, as they do not necessarily require approval from the higher levels of the executive branch of government and may thus follow a somewhat less transparent path.

In fact, lack of data has not allowed for an adequate study of the above interactions between political characteristics and institutional features. Despite the fact that recent research has strongly focused on the impact of institutions on economic performance (e.g., Mauro, 1995, and Knack and Keefer, 1997) there is still little formal empirical evidence on the determinants of institutional quality, particularly political factors. The few available studies are either mainly descriptive nature or use indirect or subjective data that, despite being widely employed, are controversial; these studies also tend to use cross-country approaches that may suffer from an omitted variables problem that cannot be controlled by simply applying fixed effects.<sup>2</sup> This may be particularly true in the context of recent research that shows the relevance of social capital, trust, and related variables (Fukuyama, 1995; Knack and Keefer, 1997; La Porta et al., 1997). In fact, it has been claimed that there are several problems with the use of subjective data in economic research (Bertrand and Mullainathan, 2001). In the specific case of institutional data, one

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<sup>1</sup> Examples include Olson (1992), McGuire and Olson (1996), and Clague et al. (1996).

<sup>2</sup> Clague et al. (1999) offer a methodology that uses money supply which they call "contract-intensive money" that allows to construct an objective database on institutional quality. The data, however, have been criticized and thus have remained virtually unused. An exception is Chong and Zanforlin (2004).

problem is that evaluators may be influenced by a country's economic conditions when assessing institutional efficiency, as they may assume that some specific institutional aspect cannot be severe if the country is doing well (Mauro, 1995). Furthermore, the absence of guidelines on what constitutes an "expert" evaluator may render such assessments essentially worthless.<sup>3</sup>

In this paper we take advantage of a very unusual and rich data set that allows us to address the important empirical restrictions of recent research. We use a historical time-series of objective rent-seeking data, based on discretionary foreign trade regulations, that permits us to explore the time-series dimension of the link between rent-seeking and democracy.<sup>4</sup> In particular, we choose the particular case of a small, historically stable, ethnically and culturally homogeneous Latin American country, Uruguay, which provides a natural experiment where ethnolinguistic heterogeneity can be effectively controlled. This country provides an excellent natural laboratory from the point of view of a rent-seeking society, as it represents an extreme case of discretionary trade policies that lasted for decades. These policies were pursued by two means. The first was an import-substitution strategy that was characterized by high protective trade barriers, multiple exchange rates, import licenses, and an explicit policy that allocated discretionary foreign exchange, approved import licenses, and banned imports that competed with domestic production. The second was an export promotion strategy which, while not as unconcealed as the import-substitution approach, was nonetheless actively pursued for considerable periods (Rama, 1991).

Based on time-series and panel data analysis we find strong evidence that democracies and rent-seeking are negatively linked. Furthermore, we find that the longer the duration of democracy, the lower the discretionary rent-seeking regulations in a country. Additionally, we provide evidence that the more transparent the regulations within a democracy, the less rent-seeking in the society. Finally, we show that the economy-wide behavior of the link between these two variables depends on the sector of

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<sup>3</sup> Mauro (1995) argues that the evidence for the accuracy and relevance of the indices is provided by the considerable price that clients are willing to pay in order to obtain for the assessments.

<sup>4</sup> There is some work in the literature related with the political economy of trade protection, in particular, to the process leading to transfers in favor of special interest groups. Examples are Amelung (1989), Baldwin (1989), Hillman (1989), and Weck-Hannemann (1991). However, this work emphasizes case studies rather

analysis. In summary, we find that the answer to the question of whether democracies tend to breed rent-seeking behavior appears to be negative. Furthermore, it appears that the persistence of democratic values in societies and transparent political processes within democracies help to reduce rent-seeking behavior.

This paper is organized as follows. The next section describes the data and provides basic statistics. Section 3 focuses on the time-series evidence. Section 4 provides panel data evidence across sectors and within the manufacturing sector, where rent-seeking is most predominant. Finally, Section 5 summarizes and concludes.

## 2. Data

We use legislative data originally collected by Rama (1994) for Uruguay for the period 1925-1983 on a yearly basis.<sup>5</sup> This researcher painstakingly collects discretionary trade policy information published by the Official Registry of Laws and Decrees of this country. He constructs a rent-seeking database for this country by individually counting the number of statutes that create, maintain, or modify a foreign-trade regulation for the benefit of a single firm or industry for the whole period. Examples include but are not limited to the following: tariffs on final goods, changes in import duties for inputs, export subsidies, special exchange rates, reference prices, draw-back regimes, import licenses, export prohibitions and tax payment relief. In all, at the firm level the available data set contains 4,042 observations or rent-seeking actions for the period 1925-1983. Depending on the empirical method employed, however, not all data are necessarily used. This selective approach is made possible by the richness of the data, which contain detailed information on the type of private rent-seeking resolution enacted, such as law, decree, or administrative regulation, the basic area to which the resolution was linked, either exports or imports, the corresponding productive sector, defined at the two-digit level ISIC code, and whether the petitioner was explicitly identified by name.<sup>6</sup>

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than not formal aggregate-level empirical evidence. An exception is Rama (1994), who uses some of the same data as this paper but focuses less on political processes per se and more on trade policy issues.

<sup>5</sup> The ending year corresponds to the last published issue of the data source (Rama, 1994).

<sup>6</sup> In many cases the identity of the recipient of the discretionary trade policy was not hidden. Furthermore, the author argues that most promoters of regulations are private firms and guilds, frequently with remarkable lobbying ability (Rama, 1994).

In order to be consistent with the six-decade economic cycle represented in the sample, we scale our variable of interest using data on aggregate output level at constant prices; unfortunately, those data are available only from 1935 onward.<sup>7</sup> Additionally, we calculate an index where the average of rent-seeking actions during 1935 and 1983 equals 100.<sup>8</sup> Table 1 presents summary statistics of our variable of interest. Overall, we find that rent-seeking activities represent 45 percent of gross domestic product in Uruguay for the period 1925 to 1983, of which 47 percent of petitions may be linked to particular firms or persons. Similarly, manufacturing represents the bulk of activities, accounting for more than 80 percent, and rent-seeking regulations linked with Imports outnumber those linked with Exports by about 20 percent points. Furthermore, Supreme Decrees are the legal device mostly used, with 67 issued.<sup>9</sup> In fact, typically government supreme resolutions require no more than executive approval, essentially avoiding political interaction and thus following a less transparent institutional path. For the sake of comparison, Table 1 also includes a basic contrast between democratic and dictatorial regimes. Perhaps the most dramatic differences between these two are that discretionary trade actions during the latter occur mainly through tariff rather than non-tariff barriers and, unsurprisingly, through Supreme Resolutions instead of Supreme Decrees.

Data on democracy and duration of democracy are from the well-known Polity IV data set by Gurr and Jagers (2001), which is an annual index based on three categories that account for different characteristics of the political process.<sup>10</sup> This index of democracy goes from zero to ten with higher scores representing higher degrees of democracy. Additional data on the political process are from Henisz (2000) who derives a

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<sup>7</sup> Rama (1994) also uses exports and imports as additional deflators. When replicating our empirical work using these other deflators our findings do not change. In the interest of economy these findings are not reported but are available upon request. Data related with number of firms, the natural deflator, are not available.

<sup>8</sup> Note that although we have individual information on rent-seeking actions since 1925, the analysis begins with 1935 because of the lack of real GDP data prior to that date.

<sup>9</sup> Tariff barriers include (i) tariff rates or, in the case of exports, subsidy rates; (ii) the reference price used to calculate tariffs and subsidies, which are frequently used instead of the actual international price; and (iii) exchange rates, which from 1933 to 1959 were multiple exchange rates. Non-tariff barriers include the item's position, quotas, and other non-price related barriers.

<sup>10</sup> The categories are *executive recruitment*, *independence of authority*, and *political competition*. The first measures the extent of institutionalization, the competitiveness of executive selection in terms of electoral systems, and the openness of executive recruitment. The second reflects the extent to which preferences of third parties are taken into account. The third reflects the extent to which the political system allows the non-elite to influence the political elite. See also Gurr, Jagers and Moore (1998).

measure of political constraints from a simple spatial model of political interaction that incorporates information on the number of independent branches of government with veto power and the distribution of preferences across and within those branches. It is scaled from zero to one, where the higher the number, the more restrictive the political decision-making of the country. Additional standard controls, such as terms of trade, rates of growth, and others, come from Rama (1994), and the World Bank (2004).<sup>11</sup> In Table 2 we present simple correlation measures between rent-seeking and democracy. We find that the former is negatively correlated with democracy (-0.43) regardless of economic sector. Furthermore, rent-seeking is negatively associated with duration of democracy (-0.66) and our measure of political constraints (-0.08).

### 3. Time-Series Evidence

Our benchmark long-run time-series specification is:

$$RS_t^* = RS(dy_t, ISI_t, EP_t, PV_t) \quad (1)$$

where  $RS_t^*$  represents the number of rent-seeking actions per year as a percentage of gross domestic product and  $dy_t$  reflects the annual growth rate of the economy. We follow Rama (1994) and include the variables  $ISI_t$  and  $EP_t$ , which correspond to Import Substitution policies and Export Promotion policies, respectively. We assign a value of 1 for the years when such policies were followed and zero otherwise.<sup>12</sup> Our variable of interest is  $PV_t$ , which reflects (i) the quality of the democratic regime, (ii) the duration of democracy, and (iii) the extent of political constraints, as defined above.

As shown by Rama (1993) the behavior of the government in undertaking action is not automatic and has some degree of adjustment. We consider an adaptive expectations scheme where the parameter  $\gamma$  affects the speed of adjustment. Consequently,  $RS_t - RS_{t-1} = \gamma (RS_t^* - RS_{t-1})$ , or  $RS_t = \gamma RS_t^* + (1-\gamma)RS_{t-1}$ , implying that (1) becomes:

$$RS_t = \gamma RS(dy_t, ISI_t, EP_t, PV_t) + (1-\gamma)RS_{t-1} \quad (2)$$

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<sup>11</sup> In particular, we use a simple measure of democracy variable that is similar to Gastil (1990). When using this variable our results throughout this paper do not change.

Furthermore, if we assume a linear function, (2) becomes:

$$RS_t = \beta_1 Dy_t + \beta_2 ISI_t + \beta_3 EP_t + \beta_4 PF_t + \beta_5 RS_{t-1} + \varepsilon_t \quad (3)$$

where  $\beta_5 = 1 - \gamma$  represents the speed of adjustment for the government in undertaking actions on rent-seeking activities. In this reduced form we expect that higher rates of growth will be associated with lower incentives to undertake rent-seeking actions ( $\beta_1 < 0$ ). We also expect  $ISI$  and  $EP$  to enter with a positive coefficient, since both policies (import-substitution and export promotion) are discretionary ( $\beta_2, \beta_3 > 0$ ). With respect to the political variables, the current literature described above argues that rent-seeking actions may decrease in times of democracy, perhaps due to more accountability, more transparency or constraints, or increasing maturity of democracies. For instance, on the one hand, the lack of possibilities for criticizing decisions could increase the supply of protection by policymakers. On the other hand, reduced political competition could also lead to a lower demand for protection by parties.

In Table 3 we present regression estimates based on equation (3). The rate of growth of real gross domestic product has a negative relationship with rent-seeking, although it is not statistically significant. The dummy variables that reflect import-substitution and export-promotion strategies are both positive and statistically significant in all the specifications. More rent-seeking actions were pursued during such periods in the Uruguayan economy. Additionally, our rent-seeking variable shows a moderate degree of persistence, with the autoregressive coefficient ranging from 0.48 to 0.70. With respect to our variables of interest, we find that democracy has a negative and significant relationship with rent-seeking. Furthermore, we find that duration of democracy also yields a negative and statistically significant association with rent-seeking and that higher political constraints in the policy decision process are also negatively and significantly associated with rent-seeking behavior. In fact, bear in mind that a one-point increase in the index of democracy is associated with a 2.89-point decline in the index of rent-seeking in the short run, and an 8.3 decline in the long run. An additional year of democracy is linked with a decline of 1.67 points in the rent-seeking index in the short run, and a reduction of 3.2 points in the long run. Similarly, a 10-percent increase in the

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<sup>12</sup> Import substitution and export promotion policies were sometimes carried out simultaneously. Thus, it is

index of political constraints measure is linked to a decline of 2.2 points of the rent-seeking measure in the short run and a reduction of 7.3 points in the long run.

Just as noteworthy, Table 3 also shows findings when using either identified or non-identified rent-seeking actions as our dependent variables instead of using total rent-seeking actions. Identified actions refer to those rent-seeking actions that explicitly identified a group, firm, or individual as the beneficiary of the discretionary trade policy. On the other hand, non-identified actions refer to those that did not explicitly identify a beneficiary of the rent-seeking policy or action. In this case, the prior is straightforward. Firms or groups that were not openly identified as beneficiaries of discretionary trade policies may have been able to extract higher rents. As in the case of total rent-seeking actions, the political variables considered yield negative and statistically significant coefficients.<sup>13</sup> Interestingly, the coefficient estimates of the political variables when focusing on rent-seeking actions of identified beneficiaries are smaller than the ones estimated for non-identified beneficiaries. In particular, the differences in estimates are much larger in the case of democracy and political constraints than in the case of duration. While a one-point increase in the index of democracy leads to a short-run decline of 1.4 points in the index of identified rent-seeking actions and a 3.1 point decline in the long run, it leads to a decline of 2.5 points in the index of non-identified rent-seeking actions in the short run and 5.1 points in the long run. Similarly, an additional year of democracy in Uruguay is linked with a decline of 0.46 points in the index of identified rent-seeking actions, but to a decline of 1.41 points in the index of non-identified rent-seeking actions. Finally, we find that the political constraints coefficient is statistically significant for non-identified rent-seeking actions, only. A 10-percentage point increase in the index of political constraints is linked with declines of 0.6 and 1.6 points in the short run and the long run, respectively. In the case of non-identified actions, the decline is 2.3 and 4.8 points in the short and long run, respectively.

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not infrequent that the corresponding dummies equal one at the same time.

<sup>13</sup> An exception is the case of the political constraints with identifiable beneficiaries, which yields a coefficient with the expected negative sign; nonetheless, this finding is statistically insignificant.

#### 4. Additional Time-Series Evidence

Table 4 shows the coefficient estimates of our variables of interest when classifying rent-seeking by economic activity, trading activity, type of law, and type of rent-seeking action. While we test the same specification (3) as before, for the sake of economy we report the coefficients of the variables of interest only. When focusing on the recipient of the discretionary trade policy in terms of economic activity and, in particular, in terms of differences between manufacturing and non-manufacturing industries, we find a negative and significant coefficient for all the political variables considered, even in the case of identified and non-identified actions. In particular, we find that (i) the negative coefficient of the political variable is larger for manufacturing rent-seeking actions than the one for non-manufacturing actions; and (ii) the estimates for non-identified actions in manufacturing activities are larger than for identified actions, while the opposite tends to occur for actions in the non-manufacturing sector. A one-point increase in the index of democracy is linked to a reduction of 2.6 points in the manufacturing rent-seeking variable, while the reduction of non-manufacturing rent-seeking variable is only approximately 0.84 points. Additionally, an additional year of democracy is linked to a reduction of 1.63 points in the index of rent-seeking in manufacturing but a reduction of 0.15 points in non-manufacturing rent-seeking activities.<sup>14</sup> As before, the impact of non-identified rent-seeking actions is larger than that of identified actions. A one-point increase in the index of democracy is related to a decline in the rent-seeking index of 1.2 points for identified actions in the manufacturing sector and 2.3 points for non-identified actions in the same sector.<sup>15</sup>

In terms of rent-seeking actions by trading activity, rent-seeking actions favoring exporters are more likely linked with political variables than import activities. For instance, a one-point increase in the index of democracy is linked to a 2.2-point decline in rent-seeking actions favoring exporters, compared to only 1.1 points in the case of importers. Also, an additional year of democracy is related to a 1.4-percent decline in rent-seeking actions in exports, compared to a reduction of approximately 0.3 percent in

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<sup>14</sup> Furthermore, the coefficient is statistically insignificant in this case.

<sup>15</sup> In the case of non-manufacturing rent-seeking actions, a one-point increase in the index of democracy is associated with a decline in the index of identified actions by 0.56 points and by 0.22 points for non-identified actions, although the impact is not significant in the latter.

action in imports. Similarly, a 10-percent increase in the political constraints variable leads to a decline in the index of rent-seeking actions of 2.1 points for exporters and 0.3 points for importers. Finally, unlike identified rent-seeking actions, non-identified rent-seeking export actions display a strong and statistically significant association with the political variables considered in this study.<sup>16</sup> In the case of imports, the link between rent-seeking actions and political variables is not statistically significant in most cases, and when it is, the results are not robust.

When focusing on the type of law used when issuing discretionary policies in trade, we are more likely to find a negative and statistically significant coefficient when rent-seeking actions are implemented through *supreme resolutions* rather than *supreme decrees*. This is somewhat unsurprising as the former, more frequently attached to less democratic regimes, tend to be easier to hide and undo than the latter, which tend to be the outcome of more transparent interactions. The reduction of rent-seeking actions due to a one-point increase in the index of democracy when resolutions are made (1.81 points) is almost twice the 0.98 point reduction when decrees are issued.<sup>17</sup> As before, we find that within resolutions, the impact of political variables on rent-seeking actions is stronger in the case of non-identified actions. An additional year of democracy is linked to a decline in the index of rent-seeking actions of 1 point for identified resolutions, and 1.4 for non-identified resolutions. In the case of political constraints, the impact is only significant for non-identified actions.

We additionally find that political variables tend to have a negative and significant association with either non-tariff or tariff-like actions. However, the declining effect on rent-seeking is stronger in the case of the latter. A one-point increase in the index of democracy is associated with a decrease of non-tariff actions of 1.1 points but of 2.7 points in the case of tariff-like actions. An additional year of democracy leads to a decline in non-tariff actions of 0.5 but it leads to a decrease of 1.4 points in the case of tariff-like actions. Finally, an increase of 10 percent from the mean in the index of

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<sup>16</sup> A one-point increase in the index of democracy is associated with a decline of 2.4 points in the index of non-identified exports actions, while the decline for identified actions equals 0.15, which is not statistically significant. Similarly, a 10-percent increase from the mean in the index of political constraints is correlated with a 2-point decline in the index of actions in favor of non-identified export firms. Again, for identified rent-seeking actions the reduction is not statistically significant.

political constraints determines a decline of tariff-like actions of 2.3 points, and for non-tariff actions of 0.5 points, where the latter is statistically insignificant.

## 5. Panel Data Evidence

We repeat the previous analysis but use panel data for three economic sectors, agriculture, manufacturing, and services. We reformulate our regression equation (3) as:

$$RS_{it} = \beta_1 Dy_{it} + \beta_2 ISI_{it} + \beta_3 EP_{it} + \beta_4 PF_{it} + \beta_5 RS_{i,t-1} + \mu_i + \varepsilon_{i,t} \quad (4)$$

where  $\mu_i$  represents the sector-specific effect. In Table 5 we report a fixed-effects estimator and, analogous to previous results, we find that our variables of interest have a negative and statistically significant relationship with rent-seeking. As before, we also find that the coefficient of the political variable is higher in regressions involving non-identified actions than in the ones using identified actions. A one-point increase in the index of democracy is associated with a 2.7-point decrease in the index of rent-seeking actions. The impact of a longer-lasting democracy is stronger for non-identified actions, resulting in a decline of 1.8 points as compared to 0.9 points in the case of identified actions. As in the time-series case, we also study different layers of actions and report the results in Table 6. When focusing on the type of trading, we find that better democracies, that is, those that are stronger, more durable, and with fewer political constraints, are linked with a decline in rent-seeking actions. This is particularly true in the case of exporters, which appears to be driven mainly by the negative and statistically significant relationship in the non-identified case. On the other hand, political variables also yield a negative association with rent-seeking actions classified by type of law, as also shown in Table 6. However, this negative coefficient is statistically significant only in the case of actions issued through Supreme Resolutions and tends to be larger, in absolute value, for non-identified actions. Finally, the reduction of rent-seeking actions linked with better democracy is stronger when we consider tariff-like actions than when

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<sup>17</sup> The difference is even larger for duration of democracy (1.24 vs. 0.32 points due to an additional year of democracy). Also, the impact of the index of political constraints is not statistically significant.

considering non-tariff like actions. Once again, within the group of tariff-like actions, the effect is larger for actions directed to non-identified agents.<sup>18</sup>

Given that rent-seeking actions are heavily concentrated in the manufacturing sector data, it is possible to use the two-digit International Standard Industry Classification (ISIC) codes to identify the different manufacturing activities that were granted protection during the period under study. We divide the manufacturing sector into the following activities: (i) Manufacture of Food, Beverages and Tobacco (Code 31), (ii) Textile, Wearing Apparel and Leather Industries (code 32), (iii) Manufacture of Paper and Paper Products, Printing and Publishing (code 34), (iv) Manufacture of Chemicals and Chemical, Petroleum, Coal, Rubber and Plastic Products (code 35), (v) Manufacture of Non-Metallic Mineral Products, except Products of Petroleum and Coal (code 36), (vi) Manufacture of Fabricated Metal Products, Machinery and Equipment (code 38), (vii) Rest of Manufacturing (codes 33, 37, and 39).

In Table 7 we present our baseline fixed-effects regression estimates, which are analogous to those presented in Table 5 for the panel data set of three economic sectors. We also find here that rent-seeking actions across manufacturing activities are negatively associated with all our variables of interest. However, this negative relationship is statistically significant only in the case of duration of democracy and the index of political constraints. Interestingly, the index of democracy is not statistically significant. Consistent with previous results, the impact of a more durable democracy or more constraints on political interaction is stronger among non-identified than among identified rent-seeking actions.<sup>19</sup>

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<sup>18</sup> While in the estimations above we implicitly imposed homogeneity of coefficients across sectors, this however, might not be the case as not only do intercepts may differ but also the coefficient of the variable of interest across economic sectors. When allowing for heterogeneous slopes we find that the effects of political variables on rent-seeking actions may be channeled through the manufacturing sector. If we increase the index of democracy by one point, the index of rent-seeking actions in manufacturing will decrease by 2.25 points while the index of identified (non-identified) actions on manufacturing declines by 0.6 (2.26) points. Agriculture and services are not statistically significant

<sup>19</sup> In this case, another year of democracy would imply a decline in the index of rent-seeking actions of 0.05 (0.08) points in the short (long) run among identified actions, while it declines 0.16 (0.24) points in the short (long) run among non-identified actions. On the other hand, a 10-percent increase from the mean of the index of political constraints would be associated with a decrease in the index of rent-seeking actions of 0.05 (0.08) points in the short (long) run among identified actions, while it declines 0.21 (0.33) points in the short (long) run among non-identified actions.

Table 8 further analyzes the interaction between political variables and rent-seeking by focusing on the same rent-seeking sub-categories as before. As before, we find that discretionary trade policy actions directed towards exporters have a negative and significant association with political variables in most cases. Also as before, in non-identified cases the impact tends to be stronger.<sup>20</sup> Additionally, in this case rent-seeking actions issued through supreme decrees, either identified or non-identified, have no robust relationship with the index of democracy. On the other hand, democracy is mostly linked to rent-seeking actions issued through supreme resolutions. This finding appears to be mainly driven by the impact on resolutions that do not identify the favored agents. Its impact is not only larger, but also statistically significant relative to supreme resolutions affecting identified agents. Finally, we find that political variables have no significant association with rent-seeking via non-tariff-related actions. In most cases, the relationship changes sign and becomes positive, although it remains statistically insignificant. In contrast, better democracies are related to lower rent-seeking actions in the form of tariff-like policies. This result holds for identified and non-identified tariff-like actions when using duration of democracy and political constraints. In these two cases we also find that the impact is stronger for actions that do not identify favored agents. An additional year of democracy is linked to a decline in the index of tariff-like actions of 0.15 points, with the decline for identified and non-identified agents being equal to 0.06 and 0.14 points, respectively. In the case of political constraints, the differences are smaller. A 10-percent increase from the mean is associated with declines of 0.11 and 0.17 points, respectively, in tariff-like actions for identified and non-identified agents.<sup>21</sup>

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<sup>20</sup> However, we find that actions in favor of importers have a positive relationship although not necessarily statistically significant, especially, in the case of identified actions.

<sup>21</sup> When allowing for heterogeneous slopes we find that the political variables have a negative and significant relationship with rent-seeking across manufacturing activities. There are some differences though. We find a robust negative relationship between democracy and rent-seeking in textiles (ISIC 32) and metal products (ISIC 38). In textiles, this negative and significant relationship holds for both identified and non-identified actions. We find that the impact of better democracy is stronger for non-identified actions. In the case of metal products, we find that the negative and significant relationship between rent-seeking actions and democracy is mainly driven by non-identified actions. We also find that the impact of a better democracy is stronger for non-identified actions, regardless of the democracy indicators.

## 6. Conclusions

There is a backlash against democracies in several countries, as they have been linked with rent-seeking behavior, corruption, and other recent institutional problems in many countries in both Eastern Europe and Latin America. While it may be argued that young democracies tend to struggle with inefficient institutional behavior, the conventional wisdom suggests that, once democracies take hold and political constraints are minimized, institutions will improve and rent-seeking behavior will thus subside. In fact, according to the theory of encompassing interest, rulers with expectations of having a long tenure in power have an incentive to provide good institutions in the form of adequate property rights, an enforceable rule of law, and an efficient judiciary system (Olson, 1992; Wittman, 1989). This is because, in a repeated game context, good institutions and good policies are expected to contribute towards the growth and stability of the economy, which will thus translate in higher permanent returns for the ruler in the form of taxes and other rents. In short, duration of democracies matters. While the experience of the newly installed democratic regimes of the former Soviet republics is does not necessarily contradict the encompassing interest view, as these typically involve embryonic processes, the relatively more mature democracies in Latin America appear to be somewhat at odds with such paradigm. After all, most countries in this region re-introduced democratic regimes during the early 1980s and, for the most part, have kept such regimes ever since. Still, the common view of broad institutional weakness and, in particular, the perception of widespread rent-seeking and corruption deeply permeates society.

With the aim of better understanding the issues above, in this paper we use objective institutional historical data to test the link between extent, duration, and transparency in democracies and rent-seeking behavior using time-series and panel data approaches. In order to minimize recent criticisms on country heterogeneity we focus on the case of Uruguay, an ethnically homogeneous country. Overall, we find three main results. First, democratic regimes are negatively linked with rent-seeking actions. Second, the longer the duration of democracy, the less rent-seeking in a society. Third, legislation enacted more transparently is negatively correlated with rent-seeking behavior. Our results are robust to the use of different econometric methods and basic robustness tests.

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**Table 1. Summary Statistics**

|                       | Full Sample      | Democracy       | Dictatorship     |
|-----------------------|------------------|-----------------|------------------|
| Total Actions         | 100.00<br>(42.5) | 85.62<br>(34.3) | 122.70<br>(45.1) |
| - Identified          | 47.0<br>(21.7)   | 43.5<br>(18.2)  | 52.6<br>(25.9)   |
| - Non-Identified      | 53.0<br>(29.0)   | 42.1<br>(20.6)  | 70.1<br>(32.6)   |
| By Economic Activity  |                  |                 |                  |
| - Manufacturing       | 81.01<br>(37.4)  | 67.52<br>(29.5) | 102.31<br>(39.4) |
| - Non-Manufacturing   | 18.99<br>(11.0)  | 18.11<br>(8.1)  | 20.39<br>(14.5)  |
| By Trading Activity   |                  |                 |                  |
| - Exports             | 40.58<br>(36.1)  | 24.57<br>(21.4) | 65.86<br>(40.5)  |
| - Imports             | 59.30<br>(27.3)  | 60.92<br>(18.2) | 56.74<br>(37.9)  |
| By Type of Law        |                  |                 |                  |
| - Supreme Decree      | 67.26<br>(32.2)  | 73.66<br>(25.6) | 57.16<br>(39.2)  |
| - Supreme Resolution  | 32.51<br>(37.1)  | 11.92<br>(18.9) | 65.01<br>(35.5)  |
| By Type of Action     |                  |                 |                  |
| - Non-Tariff Barriers | 49.53<br>(21.5)  | 49.80<br>(18.0) | 49.11<br>(26.8)  |
| - Tariff Barriers     | 44.24<br>(31.4)  | 30.46<br>(21.5) | 65.99<br>(32.6)  |

*Notes:* Rent-seeking actions in Uruguay as percentage of gross domestic product, 1935-1983. Average total actions during the period equals 100. Standard deviations in parentheses.

**Table 2. Rent-Seeking and Political Process: Simple Correlation**

| Actions               | Democracy        | Duration of<br>Democracy | Political<br>Constraints |
|-----------------------|------------------|--------------------------|--------------------------|
| Total Actions         | -0.432<br>(0.00) | -0.658<br>(0.00)         | -0.083<br>(0.56)         |
| - Identified          | -0.285<br>(0.05) | -0.489<br>(0.00)         | 0.171<br>(0.24)          |
| - Non-Identified      | -0.419<br>(0.01) | -0.598<br>(0.00)         | -0.250<br>(0.09)         |
| By Economic Activity  |                  |                          |                          |
| - Manufacturing       | -0.465<br>(0.00) | -0.688<br>(0.00)         | -0.191<br>(0.19)         |
| - Non-Manufacturing   | -0.087<br>(0.54) | -0.204<br>(0.16)         | 0.328<br>(0.03)          |
| By Trading Activity   |                  |                          |                          |
| - Exports             | -0.586<br>(0.00) | -0.655<br>(0.00)         | -0.515<br>(0.00)         |
| - Imports             | 0.104<br>(0.47)  | -0.157<br>(0.28)         | 0.551<br>(0.00)          |
| By Type of Law        |                  |                          |                          |
| - Supreme Decree      | 0.194<br>(0.18)  | -0.046<br>(0.75)         | 0.501<br>(0.00)          |
| - Supreme Resolution  | -0.664<br>(0.00) | -0.711<br>(0.00)         | -0.535<br>(0.00)         |
| By Type of Action     |                  |                          |                          |
| - Non-Tariff Barriers | -0.001<br>(0.99) | -0.312<br>(0.03)         | 0.448<br>(0.00)          |
| - Tariff Barriers     | -0.563<br>(0.00) | -0.651<br>(0.00)         | -0.440<br>(0.00)         |

*Note:* Numbers in parentheses represent p-values.

**Table 3. Political Determinants of Rent-Seeking: Time-Series Evidence**

|   | Total Actions         |                          |                          | Identified Actions    |                          |                          | Non-Identified Actions |                          |                          |
|---|-----------------------|--------------------------|--------------------------|-----------------------|--------------------------|--------------------------|------------------------|--------------------------|--------------------------|
|   | Index of<br>Democracy | Duration of<br>Democracy | Political<br>Constraints | Index of<br>Democracy | Duration of<br>Democracy | Political<br>Constraints | Index of<br>Democracy  | Duration of<br>Democracy | Political<br>Constraints |
| Constant                                | 14.8438<br>(12.76)    | 29.3692 **<br>(13.10)    | 12.9427<br>(11.93)       | 4.1024<br>(4.89)      | 4.2425<br>(4.84)         | 0.5722<br>(4.57)         | 21.5908 **<br>(10.78)  | 31.2589 **<br>(10.15)    | 22.5615 **<br>(11.12)    |
| Rent-Seeking Actions<br>lagged 1 period | 0.6508 **<br>(0.10)   | 0.4762 **<br>(0.12)      | 0.6916 **<br>(0.08)      | 0.5476 **<br>(0.12)   | 0.5227 **<br>(0.12)      | 0.6431 **<br>(0.10)      | 0.5050 **<br>(0.12)    | 0.3291 **<br>(0.14)      | 0.5237 **<br>(0.11)      |
| Growth in Real GDP                      | -77.7642<br>(64.87)   | -112.8507 *<br>(60.37)   | -61.9632<br>(65.45)      | -5.7783<br>(34.79)    | -15.3098<br>(33.86)      | -8.6579<br>(35.33)       | -66.3959<br>(65.28)    | -111.4236 **<br>(54.33)  | -47.7182<br>(62.85)      |
| Export Promotion                        | 32.1278 **<br>(12.47) | 48.6469 **<br>(12.61)    | 29.6766 **<br>(12.42)    | 18.7098 **<br>(4.85)  | 22.4269 **<br>(5.31)     | 17.4866 **<br>(4.94)     | 16.5223<br>(12.09)     | 29.2829 **<br>(12.00)    | 14.7206<br>(11.87)       |
| Import Substitution                     | 38.8088 **<br>(12.52) | 45.1903 **<br>(11.46)    | 55.7345 **<br>(18.20)    | 26.6619 **<br>(7.43)  | 25.1463 **<br>(6.73)     | 26.3622 **<br>(9.52)     | 20.2062 **<br>(10.26)  | 21.4966 **<br>(8.77)     | 40.3440 **<br>(16.50)    |
| Political Variable                      | -2.8927 *<br>(1.50)   | -1.6706 **<br>(0.51)     | -74.6346 *<br>(38.74)    | -1.3956 **<br>(0.65)  | -0.4597 **<br>(0.22)     | -18.9422<br>(14.14)      | -2.5021 **<br>(1.19)   | -1.4091 **<br>(0.39)     | -75.8084 **<br>(36.65)   |
| R-Squared                               | 0.7054                | 0.7505                   | 0.7052                   | 0.7307                | 0.7331                   | 0.7123                   | 0.4879                 | 0.5865                   | 0.4993                   |

*Notes:* (\*\*) reflects statistical significance at five percent or higher; (\*) reflects statistical significance at ten percent. Results are based on specification (3); the explanatory political variable is one of the following variables: (i) index of democracy, (ii) duration of democracy, or (iii) political constraints, depending on the column, as indicated on the heading. Identified actions refer to those rent-seeking actions that explicitly identified a group, firm, or individual as the beneficiary of the discretionary trade policy. On the other hand, non-identified actions refer to those that did not explicitly identify a beneficiary. The dependent variable is the annual number of rent-seeking actions in Uruguay between 1935 and 1983 adjusted by gross domestic product. The numbers in parentheses are robust standard errors.

**Table 4 Time-Series Robustness Tests**

|                                      | Index of<br>Democracy | Duration of<br>Democracy | Political<br>Constraints |
|--------------------------------------|-----------------------|--------------------------|--------------------------|
| <b>ECONOMIC ACTIVITY</b>             |                       |                          |                          |
| Manufacturing Sector                 | -2.5662 *             | -1.6393 **               | -63.8714 *               |
|                                      | (1.35)                | (0.48)                   | (35.94)                  |
| - Manufacturing, Identified          | -1.1873 **            | -0.5289 **               | -18.2158                 |
|                                      | (0.52)                | (0.17)                   | (12.82)                  |
| - Manufacturing, Non-Identified      | -2.2790 **            | -1.3420 **               | -65.3688 **              |
|                                      | (1.09)                | (0.38)                   | (33.01)                  |
| Non-Manufacturing Sector             | -0.8445 **            | -0.1482                  | -19.1508 **              |
|                                      | (0.35)                | (0.12)                   | (6.73)                   |
| - Non-Manufacturing, Identified      | -0.5633 **            | -0.0626                  | -8.1802 **               |
|                                      | (0.22)                | (0.08)                   | (4.06)                   |
| - Non-Manufacturing, Non-Identified  | -0.2201               | -0.0528                  | -8.5018                  |
|                                      | (0.28)                | (0.09)                   | (6.66)                   |
| <b>TRADING ACTIVITY</b>              |                       |                          |                          |
| Exports, Total Actions               | -2.1843 **            | -1.4364 **               | -69.7855 **              |
|                                      | (1.11)                | (0.40)                   | (33.26)                  |
| - Exports, Identified                | -0.1466               | -0.1699 **               | -10.9047 *               |
|                                      | (0.19)                | (0.06)                   | (6.60)                   |
| - Exports, Non-Identified            | -2.3644 **            | -1.3509 **               | -65.0000 **              |
|                                      | (0.99)                | (0.36)                   | (28.02)                  |
| Imports, Total Actions               | -1.0940               | -0.2663                  | -10.3420                 |
|                                      | (0.78)                | (0.23)                   | (23.70)                  |
| - Imports, Identified                | -0.9125 *             | -0.1412                  | -5.1861                  |
|                                      | (0.52)                | (0.18)                   | (11.27)                  |
| - Imports, Non-Identified            | 0.8445                | 0.2191                   | 21.1161                  |
|                                      | (0.65)                | (0.18)                   | (21.98)                  |
| <b>TYPE OF LAW</b>                   |                       |                          |                          |
| Supreme Decree, Total Actions        | -0.9752               | -0.3175                  | -34.6726                 |
|                                      | (0.93)                | (0.27)                   | (26.98)                  |
| - Supreme Decree, Identified         | 0.0249                | 0.0884                   | -6.1441                  |
|                                      | (0.50)                | (0.15)                   | (13.79)                  |
| - Supreme Decree, Non-Identified     | -1.0568               | -0.4267 **               | -28.7058                 |
|                                      | (0.75)                | (0.21)                   | (23.81)                  |
| Supreme Resolution, Total Actions    | -1.8075 *             | -1.2385 **               | -32.6781                 |
|                                      | (1.04)                | (0.36)                   | (26.88)                  |
| - Supreme Resolution, Identified     | -1.0509 *             | -0.5015 **               | -6.1340                  |
|                                      | (0.67)                | (0.16)                   | (14.52)                  |
| - Supreme Resolution, Non-Identified | -1.4148 **            | -0.8928 **               | -44.1670 *               |
|                                      | (0.70)                | (0.31)                   | (23.70)                  |
| <b>TYPE OF ACTION</b>                |                       |                          |                          |
| Non-Tariff-related Actions           | -1.1274 *             | -0.4550 **               | -16.2933                 |
|                                      | (0.65)                | (0.20)                   | (15.78)                  |
| - Non-Tariff, Identified             | -0.7513               | -0.3143 *                | -5.5996                  |
|                                      | (0.56)                | (0.17)                   | (12.33)                  |
| - Non-Tariff, Non-Identified         | -0.1008               | -0.0582                  | -7.1409                  |
|                                      | (0.34)                | (0.11)                   | (8.71)                   |
| Tariff-related Actions               | -2.6916 **            | -1.4356 **               | -74.2082 *               |
|                                      | (1.14)                | (0.39)                   | (41.60)                  |
| - Tariff, Identified                 | -0.8549 **            | -0.2605 **               | -31.7481 **              |
|                                      | (0.28)                | (0.12)                   | (9.24)                   |
| - Tariff, Non-Identified             | -2.1665 **            | -1.1723 **               | -60.2165 *               |
|                                      | (1.04)                | (0.34)                   | (34.03)                  |

Notes: (\*\*) reflects statistical significance at five percent or higher; (\*) reflects statistical significance at ten percent. Results are based on specification (3) but only the coefficients of the variables of interest (index of democracy, duration of democracy, political constraints) are reported. The dependent variable is the annual number of rent-seeking actions in Uruguay between 1935 and 1983 adjusted by gross domestic product and classified in terms of economic activity, trading activity, type of law, and type of action, and by whether they identified the beneficiary or not. They are shown in the first column. The numbers in parentheses are robust standard errors.



**Table 5. Political Determinants of Rent-Seeking: Panel Data Evidence**

|                           | Total Actions         |                          |                          | Identified Actions    |                          |                          | Non-Identified Actions |                          |                          |
|---------------------------|-----------------------|--------------------------|--------------------------|-----------------------|--------------------------|--------------------------|------------------------|--------------------------|--------------------------|
|                           | Index of<br>Democracy | Duration of<br>Democracy | Political<br>Constraints | Index of<br>Democracy | Duration of<br>Democracy | Political<br>Constraints | Index of<br>Democracy  | Duration of<br>Democracy | Political<br>Constraints |
| Rent-Seeking Actions      | 0.7219 **             | 0.6880 **                | 0.7301 **                | 0.6305 **             | 0.6208 **                | 0.6501 **                | 0.6079 **              | 0.5693 **                | 0.6122 **                |
| lagged 1 period           | (0.07)                | (0.07)                   | (0.07)                   | (0.11)                | (0.11)                   | (0.11)                   | (0.09)                 | (0.09)                   | (0.09)                   |
| Growth in Real GDP        | 4.4847                | 2.2899                   | 5.7740                   | 14.2638 **            | 13.5112 **               | 14.4665 **               | -8.2234                | -10.6832                 | -6.8877                  |
|                           | (12.53)               | (11.77)                  | (12.78)                  | (5.41)                | (5.32)                   | (5.41)                   | (12.51)                | (11.79)                  | (12.70)                  |
| Export Promotion          | 7.7122 *              | 10.1313 **               | 7.4035                   | 4.6728 **             | 5.4315 **                | 4.5591 **                | 3.7888                 | 5.9767                   | 3.5344                   |
|                           | (4.98)                | (4.98)                   | (5.02)                   | (2.13)                | (2.18)                   | (2.13)                   | (4.37)                 | (4.38)                   | (4.39)                   |
| Import Substitution       | 8.8754 **             | 8.3443 **                | 14.9009 **               | 6.5462 **             | 6.0726 **                | 7.9095 **                | 4.4214                 | 3.6707                   | 10.2998 **               |
|                           | (4.03)                | (3.99)                   | (5.08)                   | (2.24)                | (2.17)                   | (2.67)                   | (3.38)                 | (3.28)                   | (4.54)                   |
| Political Variable        | -0.7539 **            | -0.3452 **               | -22.4003 **              | -0.3211 **            | -0.1111 **               | -6.8125 *                | -0.6990 **             | -0.3274 **               | -21.3061 **              |
|                           | (0.36)                | (0.12)                   | (10.18)                  | (0.15)                | (0.05)                   | (4.05)                   | (0.32)                 | (0.10)                   | (9.44)                   |
| <i>Fixed Effects for:</i> |                       |                          |                          |                       |                          |                          |                        |                          |                          |
| - Agriculture             | -2.2675               | -1.9622                  | -1.8296                  | -3.6079 **            | -3.7091 **               | -3.5613 **               | 1.8092                 | 2.3404                   | 2.2324                   |
|                           | (3.83)                | (3.71)                   | (3.90)                   | (1.80)                | (1.79)                   | (1.81)                   | (3.25)                 | (3.14)                   | (3.32)                   |
| - Manufacturing           | 17.3616 **            | 20.1649 **               | 17.1867 **               | 9.1731 **             | 9.4463 **                | 8.4645 **                | 16.1560 **             | 18.0558 **               | 16.4218 **               |
|                           | (7.33)                | (7.36)                   | (7.13)                   | (4.05)                | (4.11)                   | (3.98)                   | (5.65)                 | (5.63)                   | (5.59)                   |
| - Services                | -3.2562               | -3.0529                  | -2.7973                  | -3.2364 *             | -3.3202 *                | -3.2187 *                | 0.0280                 | 0.3877                   | 0.4649                   |
|                           | (3.84)                | (3.71)                   | (3.93)                   | (1.79)                | (1.78)                   | (1.81)                   | (3.22)                 | (3.09)                   | (3.30)                   |
| R-Squared                 | 0.8873                | 0.8903                   | 0.8876                   | 0.8922                | 0.8929                   | 0.8914                   | 0.7890                 | 0.7611                   | 0.7530                   |

*Notes:* (\*\*) reflects statistical significance at five percent or higher; (\*) reflects statistical significance at ten percent. Results are based on specification (4). The explanatory political variable is one of the following variables: (i) index of democracy, (ii) duration of democracy, or (iii) political constraints, depending on the column, as indicated in the heading. Identified actions refer to those rent-seeking actions that explicitly identified a group, firm, or individual as the beneficiary of the discretionary trade policy. On the other hand, non-identified actions refer to those that did not explicitly identify a beneficiary. The dependent variable is the annual number of rent-seeking actions in Uruguay between 1935 and 1983 adjusted by gross domestic product. Since these are panel data regressions by sector the total number of observations in each regression is 144. We report constants for the three sectors analyzed here, manufacturing, agriculture, and services. The numbers in parentheses are robust standard errors.

**Table 6. Robustness Tests with Panel Data**

| Dependent Variable                   | Index of<br>Democracy | Duration of<br>Democracy | Political<br>Constraints |
|--------------------------------------|-----------------------|--------------------------|--------------------------|
| <b>TRADING ACTIVITY</b>              |                       |                          |                          |
| Exports, Total Actions               | -0.4706 *             | -0.2495 **               | -16.2307 **              |
|                                      | (0.26)                | (0.10)                   | (6.76)                   |
| - Exports, Identified                | -0.0182               | -0.0377 *                | -1.9470                  |
|                                      | (0.06)                | (0.02)                   | (1.60)                   |
| - Exports, Non-Identified            | -0.5558 **            | -0.2506 **               | -16.6944 **              |
|                                      | (0.23)                | (0.09)                   | (6.18)                   |
| Imports, Total Actions               | -0.2293               | -0.0595                  | -3.2414                  |
|                                      | (0.26)                | (0.07)                   | (7.72)                   |
| - Imports, Identified                | -0.1739               | -0.0268                  | -2.2514                  |
|                                      | (0.14)                | (0.04)                   | (3.53)                   |
| - Imports, Non-Identified            | 0.1786                | 0.0318                   | 5.0043                   |
|                                      | (0.19)                | (0.05)                   | (6.18)                   |
| <b>TYPE OF LAW</b>                   |                       |                          |                          |
| Supreme Decree, Total Actions        | -0.2514               | -0.0857                  | -10.6123                 |
|                                      | (0.32)                | (0.09)                   | (8.99)                   |
| - Supreme Decree, Identified         | 0.0582                | 0.0372                   | -1.7948                  |
|                                      | (0.16)                | (0.04)                   | (4.41)                   |
| - Supreme Decree, Non-Identified     | -0.3131               | -0.1269 *                | -8.7290                  |
|                                      | (0.26)                | (0.07)                   | (7.55)                   |
| Supreme Resolution, Total Actions    | -0.3937 *             | -0.2181 **               | -8.2595                  |
|                                      | (0.23)                | (0.08)                   | (6.43)                   |
| - Supreme Resolution, Identified     | -0.2870 *             | -0.1272 **               | -3.1447                  |
|                                      | (0.15)                | (0.04)                   | (4.15)                   |
| - Supreme Resolution, Non-Identified | -0.2910 *             | -0.1455 **               | -9.0812 *                |
|                                      | (0.16)                | (0.06)                   | (4.86)                   |
| <b>TYPE OF ACTION</b>                |                       |                          |                          |
| Non-Tariff-related Actions           | -0.3384 *             | -0.1359 **               | -5.3727                  |
|                                      | (0.19)                | (0.06)                   | (4.79)                   |
| - Non-Tariff, Identified             | -0.1653               | -0.0779 **               | -1.9123                  |
|                                      | (0.13)                | (0.04)                   | (3.32)                   |
| - Non-Tariff, Non-Identified         | -0.0596               | -0.0310                  | -2.4944                  |
|                                      | (0.10)                | (0.03)                   | (3.02)                   |
| Tariff-related Actions               | -0.6136 **            | -0.2561 **               | -17.6830 **              |
|                                      | (0.29)                | (0.09)                   | (8.86)                   |
| - Tariff, Identified                 | -0.1735 **            | -0.0467 *                | -5.8464 **               |
|                                      | (0.07)                | (0.03)                   | (2.06)                   |
| - Tariff, Non-Identified             | -0.5718 **            | -0.2611 **               | -16.2772 *               |
|                                      | (0.27)                | (0.09)                   | (8.47)                   |

Notes: (\*\*) reflects statistical significance at five percent or higher; (\*) reflects statistical significance at ten percent. Results are based on specification (4), but only the coefficients of the variables of interest (index of democracy, duration of democracy, and political constraints) are reported. The explanatory political variable is one of the following variables: (i) index of democracy, (ii) duration of democracy, or (iii) political constraints, depending on the column, as indicated in the heading. The dependent variable is the annual number of rent-seeking actions in Uruguay between 1935 and 1983 adjusted by gross domestic product and classified in terms of economic activity, trading activity, type of law, and type of action, and by whether they identified the beneficiary or not. They are shown in the first column. Since these are panel data regressions by sector the total number of observations in each regression is 196. The numbers in parentheses are robust standard errors.

**Table 7. Rent-Seeking in the Manufacturing Sector Using Panel Data**

| Variable   | Total Actions      |                       |                       | Identified Actions |                       |                       | Non-Identified Actions |                       |                       |
|--|--------------------|-----------------------|-----------------------|--------------------|-----------------------|-----------------------|------------------------|-----------------------|-----------------------|
|  | Index of Democracy | Duration of Democracy | Political Constraints | Index of Democracy | Duration of Democracy | Political Constraints | Index of Democracy     | Duration of Democracy | Political Constraints |
| Rent-Seeking Actions                             | 0.4650 **          | 0.3858 **             | 0.4430 **             | 0.3794 **          | 0.3509 **             | 0.3742 **             | 0.3679 **              | 0.2915 **             | 0.3439 **             |
| lagged 1 period                                  | (0.08)             | (0.08)                | (0.08)                | (0.07)             | (0.07)                | (0.08)                | (0.08)                 | (0.08)                | (0.08)                |
| Growth in Real GDP                               | 1.2117             | 0.5080                | 0.9789                | 1.8667             | 1.6529                | 1.7743                | -0.2252                | -1.0053               | -0.4761               |
|  | (3.67)             | (3.45)                | (3.59)                | (1.52)             | (1.48)                | (1.50)                | (3.23)                 | (3.06)                | (3.15)                |
| Export Promotion                                 | 4.2012 **          | 5.4505 **             | 4.2210 **             | 2.4009 **          | 2.7195 **             | 2.4198 **             | 2.0825 *               | 3.0469 **             | 2.0617 *              |
|  | (1.36)             | (1.34)                | (1.35)                | (0.66)             | (0.67)                | (0.66)                | (1.08)                 | (1.10)                | (1.08)                |
| ISI Policies                                     | -0.0798            | 3.1576 *              | 2.2394                | 1.7058 *           | 2.5914 **             | 2.0546 **             | -2.0287                | 0.5991                | 0.2108                |
|  | (1.92)             | (1.76)                | (2.15)                | (0.90)             | (0.77)                | (0.95)                | (1.55)                 | (1.45)                | (1.81)                |
| Political Variable                               | -0.1579            | -0.2011 **            | -7.7702 **            | -0.0530            | -0.0536 **            | -1.6378               | -0.1368                | -0.1691 **            | -7.2678 **            |
|  | (0.16)             | (0.05)                | (3.55)                | (0.08)             | (0.02)                | (1.61)                | (0.12)                 | (0.04)                | (2.91)                |
| <i>Fixed Effects for:</i>                        |                    |                       |                       |                    |                       |                       |                        |                       |                       |
| - ISIC 31: Food, Beverages and Tobacco           | 4.3101 **          | 5.3210 **             | 4.8781 **             | 0.5469             | 0.6541                | 0.6042                | 4.7706 **              | 5.5324 **             | 5.2952 **             |
|  | (1.62)             | (1.59)                | (1.65)                | (0.61)             | (0.60)                | (0.61)                | (1.31)                 | (1.31)                | (1.34)                |
| - ISIC 32: Textile, Apparel and Leather          | 8.4094 **          | 10.0541 **            | 9.1530 **             | 3.2561 **          | 3.4948 **             | 3.3376 **             | 6.8846 **              | 7.9058 **             | 7.4906 **             |
|  | (2.26)             | (2.18)                | (2.25)                | (0.98)             | (0.99)                | (1.01)                | (1.79)                 | (1.73)                | (1.77)                |
| - ISIC 34: Paper, Printing and Publishing        | 0.5740             | 1.0668                | 0.9990                | -0.6584            | -0.6007               | -0.6094               | 1.6067 *               | 2.0110 **             | 2.0191 **             |
|  | (1.15)             | (1.12)                | (1.17)                | (0.54)             | (0.54)                | (0.54)                | (0.86)                 | (0.84)                | (0.88)                |
| - ISIC 35: Chemicals                             | 9.0804 **          | 10.8562 **            | 9.8601 **             | 4.9495 **          | 5.2748 **             | 5.0467 **             | 5.9961 **              | 6.9072 **             | 6.5675 **             |
|  | (2.79)             | (2.83)                | (2.80)                | (1.27)             | (1.30)                | (1.29)                | (1.76)                 | (1.75)                | (1.75)                |
| - ISIC 36: Non-Metallic Minerals                 | 0.1037             | 0.5248                | 0.5082                | -0.9572 *          | -0.9124 *             | -0.9114 *             | 1.3699 *               | 1.7297 **             | 1.7683 **             |
|  | (1.17)             | (1.13)                | (1.19)                | (0.52)             | (0.51)                | (0.52)                | (0.88)                 | (0.85)                | (0.89)                |
| - ISIC 38: Metal Products, Machinery & Equipment | 5.0713 **          | 6.1563 **             | 5.6589 **             | 1.4352 *           | 1.5815 **             | 1.4985 *              | 4.7462 **              | 5.4593 **             | 5.2554 **             |
|  | (1.65)             | (1.61)                | (1.67)                | (0.77)             | (0.75)                | (0.78)                | (1.27)                 | (1.22)                | (1.27)                |
| - Rest of Manufacturing                          | 2.0297             | 2.7531 **             | 2.5175 *              | 0.2114             | 0.3103                | 0.2666                | 2.4894 **              | 2.9886 **             | 2.9315 **             |
|  | (1.37)             | (1.31)                | (1.38)                | (0.63)             | (0.63)                | (0.64)                | (1.00)                 | (0.95)                | (1.01)                |
| R-Squared  | 0.6371             | 0.6626                | 0.6440                | 0.6121             | 0.6201                | 0.6129                | 0.4689                 | 0.5089                | 0.4827                |

*Notes:* (\*\*) reflects statistical significance at five percent or higher; (\*) reflects statistical significance at ten percent. Results are based on specification (4). The explanatory political variable is one of the following variables: (i) index of democracy, (ii) duration of democracy, or (iii) political constraints, depending on the column, as indicated on the heading. Identified actions refer to those rent-seeking actions that explicitly identified a group, firm, or individual as the beneficiary of the discretionary trade policy. On the other hand, non-identified actions refer to those that did not explicitly identify a beneficiary. The dependent variable is the annual number of rent-seeking actions in Uruguay between 1935 and 1983 adjusted by gross domestic product by manufacturing sub-category. We report constants for seven manufacturing sectors as described on the text. The numbers in parentheses are robust standard errors.



**Table 8. Robustness of Manufacturing Sector Results**

|                                      | Index of<br>Democracy | Duration of<br>Democracy | Political<br>Constraints |
|--------------------------------------|-----------------------|--------------------------|--------------------------|
| <b>TRADING ACTIVITY</b>              |                       |                          |                          |
| Exports, Total Actions               | -0.1113<br>(0.08)     | -0.1420 **<br>(0.03)     | -6.8397 **<br>(2.17)     |
| - Exports, Identified                | -0.0096<br>(0.03)     | -0.0382 **<br>(0.01)     | -1.5547 **<br>(0.68)     |
| - Exports, Non-Identified            | -0.1584 **<br>(0.07)  | -0.1370 **<br>(0.03)     | -7.1092 **<br>(2.02)     |
| Imports, Total Actions               | 0.2040 *<br>(0.12)    | 0.0379<br>(0.03)         | 5.8993 **<br>(2.67)      |
| - Imports, Identified                | 0.0229<br>(0.07)      | 0.0071<br>(0.02)         | 1.5858<br>(1.43)         |
| - Imports, Non-Identified            | 0.2095 **<br>(0.07)   | 0.0455 **<br>(0.02)      | 5.3214 **<br>(1.91)      |
| <b>TYPE OF LAW</b>                   |                       |                          |                          |
| Supreme Decree, Total Actions        | 0.0169<br>(0.13)      | -0.0498<br>(0.04)        | -0.9279<br>(3.06)        |
| - Supreme Decree, Identified         | -0.0296<br>(0.08)     | -0.0171<br>(0.02)        | -0.6457<br>(1.59)        |
| - Supreme Decree, Non-Identified     | 0.0529<br>(0.09)      | -0.0331<br>(0.03)        | -0.1117<br>(2.29)        |
| Supreme Resolution, Total Actions    | -0.0417<br>(0.06)     | -0.0876 **<br>(0.02)     | -2.6425 *<br>(1.72)      |
| - Supreme Resolution, Identified     | -0.0026<br>(0.03)     | -0.0262 **<br>(0.01)     | -0.3343<br>(0.88)        |
| - Supreme Resolution, Non-Identified | -0.0879 *<br>(0.05)   | -0.0905 **<br>(0.02)     | -4.0026 **<br>(1.50)     |
| <b>TYPE OF ACTION</b>                |                       |                          |                          |
| Non-Tariff-related Actions           | 0.0874<br>(0.09)      | -0.0142<br>(0.03)        | 1.1132<br>(2.04)         |
| - Non-Tariff, Identified             | 0.0824<br>(0.06)      | -0.0071<br>(0.02)        | 1.4008<br>(1.27)         |
| - Non-Tariff, Non-Identified         | -0.0008<br>(0.06)     | -0.0071<br>(0.01)        | -0.4722<br>(1.32)        |
| Tariff-related Actions               | -0.1767 *<br>(0.10)   | -0.1526 **<br>(0.04)     | -6.7294 **<br>(2.75)     |
| - Tariff, Identified                 | -0.1387 **<br>(0.04)  | -0.0572 **<br>(0.01)     | -3.6053 **<br>(0.77)     |
| - Tariff, Non-Identified             | -0.1133<br>(0.09)     | -0.1372 **<br>(0.03)     | -5.6465 **<br>(2.43)     |

Notes: (\*\*) reflects statistical significance at 5 percent or higher; (\*) reflects statistical significance at 10 percent. Results are based on specification (4), but only the coefficients of the variables of interest (index of democracy, duration of democracy, and political constraints) are reported. The explanatory political variable is either one of the following variables: (i) index of democracy, (ii) duration of democracy, or (iii) political constraints, depending on the column, as indicated on the heading. The dependent variable is the annual number of rent-seeking actions in Uruguay between 1935 and 1983 adjusted by gross domestic product and manufacturing sub-category and classified in terms of economic activity, trading activity, type of law, and type of action, and by whether they identified the beneficiary or not. They are shown in the first column.