Does the Type of Political Regime Matter for Trade and Labor Market Policies?

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This article uses cross-country data to examine the link between a country's type of political regime and its degree of openness and labor market distortion. The analysis indicates that more authoritarian regimes are associated with higher trade protection and greater labor market distortions. This supports the view that political authoritarianism may be counterproductive to development in important respects.

The link between the political system of a country and its economic growth has attracted a great deal of attention in recent years (for an extensive survey of the literature see Alesina and Perotti 1994). Empirical studies have yielded mixed results, and a survey of the literature by Przeworski and Limongi (1993) concluded that they did not know whether democracy fosters or hinders economic growth. Authors from Friedman (1962) to Scully (1988) have argued that politically open societies grow at faster rates than societies where freedom is restricted. Others such as Kormendi and Meguire (1985) have found a negative relationship between civil liberty and growth, and Barro (1994) has argued that more political freedom may encourage a greater role for interest groups in the legislative process, thereby retarding growth. Landell-Mills and Serageldin (1992) summarize this literature by concluding that benevolent dictators are rare and that democracies often resort to populist policies that are inimical to growth.

The focus of this article is more narrow. We consider labor policies and, to the extent that they influence labor policies, policies affecting the openness of the economy. What, if any, is the link between such policies and the nature of the political regime? Many governments in developing countries have adopted labor policies—including high minimum wages, public sector overemployment, and job security guarantees—that benefit a small group of “insiders.” But these same policies limit the opportunities of “outsiders,” thereby aggravating income inequality, generating efficiency losses, and possibly discouraging investment and growth. Other countries in the developing world have resisted the tempta-
tion to distort the labor market. Because labor policies are usually chosen for political rather than economic reasons, one would expect the nature of a country's political system and its degree of civil liberties to influence its choice of labor policies.

Does the type of regime really matter? We use data for ninety developing countries to shed light on this question. The article is divided into five sections. Section I discusses possible links between political structure and labor policies. Section II describes a simple political economy model similar to that of Grossman and Helpman (1994), but with a more elaborate labor market. The underlying analytical model is presented in the appendix. Section III discusses data chosen for variables in our estimating equations. Section IV presents results of empirical tests on cross-sectional data and section V summarizes our results.

I. POLITICAL SYSTEMS AND LABOR POLICIES

The existing literature linking economic growth to political regimes mostly avoids an exact definition of "democratic" and "authoritarian." This is understandable, considering the range of political systems existing in the world today. Although we realize that authoritarianism and democracy exist in a continuum, our understanding of the terms is closest to that of Przeworski (1991). He notes that, "Authoritarian regimes abhor independent organizations; they either incorporate them under centralized control or repress them by force" (p. 55, emphasis added). His definition of democracy is pithier: "Democracy is a system in which parties lose elections" (p. 10), but he goes on to say that the key feature of democracies is that they are populated by collective organizations (p. 12). Less authoritarian (and thus more democratic) societies allow independent organizations to participate more freely in the political process. At one extreme, only relatively harmless organizations may be allowed to associate freely—Przeworski gives the examples of stamp collectors societies—but only the most democratic regimes allow a free press, free trade unions, and truly contesting political parties.

There are two opinions about whether efficient labor market policies—defined as market-determined wages and employment levels—are more or less likely to occur under more authoritarian regimes. Country examples provide apparent support for both views. One view is that labor repression, which is only possible under authoritarianism, offsets the rent-seeking behavior of potentially powerful trade unions. According to this notion, freer societies are susceptible to inflated insider wages, strikes, and other forms of industrial unrest and consequently are susceptible to lower investment, less employment, and slower rates of growth. In this view high levels of civil liberty permit trade unions to agitate for above-market rents. With contestable elections, unions are likely to be granted these rents to nullify their political opposition. Hence supporters of this view conclude that authoritarian societies, which are better able to discourage the rent-seeking activities of free unions, are more compatible with labor market efficiency.
Examples from Chile, the Republic of Korea, Singapore, and Turkey in the 1970s and early 1980s support this view. At various times during these two decades, authoritarian regimes repressed trade unions and denied basic rights to workers. And, during the years of repression, Korea, Singapore, and Turkey experienced spectacular growth in the manufacturing sector and an increasing demand for labor. Rising profitability and labor demand in manufacturing increased the welfare of workers as a whole. Although similar results were not immediately apparent during Chile’s authoritarian phase, many observers believe that labor reforms undertaken during authoritarian rule aided the strong resurgence of the Chilean economy in the 1990s.

Examples of democracies that adopted counterproductive labor market policies lend further credence to this argument. In India, long considered to be one of the few stable democracies in the developing world, labor market distortions have been common. For example, highly unionized coal miners in Bihar, one of India’s most populous and politically important states, enjoyed large jumps in real wages in the years before national elections from 1972 to 1985 (Banerji and Sabot 1994). Over the years, democracies as diverse as Trinidad and Tobago, Sri Lanka, and Senegal have awarded large economic rents to their unionized employees.

The contrasting view is that the probability of governments passing inefficient labor legislation to benefit insiders is higher under authoritarian than under democratic regimes. Authoritarian regimes are often subordinate to special interests that let them hold on to power (Ames 1987). Lacking the broader base of more democratic governments, such regimes may use labor policies to acquire support from powerful groups including the urban labor elite. An important difference between democratic and authoritarian regimes is the degree of outsider influence. In a well-functioning democracy outsiders vote and impose some limits on what narrower interest groups can achieve. In a dictatorship the government need only worry about those groups that wield direct power. Because power is less evenly distributed than votes in this view, one should expect insider groups to have a greater say in dictatorships.

Support for this view comes from the fact that labor market distortions persist in many countries that are not democratic. For instance, the authoritarian government of General Velasco in Peru introduced numerous inefficient labor laws. The legacy of these laws continued into the 1980s, when no workers could be dismissed or even made to retire (Sheahan 1987). Sub-Saharan Africa provides many examples. Overstaffing in the public sector, high minimum wages, and restrictions on firing—policies introduced in the Congo, Kenya, Sudan, Tanzania, and Zambia in the 1960s—were typical of postindependence authoritarian African governments that needed to placate urban populations to avoid political unrest, but did not have to worry about millions of poor, informal, and rural workers. The phenomenon of authoritarian regimes succumbing to interest group pressure is not limited to Sub-Saharan Africa. In Egypt in the 1950s and 1960s, President Nasser, needing the support of the urban middle class,
guaranteed all college graduates a public sector job. In Bangladesh in the 1980s, General Ershad needed to neutralize the labor elite represented by SKOP, an organization of trade unions. He negotiated with SKOP and agreed to increase public sector wages and double severance pay, allowances, and nonwage benefits.

Although there are numerous democratic industrial countries with efficient labor markets, there are few long-lived democracies with efficient labor policies in the developing world. A few examples do stand out, such as Botswana and Mauritius—countries that combine relatively free polities with less distorted labor market policies. Also, countries that have made the transition from authoritarianism to democracy recently have been more likely to avoid adverse labor policies. For example, the new government in Chile moved to democracy and trade union freedom without increasing the rents for insiders. The end of repression in Korea in 1987 was initially associated with very contentious industrial relations. However, since 1990, collective bargaining has become an established institutional arrangement, with no negative impact on the functioning of the labor market or wage competitiveness.

The paucity of examples of countries with free political systems and efficient labor markets may merely reflect the fact that political freedom is a relatively new phenomenon in the developing world. However, as more developing countries adopt more participatory political systems, the question of whether such systems will improve or worsen the operation of their labor markets becomes even more pertinent.

II. Analytical Framework

We use a simple analytical framework to develop empirical tests to see which of these two views gets more support from available cross-country data. The framework is based on a static two-sector political economy model similar to that of Grossman and Helpman (1994), but with a more detailed specification of the labor market. An abbreviated version of the model is presented in the appendix. It describes a developing economy with two sectors—an urban, formal, manufacturing sector and a rural, informal, agricultural sector. Labor market distortions, like a minimum wage, are usually introduced to benefit formal sector workers, because informal sector workers are not covered by any labor legislation.

Formal sector workers and owners attempt to sway the government to enact policies favorable to them. Workers want higher minimum wages, and capitalists want higher profits. Therefore, both groups try to limit the degree of openness of the economy. While in a closed economy, above-market minimum wages and above-normal profits can be passed on as higher prices to domestic consumers, this becomes less easy when consumers are free to buy imported substitutes. Rents in the economy are created through protection and then are divided between formal sector workers and capitalists, although sometimes the government itself takes a share of the rent.
Although government policies may be influenced by dispassionate concerns about societal welfare, the government also undertakes actions aimed at maintaining its hold on power. Rulers could have several reasons for wanting to remain in power, one being to continue appropriating “economic rent.” The size of the rent the government wants to expropriate varies—the more venal a government, the more it extracts resources (which are “directly unproductive,” the term coined by Jagdish Bhagwati) from the economy.

The government has to take several factors into account in this sort of a political economy framework. First, it has to decide on its degree of venality—that is, how many resources it wants to seize. This would, in a more complete model than that presented in the appendix, depend on two factors: how much it cares about investment and future growth of the economy and how strongly it believes this venality will affect its chances to continue governing. Second, the government needs to estimate how support from each pressure group will improve its chances of staying in power. In a way, it has to weigh the importance of each group in the political process. For example, in a country where formal labor is fragmented and politically powerless, only capitalists have a voice in the political process. The reverse may be true in societies where organized labor is a key to mobilizing votes.

How could the type of regime matter? First, it could affect the government’s level of venality. If authoritarian regimes tend to be more (or less) corrupt than democratic ones, they will create more (or less) rent through protection, some of which the government will appropriate. Second, the type of regime could affect the influence of different interest groups. If authoritarian regimes tend to be more (or less) subordinate to special interests, including formal sector labor, then they will generate more (less) rent through protection and give part of it to the special interests.

This implies that policies are influenced by political factors (including the nature of the regime and the weight it attaches to labor and capitalist groups) as well as economic factors (wages, prices, and the structure of production and consumption). From this discussion and the formal model in the appendix, we derive two reduced-form equations for the level of protection of the domestic economy and the amount of wage distortions:

\[ \tau = f(e, l, k, R) \]

\[ \omega = f_1(\tau, e, l, k, R). \]

1. For another example of this type of analysis, see Hettich and Winer (1988). They develop the essential elements of tax systems as the outcome of rational behavior in a model where government maximizes expected support.

2. Lal (1984) argues, for example, that successive empires in Northern India’s past were extremely venal. For a theoretical discussion of directly unproductive, profit-seeking (DUP) activities, see Bhagwati, Brecher, and Srinivasan (1984).

The level of protection \( (x) \) depends on economic parameters \( (e) \), the relative political importance of urban workers and capitalists \( (l \text{ and } k) \), respectively, and the nature of the regime \( (R) \). The wage distortion \( (\omega) \) is a function of \( x \) as well as \( e, l, k, \text{ and } R \). In the case of a small economy, the economic parameters that we can expect to influence \( x \) and \( \omega \) include the price elasticities of consumption and production, the wage elasticity of the demand for labor, and the international price of the industrial good. (See the appendix.)

A priori, we expect \( x \) to be increasing in \( l \) and \( k \). As interest groups become more powerful, there will be more pressure to generate protectionist rents. The impact of \( R \), the degree of political authoritarianism, on \( x \) depends on which view about the effect of democratization on protectionism proves to be correct. We expect the wage distortion to be increasing in \( \tau \) and \( l \) and to be decreasing in \( k \). As more rent is available through trade protection, more could be given to urban workers. As the importance of urban labor as an interest group rises, urban workers will be able to get a larger share of the available rent, but an increase in the political importance of capitalists will lower the share of rents going to labor in the formal sector. As described in the previous section, the relationship between \( \omega \) and \( R \) is the subject of debate and the focus of our empirical tests.

III. Estimating Equations and Data

We estimated equations 1 and 2, using cross-sectional data for ninety developing countries, to test whether the type of regime influences the level of trade protection and wage distortion. Our first task was to find consistent cross-country data. Because some data were missing for some countries, the actual number of observations varied from one regression to the other depending on the availability of the variables included in the regression.

For a measure of trade distortion, \( \tau \), we started by using the work of Dollar (1992), who estimates a measure of an economy’s openness to trade for a large number of countries. This index—which we refer to as DOLLAR—rises as the level of protection increases. Because this index is available only for 1990, our analysis using DOLLAR was limited to cross-sectional work for that year. However, DOLLAR, like other measures of trade distortion, has shortcomings. Pritchett (1991) shows that alternative measures of trade distortion produce very different country rankings and argues that the probability of deriving a single measure that produces a correct ranking of countries is very low. (Also see Leamer 1988 and Harrison 1994.) We did not attempt to find such a measure, but we did experiment using alternatives to DOLLAR to check the robustness of our conclusions. Three alternatives were used: the mean frequency of nontariff barriers on manufacturing goods (MNTB), the mean of total import charges on manufacturing goods (TARIFF), and the black market premium (BMP).

Table 1 shows the correlation coefficients between different measures of trade distortion. They were not highly correlated, with correlation coefficients rang-
Table 1. Correlation Coefficients between Different Indexes of Trade Distortion

<table>
<thead>
<tr>
<th>Index</th>
<th>DOLLAR*</th>
<th>Mean frequency of nontariff barriers on manufactured goods, MNTB</th>
<th>Mean total import charges on manufactured goods, TARIFF</th>
<th>Black market premium, BMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOLLAR*</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean frequency of nontariff barriers on manufactured goods, MNTB</td>
<td>0.08</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean total import charges on manufactured goods, TARIFF</td>
<td>-0.21</td>
<td>0.23</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Black market premium, BMP</td>
<td>0.21</td>
<td>0.37</td>
<td>0.08</td>
<td>1.00</td>
</tr>
</tbody>
</table>

a. An index measuring an economy’s openness to trade for a large number of countries (see Dollar 1992).

Source: Authors’ calculations.

The difficulty of choosing a single measure of trade distortion is further demonstrated by table 2, which shows the rankings of the average of each measure of trade distortion for seven regions of low- and middle-income countries. No two measures identified the same region as most trade distorted (1) or most open (7), and South Asia was ranked as most distorted by one measure (TARIFF) and most open by another (DOLLAR).

We relied on DOLLAR as our primary measure and used the others for sensitivity analysis, because DOLLAR provided the largest number of consistent cross-country observations for a recent year, 1990. We could not use some appealing measures of openness—like the one developed by Leamer (1988)—because of the small number of observations for low- and middle-income countries.

Measuring labor market distortions and the degree of protection to insiders was also a difficult empirical task. Ideally, we would have liked to use the ratio of formal to informal or rural wages, adjusting it for different worker characteristics. Once again, however, the data were not available for a large number of countries. Hence, we used as the numerator the average wage of an unskilled worker in manufacturing (obtained from ILO 1991), assuming that unskilled workers have characteristics resembling those of informal workers. Finding a suitable denominator was more problematic, because informal sector wage rates are not available for many countries. Instead, we had to use nonmanufacturing gross domestic product (GDP) per worker as a proxy for the informal wage rate. Thus, our wage distortion index (IDX) is simply the ratio of the manufacturing
Table 2. Rankings of Degree of Trade Distortion in Seven Regions by Four Indexes

<table>
<thead>
<tr>
<th>Index</th>
<th>East Africa</th>
<th>East Asia</th>
<th>Europe and Central Asia</th>
<th>Latin America</th>
<th>Middle East and North Africa</th>
<th>South Asia</th>
<th>West Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOLLAR*</td>
<td>2</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Mean frequency of nontariff barriers on manufactured goods, MNTB</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>7</td>
<td>5</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Mean total import charges on manufactured goods, TARIFF</td>
<td>4</td>
<td>7</td>
<td>5</td>
<td>2</td>
<td>6</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Black market premium, BMP</td>
<td>4</td>
<td>6</td>
<td>7</td>
<td>5</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Note: Rankings are from most distorted (1) to most open (7) and are based on the mean value of each index for each region. Indexes are defined in table 1.

a. An index measuring an economy’s openness to trade for a large number of countries (see Dollar 1992).


wage rate to the nonmanufacturing value added per worker (calculated from World Bank 1993). An increase of this index was taken to imply greater distortions and more privileges for insiders.

For sensitivity analysis we used the proportion of workers in wage employment (PWE) as a second measure of labor market distortion (also from World Bank 1993). We expected PWE to be negatively related to wage distortion, because higher formal wages lead to a decline in output and employment in that sector, pushing more workers into agriculture and other informal activities. We used PWE rather than IDX as the dependent variable to test the robustness of our conclusions.

Table 3 ranks the same seven regions according to our two measures of labor market distortion. The region with the highest mean value of IDX received the ranking of 1, the second highest, 2, and so on. Whereas the region with the lowest mean value of PWE received the ranking of 1, the second lowest, 2, and so on. As can be seen from table 3, the two measures of labor market distortion yielded almost identical rankings for the seven regions.

Regarding economic parameters, in the discussion of the structural equation, we specified three elasticities—the price elasticity of consumption, the price elasticity of production, and the wage elasticity of labor demand—as possible sources of intercountry variance in distortions. Reliable data on these elasticities are not available for most countries, particularly developing countries.

As countries develop, the mix of goods produced and consumed changes also, as do the corresponding average elasticities. This product mix would depend not
just on the income level of a country but also critically on the human capital stock of the labor force (and, perhaps, of the consumers). Therefore, we thought it reasonable to use GDP per capita and the level of schooling as proxies for the economic factors in our structural equations. Both of these variables should be positively related to each of the three elasticities. This would hold under the assumptions that richer developing countries that have a higher stock of human capital are more likely (i) to consume proportionately fewer goods that are necessities and (ii) to have more diversity of production and access to nonlabor factors of production. If richer countries consume a higher proportion of luxury goods than do their poorer peers, increased GDP per capita would be associated with a higher economywide price elasticity of consumption. Although the relationship with schooling is not as intuitive, there is nothing to suggest that more educated consumers would prefer more goods that are necessities. A more diverse and flexible production process should, certainly, be associated with a workforce that is relatively better off and more educated. Richer countries should also, in general, have greater access to capital, technology, and other factors of production (including, of course, skilled labor as opposed to unskilled labor, whose wages were used here as data). Once again, the price elasticity of production should be positively associated with both GDP per capita and schooling. The same arguments would hold for the wage elasticity of labor demand.

We used the secondary school enrollment rate as our measure of the level of schooling. This is because primary school enrollment rates show very little variability across countries, except for some African economies. We did, however, run our regressions using the primary enrollment rate, as a test of robustness, and our conclusions remained unchanged.

We obtained measures of political structure from various sources. For a measure of the relative importance of urban, formal labor, we used the rate of urbanization. Ideally, we would have liked to use a measure of labor organization, such as the degree of unionization, but the availability of these data for enough countries and their comparability across countries are serious problems. To test

Table 3. Rankings of Degree of Labor Market Distortion in Seven Regions by Two Indexes

<table>
<thead>
<tr>
<th>Index</th>
<th>East Africa</th>
<th>East Asia</th>
<th>Europe and Central Asia</th>
<th>Latin America</th>
<th>Middle East and North Africa</th>
<th>South Asia</th>
<th>West Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wage distortion index, IDX Wage</td>
<td>2</td>
<td>4</td>
<td>7</td>
<td>5</td>
<td>6</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Proportion of workers in wage</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td>5</td>
<td>6</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: Rankings are from most distorted (1) to least distorted (7) and are based on the mean value of each index for each region.

a. The ratio of the manufacturing wage rate to the nonmanufacturing value added per worker.

Source: Authors' calculations, from ILO (1991) and World Bank (1993).
for robustness, we also used the proportion of nonpoor urban workers in the population as a proxy for the political importance of formal labor. As a measure of the importance of capital owners, we used the income share of the top fifth of the population, recognizing that this is not an ideal measure. We also wanted to add to equations 1 and 2 a variable that would represent the size of government and the amount of resources it is able to extract from the economy. (The need for a tax measure as an explanatory variable is made clear by the model in the appendix.) The ratio of tax to GDP, obtained from the International Monetary Fund (IMF) statistics, was a natural choice.

The type of regime was classified using the indexes for political rights and civil liberties compiled by Freedom House. These indexes range from 1 to 7, with 1 indicating the most rights and liberties and 7 the least. As defined by Freedom House, “Political rights enable people to participate freely in the political process, [and] civil liberties are the freedoms to develop views, institutions, and personal autonomy apart from the state” (Ryan 1994, p. 671).

In practice, political and civil liberties go hand in hand. Figure 1 presents regional averages for the two indexes and shows the high positive correlation between them—for the year 1990, we calculated the correlation coefficient between the two indexes to be 0.92. In our regressions, we used the two indexes interchangeably, with very little difference in results.

On the basis of the preceding discussion, we estimated three equations. Equation 3 is derived from equation 1 and estimates trade distortions. Equation 4 is derived from equation 2 and estimates labor market distortions measured by IDX, while equation 5 is derived from equation 2 and estimates labor market distortions measured by PWE.

\[
\begin{align*}
\text{DOLLAR} &= \alpha_0 + \alpha_1 \text{GDP per capita} + \alpha_2 \text{urbanization} \\
&\quad + \alpha_3 \text{INSH} + \alpha_4 \text{education} + \alpha_5 \text{tax rate} + \alpha_6 \text{POL} + \mu_1
\end{align*}
\]

\[
\begin{align*}
\text{IDX} &= \beta_0 + \beta_1 \text{GDP per capita} + \beta_2 \text{urbanization} + \beta_3 \text{INSH} \\
&\quad + \beta_4 \text{education} + \beta_5 \text{tax rate} + \beta_6 \text{POL} + \beta_7 \text{DOLLAR} + \mu_2
\end{align*}
\]

\[
\begin{align*}
\text{PWE} &= \delta_0 + \delta_1 \text{GDP per capita} + \delta_2 \text{urbanization} + \delta_3 \text{INSH} \\
&\quad + \delta_4 \text{education} + \delta_5 \text{tax rate} + \delta_6 \text{POL} + \delta_7 \text{DOLLAR} + \mu_3
\end{align*}
\]

where INSH is the income share of the top fifth of the population, and POL denotes the index for political rights.

The test of our two competing hypotheses of whether democratic or authoritarian regimes are more prone to have distortionary labor policies consists of testing for the signs of \(\alpha_6, \beta_6, \beta_7, \delta_6, \text{ and } \delta_7\). If democratic regimes are more likely to achieve more efficient labor market outcomes, \(\alpha_6 \) and \(\beta_6 \) should be positive and \(\delta_6 \) negative—that is, regimes with more political freedom tend to place fewer restrictions on trade, which in turn implies a smaller spread between formal and informal workers and a relatively larger proportion of the labor

4. This index is sometimes called the Gastil index, after its originator. However, the updated indexes are no longer compiled by Gastil, but by Freedom House.
force in formal employment. Our analytical model predicts that under both hypotheses the sign of $\beta_1$ should be positive and $\delta_2$ should be negative—that is, labor market distortions cannot persist if product markets are competitive.

Estimates of equations 3 to 5 can demonstrate whether there is a relationship between regime type and labor policy. However, they cannot shed light on why this is the case. Particularly, they do not show whether authoritarian or democratic regimes are more subordinate to organized labor. To do so, we added an interaction term between the labor power and regime variables.

IV. EMPIRICAL RESULTS

We started by estimating equation 3 to look at the relationship between type of regime and level of trade protection. The parameter estimates are presented in table 4. The coefficient on the political liberties index was positive and significant in nearly all the regressions we tried, indicating that countries with less political freedom tend to have trade regimes that are more closed. When we included the indexes for both political and civil liberties in the regression, the

Note. Lower values for the indexes indicate higher levels of rights and liberties.

Source: Freedom House.
Table 4. The Impact of Regime Type and Other Variables on the Level of Trade Protection

| Equation | Constant | GDP per capita | Rate of urbanization | Education | Ratio of tax to GDP | Political rights index | Income share of the top fifth of the population | Interaction term between labor power and regime variables | Proportion of nonpoor urban workers | Civil liberties index | Number of observations | $R^2$ |
|----------|----------|----------------|----------------------|-----------|---------------------|-----------------------|-----------------------------------------------|-----------------------------------|---------------------------------|---------------------|------------------------|---------------------|-------|
| 1        | 4.7      | -0.0*          | 1.6*                 | -1.3      | 104.2               | 17.5**                | 0.7                                           | -0.3                              | 43                              | 0.27                |                       |                     |       |
|          | (0.1)    | (-1.8)         | (1.9)                | (-0.8)    | (1.1)               | (2.1)                 | (0.8)                                         | (-1.4)                            |                                 |                     |                       |                     |       |
| 2        | 53.7     | -0.0           | 0.6                  | -1.5      | 52.2                | 7.2                   | 0.6                                           |                                   | 43                              | 0.23                |                       |                     |       |
|          | (1.03)   | (-1.4)         | (1.2)                | (-0.8)    | (0.6)               | (1.6)                 | (0.7)                                         |                                   |                                 |                     |                       |                     |       |
| 3        | 107**    | -0.0           | 0.3                  | 50.2      | 9.1*                | 10.1                  | 5.6                                           | -1.4                              | 71                              | 0.24                |                       |                     |       |
|          | (4.7)    | (-0.6)         | (1.0)                | (0.76)    | (1.8)               | (0.8)                 |                                               |                                   |                                 |                     |                       |                     |       |
| 4        | 98.2**   | -0.0           | 0.3                  | -2.7**    | 63.4                | 5.4**                 |                                               |                                   | 71                              | 0.24                |                       |                     |       |
|          | (5.0)    | (-0.5)         | (1.0)                | (-2.3)    | (1.0)               | (2.16)                |                                               |                                   |                                 |                     |                       |                     |       |
| 5        | 90.3**   | 0.0            | 0.2                  | -2.4      | 7.9*                | 0.2                   | 0.0                                           |                                   | 40                              | 0.20                |                       |                     |       |
|          | (3.8)    | (0.2)          | (0.3)                | (-0.0)    | (1.9)               | (0.3)                 |                                               |                                   |                                 |                     |                       |                     |       |
| 6        | 111**    | 0.0            | 0.3                  | -2.4**    | 40.2                | 5.1**                 |                                               |                                   | 82                              | 0.18                |                       |                     |       |
|          | (7.6)    | (0.1)          | (0.8)                | (0.7)     | (2.0)               | (0.8)                 |                                               |                                   |                                 |                     |                       |                     |       |
| 7        | 97**     | 0.0            | -2.1                 | 44.1      | 7.1**               | 7.1**                 |                                               |                                   | 82                              | 0.18                |                       |                     |       |
|          | (8.2)    | (-1.0)         | (0.8)                | (2.9)     |                     | (3.4)                 |                                               |                                   |                                 |                     |                       |                     |       |
| 8        | 100**    | 0.0            | 7.6**                | 10.0      |                    | 7.6**                 |                                               |                                   | 90                              | 0.18                |                       |                     |       |
|          | (8.2)    | (-1.0)         |                     | (3.4)     |                    |                     |                                               |                                   |                                 |                     |                       |                     |       |
| 9        | 101**    | 0.0            | 8.0**                | 10.0      |                    | 8.0**                 |                                               |                                   | 90                              | 0.14                |                       |                     |       |
|          | (6.8)    | (-1.1)         | (3.0)                |          |                    | (3.0)                 |                                               |                                   |                                 |                     |                       |                     |       |
| 10       | 96.8**   | -0.0           | 0.3                  | -2.7**    | 62.5                | 5.8**                 |                                               |                                   | 71                              | 0.24                |                       |                     |       |
|          | (4.8)    | (-0.5)         | (1.0)                | (-2.3)    | (1.0)               | (2.1)                 |                                               |                                   |                                 |                     |                       |                     |       |

Note: The dependent variable is the DOLLAR index of openness. An increase in the DOLLAR index implies greater restrictions on trade. The last equation was estimated using instrumental variables. Numbers in parentheses are t-statistics.

* Significant at the 10 percent level.
** Significant at the 5 percent level.
a. The secondary school enrollment rate.
b. Obtained from IMF statistics.
d. Labor power is the proportion of nonpoor urban workers; the regime variables are the political indexes.
e. Compiled by Freedom House (1994), also called the Gastil index.
Source: Authors' calculations.
coefficient on the political index remained significant, although less than before, but the civil liberties index was insignificant. This result is not surprising, because the two indexes are so highly correlated. When we dropped the civil liberties index, the political index became much more significant, and when we dropped the political index, civil liberties became significant. But in most of the regressions we tried, the political index outperformed the civil liberties index.

We also tried to sort out possible two-way linkages. It has been argued that richer societies choose to be democratic (see, for example, Helliwell 1992). Because they also tend to be more open, the direction of causation may be from openness to the political regime and not, as is suggested by our analytical framework, the other way around. Therefore, we reestimated our equations using lagged values of the political index. The results, reported in the last row of table 4, did not change.

Of the two variables included for economic structure, only the level of education appeared significant, with countries that have a more educated labor force tending to be more open. Surprisingly, GDP per capita and the tax to GDP ratio appeared to be unrelated to openness.

Although our results indicate that more democratic countries tend to have more open economies, they do not support the view that this is related to the power of interest groups. The proxy for the importance of formal labor (urbanization) was marginally significant in only one equation, and the proxy for the importance of capitalists (the income share variable) was never significant. When we dropped the income share variable, the significance of urbanization did not improve. We also tried to interact the regime variable with the labor power variable, but the interaction term was not significant. Finally, we tried using the proportion of nonpoor urban workers as a proxy for labor power instead of urbanization, but the results were even worse. This could be because the number of urban workers is not a good proxy for labor influence. However, if it is a good proxy, the insignificance of the urbanization and interaction variable would indicate that, for our sample, labor power in the economy has no effect on the degree of openness, regardless of the type of regime.

The robustness of the relationship between openness and regime type was further tested by reestimating the equations presented in table 4 using MNTB, TARIFF, and BMP as dependent variables. The results for MNTB and BMP were quite similar to the ones obtained for the DOLLAR index, with the coefficient on the index for political rights being positive and significant. However, the use of TARIFF as a measure of openness changed our conclusion. The coefficient on the index for political rights in the TARIFF equation was insignificant and had a negative sign. Table 5 reports results for one form of equation 3 with MNTB, TARIFF, and BMP as dependent variables.

Estimates of the parameters of equation 4 are presented in table 6. As predicted by our analytical framework, there was a strong positive correlation between the DOLLAR index and the index of wage distortion. The index of political liberties became significant only when the DOLLAR index was dropped from the equation.
Table 5. The Impact of Regime Type and Other Variables on Three Measures of Openness

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Constant</th>
<th>GDP per capita</th>
<th>Rate of urbanization</th>
<th>Education</th>
<th>Ratio of tax to GDP</th>
<th>Political rights index</th>
<th>Number of observations</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean frequency of nontariff barriers on manufactured goods, MNTB</td>
<td>26.7 (1.2)</td>
<td>-0.00 (-0.5)</td>
<td>-0.04 (0.13)</td>
<td>0.31 (0.22)</td>
<td>-46.4 (0.6)</td>
<td>8.0** (2.7)</td>
<td>48</td>
<td>0.24</td>
</tr>
<tr>
<td>Mean total import charges on manufactured goods, TARIFF</td>
<td>64.3 (4.2)</td>
<td>-0.00 (-1.1)</td>
<td>-0.02 (-0.1)</td>
<td>0.53 (0.5)</td>
<td>-94.4* (-1.8)</td>
<td>-2.6 (-1.20)</td>
<td>48</td>
<td>0.19</td>
</tr>
<tr>
<td>Black market premium, BMP</td>
<td>15.9 (0.14)</td>
<td>0.01 (0.4)</td>
<td>-0.05 (-0.0)</td>
<td>9.2 (1.4)</td>
<td>-1082** (-2.8)</td>
<td>47.7** (2.7)</td>
<td>67</td>
<td>0.23</td>
</tr>
</tbody>
</table>

Note: Numbers in parentheses are t-statistics.
* Significant at the 10 percent level.
** Significant at the 5 percent level.
a. The secondary school enrollment rate.
b. Obtained from IMF statistics.
Source: Authors' calculations.
Table 6. The Impact of Regime Type and Other Variables on the Index of Wage Distortion

<table>
<thead>
<tr>
<th>Equation</th>
<th>Constant</th>
<th>GDP per capita</th>
<th>Rate of urbanization</th>
<th>Education</th>
<th>Rate of tax to GDP</th>
<th>Political rights index</th>
<th>DOLLAR</th>
<th>Income share of the top fifth of the population</th>
<th>Interaction term between labor power and regime variables</th>
<th>Proportion of nonpoor urban workers</th>
<th>Number of observations</th>
<th>R²</th>
</tr>
</thead>
<tbody>
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<td>1</td>
<td>3.3</td>
<td>0.0</td>
<td>0.0</td>
<td>-0.1</td>
<td>0.0</td>
<td>0.1</td>
<td>0.01</td>
<td>-0.1**</td>
<td>-0.0</td>
<td></td>
<td>26</td>
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<tr>
<td></td>
<td>(1.6)</td>
<td>(0.3)</td>
<td>(0.1)</td>
<td>(-1.2)</td>
<td>(0.0)</td>
<td>(0.4)</td>
<td>(1.7)</td>
<td>(-2.1)</td>
<td>(-0.2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>3.5**</td>
<td>0.0</td>
<td>-0.0</td>
<td>-0.6</td>
<td>-0.4</td>
<td>0.1</td>
<td>0.01**</td>
<td>-0.1**</td>
<td>-0.0</td>
<td></td>
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<td>0.41</td>
</tr>
<tr>
<td></td>
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<td>(0.4)</td>
<td>(-0.2)</td>
<td>(-1.2)</td>
<td>(-0.2)</td>
<td>(0.6)</td>
<td>(2.3)</td>
<td>(-2.3)</td>
<td>(-2.3)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3.1**</td>
<td>0.0</td>
<td>-0.04</td>
<td>-3.7</td>
<td>0.1</td>
<td>0.02**</td>
<td>-0.1**</td>
<td>-0.02</td>
<td>-1.0</td>
<td></td>
<td>21</td>
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<tr>
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<td>(-1.4)</td>
<td>(0.6)</td>
<td>(3.4)</td>
<td>(-2.8)</td>
<td>(-1.0)</td>
<td>(-1.0)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>0.6</td>
<td>0.00</td>
<td>-0.02</td>
<td>-0.04</td>
<td>-2.3</td>
<td>0.1</td>
<td>0.02**</td>
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<td>-0.02</td>
<td></td>
<td>42</td>
<td>0.45</td>
</tr>
<tr>
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<td>(-0.8)</td>
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<tr>
<td>5</td>
<td>0.9</td>
<td>0.00</td>
<td>-0.02</td>
<td>-0.04</td>
<td>-2.4</td>
<td>0.1</td>
<td>0.02**</td>
<td>-0.02</td>
<td>-0.02</td>
<td></td>
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<td>(-0.8)</td>
<td>(-0.9)</td>
<td>(3.5)</td>
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<td>(-1.6)</td>
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<td></td>
</tr>
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<td>6</td>
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<td>-0.01</td>
<td>-0.1</td>
<td>0.4</td>
<td>0.21*</td>
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<td></td>
<td></td>
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<td>(-1.5)</td>
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</tr>
<tr>
<td>7</td>
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<td>-0.00</td>
<td>-0.01</td>
<td>0.4</td>
<td>0.21*</td>
<td>0.02**</td>
<td></td>
<td></td>
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</tr>
<tr>
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<td>(-0.8)</td>
<td>(-1.5)</td>
<td>(1.8)</td>
<td>(3.3)</td>
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</tr>
<tr>
<td>8</td>
<td>0.65</td>
<td>-0.00</td>
<td>-0.1</td>
<td>0.4</td>
<td>0.36**</td>
<td>0.02**</td>
<td></td>
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<td>(-1.4)</td>
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<td>(3.3)</td>
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<tr>
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<td>-0.0</td>
<td>-2.2</td>
<td>0.1</td>
<td>0.02**</td>
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<tr>
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<td>(-1.0)</td>
<td>(2.8)</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Note: The dependent variable is the index of wage distortion. An increase in the index of wage distortion implies worse labor market policies. The last equation was estimated using instrumental variables. Numbers in parentheses are t-statistics.

* Significant at the 10 percent level.
** Significant at the 5 percent level.

a. The secondary school enrollment rate.
b. Obtained from IMF statistics.
d. An index measuring an economy's openness to trade for a large number of countries (see Dollar 1992).
e. Labor power is the proportion of nonpoor urban workers; the regime variables are the political indexes.

Source: Authors' calculations.
Table 7. The Impact of Regime Type and Other Variables on the Proportion of the Labor Force in Wage Employment

<table>
<thead>
<tr>
<th>Equation</th>
<th>Constant</th>
<th>GDP per capita</th>
<th>Rate of urbanization</th>
<th>Rate of tax to GDP</th>
<th>Political rights index</th>
<th>Income share of the top fifth of the population</th>
<th>Interaction term between labor power and regime variables</th>
<th>Proportion of nonpoor urban workers</th>
<th>Number of observations</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-30.3</td>
<td>-0.0</td>
<td>0.9**</td>
<td>0.3</td>
<td>96.4**</td>
<td>-0.1*</td>
<td>0.7*</td>
<td>-0.0</td>
<td>34</td>
<td>0.61</td>
</tr>
<tr>
<td></td>
<td>(-1.3)</td>
<td>(-1.2)</td>
<td>(3.0)</td>
<td>(0.5)</td>
<td>(2.6)</td>
<td>(1.0)</td>
<td>(-1.8)</td>
<td>(1.9)</td>
<td>(-0.5)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>-24.6</td>
<td>-0.0</td>
<td>0.8**</td>
<td>0.3</td>
<td>90.2**</td>
<td>-0.1*</td>
<td>0.6*</td>
<td>0.9**</td>
<td>30</td>
<td>0.70</td>
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<td>(-1.30)</td>
<td>(-1.1)</td>
<td>(4.2)</td>
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<td>(1.7)</td>
<td>(1.9)</td>
<td></td>
<td></td>
</tr>
<tr>
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<td>-37.8*</td>
<td>-0.0*</td>
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<td>0.3</td>
<td>62.8*</td>
<td>-0.1</td>
<td>1.2**</td>
<td>0.9**</td>
<td>50</td>
<td>0.65</td>
</tr>
<tr>
<td></td>
<td>(-1.9)</td>
<td>(-1.7)</td>
<td>(0.8)</td>
<td>(2.0)</td>
<td>(2.0)</td>
<td>(-0.8)</td>
<td>(3.6)</td>
<td>(4.9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>23.6**</td>
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<td>0.7**</td>
<td>0.2</td>
<td>74.2**</td>
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<td>-0.15**</td>
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<td>0.65</td>
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<tr>
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<td>(-0.4)</td>
<td>(4.5)</td>
<td>(0.4)</td>
<td>(2.1)</td>
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<tr>
<td>5</td>
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<td>(4.6)</td>
<td>(0.4)</td>
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<td>6</td>
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<td>(4.0)</td>
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<td>(1.6)</td>
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<tr>
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<td>0.01**</td>
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<td></td>
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<td></td>
<td></td>
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<td></td>
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<tr>
<td>8</td>
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<td></td>
<td></td>
<td></td>
<td>-2.8**</td>
<td></td>
<td>67</td>
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<td>(5.2)</td>
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</tr>
<tr>
<td>9</td>
<td>18.8*</td>
<td>-0.00</td>
<td>0.7**</td>
<td>0.2</td>
<td>73.3**</td>
<td>-0.2</td>
<td>-0.15**</td>
<td>50</td>
<td>0.65</td>
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<tr>
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<td>(1.7)</td>
<td>(-0.4)</td>
<td>(4.6)</td>
<td>(0.4)</td>
<td>(2.1)</td>
<td>(-0.1)</td>
<td>(-2.4)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: The dependent variable is the proportion of the labor force in wage employment. An increase in the proportion of wage employment is taken as an indication of good labor policies. The last equation was estimated using instrumental variables. Numbers in parentheses are t-statistics.

* Significant at the 10 percent level.
** Significant at the 5 percent level.
a. The secondary school enrollment rate.
b. Obtained from IMF statistics.
d. An index measuring an economy's openness to trade for a large number of countries (see Dollar 1992).
e. Labor power is the proportion of nonpoor urban workers; the regime variables are the political indexes.
Source: Authors' calculations.
Our results imply a strong link between authoritarianism and protectionist policies, and between protectionist policies and labor market distortions, but the direct link between political liberties and labor distortions seems less strong. This suggests that regime type may affect the labor market mainly through trade policies and that, for a given level of protection, the distribution of rents between different interest groups is little affected by the degree of political freedom.

Our results concerning the impact of lobbies and interest groups on labor market distortions were mixed. The coefficient on the income share variable was negative and statistically significant. This fits with the predictions of our analytical framework: capitalists will try to limit labor's share in the economic rents. However, the coefficients on the proxies for labor power (urbanization and the proportion of nonpoor urban workers) were never significant—either alone or when interacted with the political variable. Assuming that these are good proxies, the results suggest that, whatever the regime type, organized labor has little power to affect overall wage distortions in the economy. Both results are consistent with the anecdotal evidence presented in section II.

Remarkably, none of the economic structure variables appeared to have an impact on wage distortions. This contradicts the general impression that poorer countries tend to have more distorted labor markets.

We further tested the robustness of our results by estimating equation 5 (see table 7). The results supported our previous conclusion concerning the link between openness and labor policy. The parameter on the DOLLAR index was negative and significant in nearly all of the regressions we tried, indicating that more closed economies generally have relatively smaller formal labor markets. The parameter on political liberties was also negative, but significant only in equations where the DOLLAR index was dropped.

The proxies for labor power (urbanization and the proportion of nonpoor urban workers) entered those regressions with very significant positive coefficients, which is the opposite of what is predicted by the model and may simply reflect the fact that urbanization and the proportion of nonpoor urban workers are not predetermined with respect to the size of the formal sector. We tried to deal with this by using instrumental variables, with lagged values of the explanatory variables as instruments, but the results did not change (see the last row of table 7). The coefficient on the income share variable was positive and significant, as predicted by the model. This result could mean that in most countries employers' political power is more important than labor's power in determining the share of rents that go to labor. Or it may simply reflect the poor quality of the data for labor organization.

We also experimented with dropping some variables. The results of regressions where we dropped all explanatory variables except GDP per capita and the DOLLAR and political liberties indexes are also presented in table 7. In both cases GDP per capita had a positive and significant coefficient. The openness index had a negative coefficient, with a t-statistic that was just below the 10 percent critical value, and the political liberties index had a negative and significant coeffi-
cient. Countries with less political freedom apparently have relatively smaller formal labor markets, an indication of greater distortions.

We tried redoing the estimates in tables 6 and 7 using other measures of openness. The results were not as strong. Estimates with MNTB and BMP had the same sign as estimates with the DOLLAR index but were rarely statistically significant. This could be because we had fewer observations for MNTB and BMP than for DOLLAR or because MNTB and BMP are inferior to DOLLAR as measures of trade protection. Estimates using TARIFF were also insignificant but had the wrong sign—which could have been expected from the correlation coefficients presented in table 1. Thus, our general conclusion that countries with less liberty tend to have more barriers to trade and more labor market distortions is quite sensitive to the choice of openness measures.

V. CONCLUSIONS

Our work provides evidence that authoritarianism may be associated with higher trade protection and that trade restrictions, in turn, are associated with more labor market distortions. This conclusion fits the pattern observed in many countries in Sub-Saharan Africa, the Middle East, and Latin America in the 1970s and 1980s, where authoritarian governments provided producers with protection through tariffs and quotas and ensured that workers in favored industries obtained part of the rent through various labor market interventions. Those same governments often repressed labor in other sectors and only tolerated unions subordinate to the regime.

Landell-Mills and Serageldin (1992) argue that freedom of association is one of the elements of good governance that are necessary for development. Inasmuch as authoritarian regimes that did not respect freedom of association tended to be linked with policies restricting trade and distorting labor markets, our work supports this view. This is not to say that inequitable or inefficient labor policies are the exclusive domain of authoritarian governments or that authoritarianism automatically implies these policies. As we discussed in the introduction, there are numerous counter-examples. Our results, based on a large cross section of developing countries, also support the work of Fields (1994) and Freeman (1993) on East Asia, which argues that labor repression was neither necessary nor desirable for development.

Our findings are also consistent with empirical literature linking political democracy and economic growth. Works by Barro (1991), Ozler and Rodrik (1992), and others have found that having less civil liberty is strongly correlated with slower growth. And the case for openness stimulating growth is well known. Similarly, undesirable labor market policies may handicap economic growth by stifling the process of production and capital accumulation. Our conclusions associating authoritarianism with restrictive trade policies and labor market distortions suggest some specific mechanisms as well as provide further empirical evidence linking the lack of political freedom with slower rates of growth.
How is the relationship between authoritarianism and trade and labor policies mediated? Do authoritarian regimes tend to be more subordinate to special interests than regimes with more political and civil liberty? Data limitations have prevented us from responding adequately to those questions. Finding better proxies for the political power of labor and business groups and specifying equations that allow a deeper understanding of those links is a subject for future research.

APPENDIX. AN ANALYTICAL MODEL OF LOBBIES, TRADE, AND LABOR POLICIES

The influence of lobbying by organized labor and capitalist groups can be illustrated with the help of a simple, static, two-sector political economy model similar to that of Grossman and Helpman (1994) and Rama and Tabellini (1994). A more detailed exposition of the model can be found in Banerji and Ghanem (1995).

Structure of the Economy, Production, and Incomes

Assume that there are three groups in the economy, with the total population normalized to 1:

\[ A-1 \]
\[ 0 < l < 1 \quad \text{urban manufacturing laborers} \]

\[ A-2 \]
\[ 0 < k < 1 \quad \text{capitalists} \]

\[ A-3 \]
\[ a = (1 - l - k) \quad \text{rural agricultural laborers}. \]

The three groups are denoted by superscripts L, K, and A.

Each individual in the economy consumes two goods—an agricultural good \( x \) and a manufactured consumption good \( c \). Individual utility maximization for individual \( i \) is given by:

\[ A-4 \]
\[ \text{Max } u^i = x^i + U(c^i) \]
\[ \text{subject to } y^i = x^i + pc^i. \]

This gives us \( c^i = c(p) \) for all consumers, where \( p \) is the domestic price of the manufacturing good, and \( y^i \) is income of individual \( i \).

The agricultural good \( x \) is produced with labor only, at a wage normalized to 1: \( x = f(a) = a \). With no loss of generality, migration from the agricultural to the manufacturing sector is assumed to be costless. Thus, urban workers have a floor wage of 1—the supply price of labor in the economy. In the manufacturing sector, quantity \( Q \) of the good \( c \) is produced with labor \( L \leq l \), and capital \( K \) owned by capitalists: \( Q = F(L, K) \). For tractability, \( K \) is assumed to be fixed.

The government sets tariff \( \tau \) on imports of the manufactured good by setting the domestic price \( p = (p^* + \tau) \), where \( p^* \) is the world price of the manufactured good. Tariff revenues \( T \) are redistributed evenly to every individual in the economy (following Grossman and Helpman 1994). Because the population is normal-
ized to 1, each individual receives an amount $T(p, w)$, where $w$ denotes manufacturing wages, because imports can be shown to be a function only of prices and wages.

Capitalists also receive income through manufacturing sector profits. Profit maximization is on the basis of the domestic price $p$ (which differs from the world price $p^*$ by the amount of the tariff) and the prevailing manufacturing wage rate, $w$ (which the government can influence through minimum wage and other legislation). Employed manufacturing workers receive $w$, while those left unemployed revert to the floor wage, 1.

Finally, employed manufacturing workers and capitalists are forced to pay a tax $v$ to the government out of their incomes (this is explained in greater detail below). They also pay contributions (or bribes), denoted as $b^j (j = L, K)$, to the government in an attempt to influence policy. The contribution from each of the two groups is a mapping with the prevailing policy parameters—the wage and the domestic price (affected by the tariff set by the government): $b^j = b^j(p, w)$. They each optimize their political contributions until the marginal effect of the contribution on policy equals the marginal increase in their own welfare from the same policy:

\begin{align}
(A-5) & \quad u_p^L = b_p^L, \quad u_w^L = b_w^L \\
(A-6) & \quad u_p^K = b_p^K, \quad u_w^K = b_w^K.
\end{align}

Note the use of the stylized facts: rural/agricultural workers do not pay the income tax but do pay the tariff; however, they have no influence on the level of the tariff.

The Government

The government sets the policy parameters. Its objective may be not merely to act as a social planner that maximizes national welfare, but, in addition, to remain in power. This second purpose is motivated in our model by presuming that if the government is in power, it can extract rent from the formal sector’s product—that is, it can charge the tax $v$ on the incomes of employed labor and capitalists. For the time being, we assume that $v$ is a given for the economy and measures a particular government’s level of venality. The value $v = 0$ indicates a purely altruistic social planner, and $v = 1$ indicates a totally confiscatory regime.

We also assume that the probability of the government maintaining its power is affected by nonpolicy actions that the government may take—for example, launching an election campaign or maintaining a military. These actions are financed by the political contributions it receives from labor and capitalists (which can, of course, also be thought of as proxies for the degree of support these groups provide to the government).

The government thus maximizes its objective function $\Gamma$, where $\Gamma = W + V$, and
\[ W = k \ u^k(p, w) + l \ u^l(p, w) + a \ u^a(p, w) \]  
(A-7)

\[ V = \pi(B) \nu[pQ(p, w)] \]  
(A-8)

\[ B = s^Lb^L(p, w) + s^Kb^K(p, w). \]  
(A-9)

\( W \) represents pure aggregate welfare of individuals in the economy. The term \( V \), by contrast, captures the expected rents to a nonaltruistic government from staying in power. As discussed, the rents amount to a tax \( \nu \) on the value of manufacturing production. Note that when \( \nu = 0 \) (the government is nonvenal), \( V = 0 \) and thus \( \Gamma = W \)—the government only maximizes aggregate welfare.

\( \pi \) indicates the probability that the government will stay in power in order to enjoy the rents (in this static model, it may also be thought of as the number of years that the government believes it will be in power). This probability is assumed to increase with larger political contributions from urban groups, that is, \( \pi'(B) > 0 \), as the government is assured more tangible and intangible political support from the interest groups. However, for a given government, the contributions from labor and capitalists may not have equal value: their relative importance in the particular polity is measured by the variables, \( s^L \) and \( s^K \), respectively, with \( 1 \geq s^L \geq 0 \), and \( s^K = 1 - s^L \). The term \( B \), therefore, summarizes the subjective weight the government places on total political contributions.

The government maximizes \( \Gamma \) with respect to its policy parameters \( p \) and \( w \). Simplifying the resulting simultaneous equation system, we get the government’s optimal tariff and manufacturing wage premium in equilibrium:

\[ \frac{\tau}{p} = \left( \frac{Q/c}{\eta} \right) \left[ 1 - \frac{(1-\nu)}{\sigma} [S^K + (\gamma + \lambda)(S^L - S^K)] \right] \frac{V}{\sigma p Q} [1 + \gamma(1 + Q)] \]  
(A-10)

\[ \omega = \left( \frac{w-1}{w} \right) = \frac{1}{S^L} \left[ \frac{\sigma \tau}{(1-\nu)p} + \frac{V}{(1-\nu)p} + (1/\lambda)(S^L - S^K) \right] \]  
(A-11)

where \( Q \) is the quantity produced of the manufacturing good, \( S^J \) measures the government’s assessment of the likelihood of staying in power due to the political contribution of group \( J \), \( \sigma \) indicates the corresponding weighted average of this likelihood, and \( S^J = (Vp/B)\sigma, J = L, K \). Note that when \( \nu = 0 \), \( S^J = 0 \), that is, a nonvenal government is not concerned about the effect of interest groups on the likelihood of its remaining in power. We also define \( \sigma = (1 + kS^K + lS^L) \) (when \( \nu = 0, \sigma = 1 \)). Finally, we use some elasticity measures to simplify the equations: \( \rho = B\pi'(B)/\pi \) measures the elasticity of the probability of remaining in power with respect to political contributions, \( \gamma = pQ_p/Q \) is the price elasticity of production (that is, the supply elasticity) of the manufactured good, \( \eta = p\epsilon_p/c \) is the price elasticity of consumption, and \( \lambda = (\omega L_w)/L \) is the wage elasticity of labor demand in manufacturing.
These equations demonstrate a common feature of this class of models. The government makes its decision about the degree of openness in the economy independent of the decision about wages. Since $Q$ and $c$ are endogenous, the decision on the level of protection is a function of variables relating to the structure of the economy ($\eta$, $\gamma$, and $\lambda$) and political variables summarized by $V$, $\sigma$, and $S$.

This simple model also predicts that a government only interested in maximizing welfare, that is, one that is nonvenal, will set tariffs at the level of optimal tariffs. However, if staying in power and collecting rents are also in its objective function, it will impose higher tariffs and create a larger wedge between domestic and foreign prices. The size of the tariff will depend on the government's preferences, the power of interest groups, and economic factors (such as the price elasticity of imports) that determine the relationship between changes in tariffs and changes in revenue. Finally, the wage distortion depends directly on the trade regime.

REFERENCES

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