The quality of industrial relations and unemployment around the world

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Abstract

Using data from 69 countries for the years 2000 to 2003, we find that more cooperative industrial relations are likely to reduce the unemployment rate among the total labor force as well as among female and young workers. Furthermore, they appear to lower the share of long-term unemployed in the total number of unemployed.

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1. Introduction

Freeman and Medoff (1984), among others, have argued that more cooperative industrial relations are likely to improve labor market performance. Recently, Blanchard and Philippon (2004) and Feldmann (2006) have corroborated this hypothesis for industrial countries. This paper is the first to test it for a large sample of industrial, developing and transition countries.

2. Data

To measure the quality of industrial relations, we use country averages of survey responses from the World Economic Forum’s annual Executive Opinion Surveys (EOS). The answer scale ranges from 1 to 7, with higher marks on the scale meaning more cooperative industrial relations (see Appendix for source and phrasing of questions). The surveys we use were carried out between 2000 and 2003. In each country approximately 66 senior business executives were interviewed.

One advantage of the EOS is that the selection of respondents is largely representative for the structure of the respective economy. More important, the respondents have comprehensive knowledge of and practical experience with the industrial relations of their countries. Furthermore, the questions permit a comprehensive coverage of the various facets of industrial relations quality, most of which cannot be measured objectively.

We estimate the effect on unemployment among the total labor force as well as among female and young workers. Additionally, we estimate the effect on long-term unemployment. All dependent variables are based on labor force survey data that have recently been standardized to a large extent (see, in particular, ILO, 2005).

We control for various factors that have been found to affect labor market performance. Specifically, we control for the impact of labor market regulations, business regulations, the tax burden, the business cycle, the level of economic development, demographic and geographical conditions, wars, and the transition from planned to market economy (for definitions and sources of all variables, see Appendix). Additionally, we control for unobserved year-specific effects.

The variables ‘industrial relations quality’, ‘flexible labor market regulations’, ‘flexible business regulations’ and ‘low top marginal tax rate’ were lagged by 1 year to allow for slow adjustment. Changes in the quality of industrial relations are likely to affect unemployment only after some time. The same can be expected from changes in labor market and business regulations and tax policies.

The regression coefficients are estimated using the random effects, feasible generalized least squares (FGLS) procedure that incorporates time-invariant country effects. This procedure allows
for cross-country differences in labor market performance that reflect the influence of omitted variables. The results from the Hausman test indicate that none of our estimates is biased (Table 1).

While controlling for unobserved year- and country-specific effects goes a long way to avoid omitted variables bias, endogeneity still is a potentially serious problem for estimation because changes in labor market conditions are likely to affect the quality of industrial relations. Lagging the ‘industrial relations quality’ variable by 1 year is not enough to solve this problem. Previous studies covering industrial countries have tackled the endogeneity issue by using an instrument for industrial relations quality (Blanchard and Philippon 2004; Feldmann 2006). However, the methodology used in these studies requires detailed information on the history of industrial relations, which is unavailable for developing and transition countries. Thus endogeneity is a concern for our paper.

3. Results

Using averages over the years 2000 to 2003, Fig. 1 indicates that countries with more cooperative industrial relations tend to have lower unemployment rates. Table 1 presents our multivariate regressions. According to our estimates, cooperative industrial relations are likely to have a favorable impact on labor market performance. More cooperative industrial relations are associated with lower unemployment rates among the total labor force, as well as among women and youths. They are also associated with a smaller share of long-term unemployed in the total number of unemployed. Thus our results corroborate the hypothesis mentioned above. They are also in line with previous studies on industrial countries.

Our estimates suggest that cooperative industrial relations have a noticeable pay-off in terms of lower unemployment. For example, according to the EOS, Jamaica had some of the most confrontational industrial relations in our sample of 69 countries. On average over the years 2000 to 2002, its score was 3.7. By contrast, Singapore had the most cooperative industrial relations. Its score averaged 6.3. Singapore also had substantially lower unemployment rates among the total labor force, as well as among women and youths.

Table 1
Regressions to explain unemployment

<table>
<thead>
<tr>
<th></th>
<th>Unemployment rate</th>
<th>Female unemployment rate</th>
<th>Youth unemployment rate</th>
<th>Long-term unemployment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
<tr>
<td>Industrial relations quality</td>
<td>−4.86***</td>
<td>−2.77***</td>
<td>−10.49***</td>
<td>−16.45***</td>
</tr>
<tr>
<td></td>
<td>(−4.68)</td>
<td>(−4.16)</td>
<td>(−3.71)</td>
<td>(−3.53)</td>
</tr>
<tr>
<td>Flexible labor market regulations</td>
<td>−4.76*</td>
<td>−8.23***</td>
<td>−12.58***</td>
<td>−1.81</td>
</tr>
<tr>
<td></td>
<td>(−1.68)</td>
<td>(−3.41)</td>
<td>(−8.10)</td>
<td>(−0.14)</td>
</tr>
<tr>
<td>Flexible business regulations</td>
<td>−1.41</td>
<td>−3.13</td>
<td>−6.44</td>
<td>−8.33</td>
</tr>
<tr>
<td></td>
<td>(−0.78)</td>
<td>(−1.38)</td>
<td>(−1.55)</td>
<td>(−0.59)</td>
</tr>
<tr>
<td>Low top marginal tax rate</td>
<td>−1.24</td>
<td>−1.59</td>
<td>−1.00</td>
<td>−6.89</td>
</tr>
<tr>
<td></td>
<td>(−0.60)</td>
<td>(−0.77)</td>
<td>(−0.40)</td>
<td>(−1.47)</td>
</tr>
<tr>
<td>GDP growth gap</td>
<td>−0.38</td>
<td>−0.51</td>
<td>0.20</td>
<td>3.47***</td>
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<td></td>
<td>(−0.60)</td>
<td>(−0.84)</td>
<td>(0.17)</td>
<td>(10.75)</td>
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<tr>
<td>GDP per capita</td>
<td>−0.23**</td>
<td>−0.34**</td>
<td>−0.52**</td>
<td>−0.40**</td>
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<td></td>
<td>(−2.48)</td>
<td>(−2.60)</td>
<td>(−3.26)</td>
<td>(−2.06)</td>
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<tr>
<td>Population aged 0–14</td>
<td>−0.04</td>
<td>−0.12</td>
<td>−0.13</td>
<td>−2.77***</td>
</tr>
<tr>
<td></td>
<td>(−1.12)</td>
<td>(−0.92)</td>
<td>(−0.68)</td>
<td>(−23.02)</td>
</tr>
<tr>
<td>Tropical area</td>
<td>−4.04**</td>
<td>−4.26</td>
<td>−6.91</td>
<td>8.78***</td>
</tr>
<tr>
<td></td>
<td>(−2.52)</td>
<td>(−1.64)</td>
<td>(−1.57)</td>
<td>(4.35)</td>
</tr>
<tr>
<td>Distance to coastline</td>
<td>−1.31</td>
<td>−1.03</td>
<td>0.75</td>
<td>−15.10</td>
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<tr>
<td></td>
<td>(−0.95)</td>
<td>(−0.92)</td>
<td>(0.56)</td>
<td>(−1.55)</td>
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<td>Ethnic fractionalization</td>
<td>6.28***</td>
<td>7.70***</td>
<td>6.08</td>
<td>15.14</td>
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<tr>
<td></td>
<td>(3.29)</td>
<td>(4.41)</td>
<td>(1.94)</td>
<td>(0.94)</td>
</tr>
<tr>
<td>War</td>
<td>0.27</td>
<td>0.06</td>
<td>−0.86</td>
<td>−4.49***</td>
</tr>
<tr>
<td></td>
<td>(1.05)</td>
<td>(0.25)</td>
<td>(−0.89)</td>
<td>(−6.38)</td>
</tr>
<tr>
<td>Transition country</td>
<td>−0.28</td>
<td>−2.64</td>
<td>−1.68</td>
<td>11.29***</td>
</tr>
<tr>
<td></td>
<td>(−0.25)</td>
<td>(−1.44)</td>
<td>(−0.56)</td>
<td>(3.87)</td>
</tr>
<tr>
<td>Number of observations</td>
<td>182</td>
<td>176</td>
<td>148</td>
<td>101</td>
</tr>
<tr>
<td>Number of countries</td>
<td>69</td>
<td>67</td>
<td>59</td>
<td>36</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.26</td>
<td>0.28</td>
<td>0.35</td>
<td>0.56</td>
</tr>
<tr>
<td>Standard error of regression</td>
<td>0.89</td>
<td>0.93</td>
<td>1.88</td>
<td>2.61</td>
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<tr>
<td>F-statistic</td>
<td>4.16***</td>
<td>4.44***</td>
<td>5.16***</td>
<td>7.72***</td>
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<td>Hausman test</td>
<td>15.02</td>
<td>10.35</td>
<td>13.25</td>
<td>2.86</td>
</tr>
</tbody>
</table>

Feasible generalized least squares estimates with country-specific random effects (Swamy–Arora method). All regressions are based on data for the years 2000 to 2003. The following variables were lagged by 1 year: ‘industrial relations quality’, ‘flexible labor market regulations’, ‘flexible business regulations’, ‘low top marginal tax rate’. Heteroskedasticity-consistent t-statistics in parentheses (White method). ***(***) denotes statistically significant at the 1%(5%/10%) level. All regressions also contain year dummies and a constant term.
youths, ceteris paribus. Furthermore, Jamaica’s long-term un-
employment would have been 4.3 percentage points lower,
ceteris paribus.

We also performed various robustness checks. For example,
we substituted the GDP growth rate, lagged by 1 year, for the
variable ‘GDP growth gap’. In other checks, we added further
controls,1 while in still others we dropped the controls from our
baseline specifications one at a time. In all of these checks (results
not reported here), the coefficient on ‘industrial relations quality’
was very similar to the results from our baseline specifications.

Appendix. Definitions and sources of variables

Distance to coastline: Mean distance to nearest ice-free coast-
line, measured in thousands of kilometers. Source: Center for
International Development (2001), author’s calculations.

Ethnic fractionalization: One minus the Herfindahl index of
ethnic group shares, reflecting the probability that two randomly
selected individuals from a population belong to different groups.
Source: Alesina et al. (2003).

Female unemployment rate: Unemployed women as a per-
centage of the female labor force. Labor force survey data.

Flexible business regulations: Subindex of the ‘Economic
Freedom of the World (EFW)’ index, scaled to take values
between 0 and 1. Higher values indicate more flexible reg-
ulation. The subindex covers the following five aspects:
price controls, administrative procedures to starting a new business, time with
government bureaucracy, ease of starting a new business,

Flexible labor market regulations: Subindex of the ‘Economic
Freedom of the World (EFW)’ index, scaled to take values
between 0 and 1. Higher values indicate more flexible reg-
ulation. The subindex covers the following five regulations:
statutory minimum wage, hiring and firing regulations, cen-
tralization of collective bargaining, unemployment benefits,

GDP growth gap: Annual percentage growth rate of real
GDP during the current year minus average annual percentage
growth rate of real GDP during the previous 10 years, divided

GDP per capita: Gross domestic product per capita, converted
to constant 2000 international dollars using purchasing power
parity rates, divided by 1000. Source: Directorate-General of

Industrial relations quality: Country averages of survey re-
ponses from the World Economic Forum’s annual Executive
Opinion Surveys (EOS). The participants were asked to indicate
on a numerical scale to what extent they agree or disagree with the
following statements: “Management/worker relations are gener-
ally cooperative. (1 = strongly disagree; 7 = strongly agree)” (EOS
2000). “Labor–employer relations in your country are: (1 = gen-
erally confrontational; 7 = generally cooperative)” (EOS 2001–
2003). For the purpose of our regression analysis, the ratings were

Long-term unemployment: Unemployed with an unemploy-
ment duration of 12 months and more as a percentage of total
unemployment. Labor force survey data. Source: European

Low top marginal tax rate: Subindex of the ‘Economic
Freedom of the World (EFW)’ index, scaled to take values

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1 Specifically, we additionally controlled for the flexibility of credit market
regulations, for the size of the government sector, and for the security of
property rights and the strength of the rule of law (Gwartney and Lawson
2005). The respective variables were added to our baseline specifications one at
a time.
between 0 and 1. Higher values indicate lower marginal income and payroll tax rates and higher income thresholds at which the top marginal income tax rates apply. Source: Gwartney and Lawson (2005).

Population aged 0 to 14: The percentage of the total population that is in the age group 0 to 14 years. Source: Directorate-General of Budget, Accounting and Statistics (2005), World Bank (2006).

Transition country: Dummy variable for countries in transition from centrally planned to market economy.


War: Dummy variable for interstate and internal wars in the respective country. Source: Centre for the Study of Civil War (2005).

Youth unemployment rate: Unemployed aged 15 to 24 years as a percentage of the labor force in the same age bracket. Labor force survey data. Source: European Commission (2005), ILO (2005).

References


