Employment Protection Legislation in Russia:

Regional Enforcement and Labor Market Outcomes

The efficiency of the labor market critically depends on the design of its institutions, including employment protection legislation. However, since formal laws can be observed to varying degrees, the actual enforcement regime shapes incentives and constraints. Most of the studies exploring the effects of employment protection on labor market performance implicitly assume that compliance is near to complete. However, if enforcement varies widely across regions/cities or segments of firms, then this variation may cause variation in performance. This paper, looking at Russia, explores whether cross-regional and inter-temporal variation in enforcement of employment protection laws is significant and is translated into regional labor market outcomes. The paper utilizes a unique data set based on State Labor Inspectorate data and Supreme Court statistics.

«The stringency of Russian laws is offset
by their non-observance»
(*Attributed to M. Saltykov-Tchedrin*)[1]

1.   Introduction

M. Saltykov-Tchedrin's famous thesis, if still valid, has profound political and economic implications. Since formal laws can be observed or ignored to varying degrees, the actual enforcement regime shapes incentives and constraints. Stringent laws coupled with weak and discretionary enforcement allow for larger variation in the institutional environment, bringing about uncertainty and affecting all aspects of economic, political and social life. This paper focuses on the segment of legislation that shapes labor market behavior and outcomes.

The efficiency of the labor market depends, among other things, on the design of its institutions, and the employment protection legislation (EPL) rules play a special role here. These regulations introduce a specific tax on firings, shifting the labor demand curve

---

[1] A famous Russian writer (1826-1889). He also served as a vice-governor in one of the provinces of the Russian Empire.

downwards. The tentative negative association between EPL stringency and labor market performance has become a focus in quickly expanding literature, which started with Lazear's seminal paper (Lazear, 1990).

Though all EPL-related tentative effects seem quite straightforward, existing empirical arguments supporting these claims have thus far been quite ambiguous. Regression coefficients for indexes reflecting EPL stringency are often insignificant or even have an unexpected sign. There are multiple reasons for this: various measurement problems, potential wage flexibility, the fact that inflows into employment and outflows from it may mutually offset each other, relatively little variation in the EPL indicators across countries and over time, etc. However, one of the key issues emerging in this context is to what degree the adopted regulations are actually enforced. In other words, what is the scale of the gap between the law and its practical application? Even very strict formal rules have little or no effect at all if they are widely circumvented or ignored.[2] Most of the studies exploring EPL effects on labor market performance implicitly assume that EPL compliance is near to complete and, therefore, all firms bear full adjustment costs incurred by the acting regulations. This seems to be a very strong assumption for any country, but sounds especially strong and hardly plausible in the case of developing or transition economies, which are notorious for weak institutions and poor law enforcement. But if enforcement is far from being complete and the degree of compliance varies widely across regions/cities or segments of firms, then this variation in enforcement/compliance emerges as a factor ultimately causing variation in performance. In such a setting, the degree of actual enforcement can become more important in shaping labor market performance than any formal stringency of legislation, which exists only on paper. This is what we call the "Saltykov-Tchedrin's hypothesis."

Empirical literature dealing with the effects of enforcement is sparse. If the gap between written laws and their actual observance is small, then non-enforcement will hardly cause any significant changes in labor market outcomes at the aggregate level. But even when law enforcement is widely considered incomplete and variable, measuring to what degree actual enforcement deviates from the norm is always a difficult task. OECD experts recognize the problem but come short of simply stating this fact. "Employment protection regulation, a set of rules governing the hiring and firing process, can be provided through both labor legislation and collective bargaining agreements. In addition, it is important to distinguish

---

[2] Why this gap emerges is an intriguing issue for study, but remains largely outside the scope of this paper. Bad laws? Bad enforcement agencies? Bad culture? A mix of everything?

these rules from *practice*, which brings in the enforcement dimension. Therefore, when discussing the extent of employment protection, judicial practices and court interpretations of legislative and contractual rules have to be taken into account as well" (OECD, 2004, p.64). The World Bank report on job opportunities in transition economies directly states that "EPL is not fully enforced in many of the transition countries" (Rutkovski, Scarpetta, 2005, p.211). It suggests that such countries "need to focus more on credibly enforceable laws as opposed to 'paper protections', which at best protect a limited share of formal sector workers" (Rutkovski, Scarpetta, 2005, p.213). However, the report provides little empirical evidence for this fact.

Large developing and transition economies can be good examples for studying the effects of enforcement. First, any large country is likely to have more heterogeneity in all dimensions and, therefore, more variation in enforcement and compliance than a small country, other things being equal. Second, developing and transition economies are known for having much weaker institutional capacities than mature capitalist economies. Weak institutions are a systemic feature of these economies. Often institutional capacities within a country depend on constellations of various regional/local political or cultural factors, which may transform the country's institutional context into a patchwork. These factors may not just contribute to incomplete enforcement, but also explain within-country variation in EPL enforcement. All this motivates choosing a developing or a transition economy as a good candidate for more scrupulous study, and not surprisingly, Russia is probably among the top choices for such a study.[3]

This paper examines Russia in particular. There are a few reasons justifying such a choice. First, the EPL stringency in Russia is considered high while law enforcement in

---

[3] Another good choice for such a study is Brazil. Almeida and Carneiro (2005) explored how enforcement of labor regulation affected firm performance across Brazilian states and conclude that in areas with stricter law enforcement, firms employ a smaller amount of informal labor. But reductions in a firm's access to unregulated labor were not costless, since stricter enforcement decreased average wages, productivity and investment. In the follow-up papers, they showed that stricter enforcement tended to increase the proportions of formal employment and to reduce income inequality at the cost of higher unemployment and lower formal wage premium. It also constrains firm size, suppressing job creation. (Almeida and Carneiro, 2007; Almeida and Carneiro, 2009)

general tends to be low. Offering strong "paper protection", these laws are costly in monitoring and enforcement, which makes them poorly enforceable in practice. Additionally, such factors as high levels of corruption, lack of tradition for following the rule of law, lack or weakness of institutions enforcing labor contracts, weak bargaining power of workers (especially in times of high and rising unemployment), cheap alternative options for workers and employers, among others, contribute to destroying compliance. Second, Russia is a huge country spanning 11 time zones with very heterogeneous regions. Institutional capacity to enforce laws and culture of law compliance across regions and sub-populations vary significantly. All this may result in actual enforcement being close to non-existent in some regions and close to complete in others. The emerging variation in enforcement is likely to determine the level of rigidity in regional labor markets, affecting their performance. Third, to the best of our knowledge, any EPL effects in transition countries have never been rigorously researched.

There have been few special studies of EPL enforcement in Russia thus far and there is very little evidence on that dimension of enforcement.[4] Vishnevskaya and Kapeliushnikov (2007) analyzed differences in enforcement of EPL across Russian regions using the same data set that is utilized in this paper. They show substantial differences in the effectiveness of EPL enforcement across Russian regions. Using data from a special survey of judges in all Russian regions, (Gimpelson, Kapeliushnikov, 2008) focused on the role of the judiciary in EPL enforcement and underlined significant variation in applying the labor law contingent upon region, firm size, and a particular segment of the legislation. However, the impact of incomplete enforcement on labor market performance has yet to be studied.[5]

The main idea of this paper is to explore empirically whether cross-regional variation in EPL enforcement is significant and is translated into variation in regional labor market

---

[4] Eamets and Masso (2004) suggest that weak enforcement is typical for all countries in transition including the Baltics, including those already in the EU.

[5] Other areas of law enforcement in Russia have also got little scrutiny. The only study we are aware of is one of Lambert-Mogilyansky, Sonin and Zhuravskaya (2007). They explore judicial bias in enforcement of bankruptcy regulations across Russian regions and show that such bias tends to be politically motivated, and is important in shaping performance of firms under re-organization.

outcomes. Using empirical data, we will try to show that shifting from a "paper protection" to more affirmative protection tends to suppress employment and to feed unemployment.

The paper consists of the introduction, six sections, and the conclusion. It is structured in the following manner. Section 2 discusses general properties of labor market regulations in the Russian Federation with a focus on job protection and its enforcement. In Section 3 we present our research methodology, including the set of hypotheses to be tested and our empirical strategy. Data issues are the focus of Section 4 and Section 5 deals with cross-regional variation in EPL enforcement and compliance. Section 6 outlines and discusses the econometric estimation results of EPL enforcement impacts on labor market performance. The conclusion summarizes the main findings and suggests further research possibilities.

2.   Labor Market Regulations and their Enforcement

In the Russian Federation, major labor market regulations that form the core of EPL are brought together and fixed in the Labor Code (LC). The current LC was enacted in 2002 in order to replace the Code of Laws for Labor that had been in action continuously - though with multiple amendments – since Soviet times. Despite the fact that the main motivation for reforming the labor code in 2001 was to bring more flexibility in the legislative framework for the labor market and to pull employment relations out of the dark, the new LC basically inherited all major rigidities that marked the previous legislation.

What do major EPL provisions say about the costs of hiring and firing labor? The LC stipulates that in case of firings for economic reasons, employees have to be notified at least two months in advance. Additionally, they have to be paid compensation with severance pay equal to 2-3 average monthly wages. For workers living in the northern and other remote (Far Eastern, e.g.) regions or regions with unfavorable climate conditions, severance pay can increase up to six times the average monthly wage. If monetary costs associated with advance notice are added to the severance pay, the employer's borne costs can be to nine times the average monthly wage (Labor Code of the Russian Federation, 2008). In Russia, legislated costs of firing a worker are not contingent upon the length of his\her tenure. This makes firing a newcomer as costly as firing a long-time incumbent with a large stock of firm-specific human capital accumulated over the long tenure. Even in the OECD countries with the most rigid labor markets (such as Italy, France or Spain) firing costs for short-tenured workers are quite low, while these costs increase exponentially for dismissals of long-tenured employees, making them far too costly (OECD, 1999, Chapter 2). Another important EPL component regulates the use of fixed-term contracts. In Russia, the use of non-permanent labor contracts

is legislatively limited by a closed list of legitimate reasons. The 2001 LC brought some ambiguity into their legally allowed use, providing employers with some hope for more flexibility. However, this hope was offset in 2004 by constraining interpretations given by the RF Supreme Court and follow-up amendments to the LC adopted in 2006. These clarifications restricted employers in using more flexible contractual arrangements even further.

We can sum up the picture of the Russian EPL using various integral EPL indices that allow placement in a cross-country context. Whatever of the existing indices we choose, they confirm that the Russian EPL, as written in the law, is among the most stringent in the world. The World Bank in its "Doing Business"-2007 survey estimated the rigidity of employment (rigidity of hirings, firings, and working hours) in Russia, assigning 44 points against 30.8 for the OECD.[6] The deviation from other countries is even stronger if we refer to indices suggested by Botero et al., (2004). In this case, Russia earns a value of 0.83 against the median value of 0.44. This ranks Russia first on the list of the countries with the most rigid EPL.

So far we have discussed nominal EPL rigidity under the assumption that these formal regulations are enforced fully and unconditionally. However, this is not always true everywhere, and in transition countries this is often far from being true. Assuming that countries differ in law compliance, we can suggest a simple typology presented in Table 1.

-----------------------Table 1 GOES HERE ------ --------------------

This typology places Russia in a group of countries with very stringent but poorly observed EPL rules. If this characterization is true (and below we will provide additional survey and statistical evidence for this), then the degree of EPL compliance becomes crucial, while formal stringency defines boundaries within which actual compliance may vary. As a result, the degree of actual compliance with laws instead of formal rigidity of legislation may become a major measure of real labor market flexibility. The actual degree of enforcement comes to the forefront of research efforts in evaluating the impact of employment adjustment costs.

Though EPL regulations (fixed in the LC) in Russia are uniform across all regions, they are always applied and enforced regionally (or even sub-regionally or locally). The degree of EPL observance depends on a complex constellation of regional/local factors,

---

[6] http://www.doingbusiness.org/ExploreTopics/EmployingWorkers

which are usually hard to administer from a remote centre. Among these factors are structural (some sectors of the economy show higher propensity to observe the law than the others, e.g. large firms vs small ones), cultural (culture of law compliance and the association between law compliance and education), institutional (capacity of local institutions to monitor law observance, to detect a breach of law and to punish law breakers), political (in some cases political authorities demonstrate a higher propensity for political intervention into EPL enforcement than in others). All this results in a variable gap between formal rules and their actual observance.

Three major dimensions of variation in enforcement are worth mentioning.

The first relates to EPL's *coverage of the employed population*. The EPL in full usually applies to formal sector firms only if they are above a particular size (Boeri, Jimeno, 2005). This takes small firms, individual entrepreneurs, self-employed, and those hired by other individuals (one may consider this heterogeneous group as the informal sector) out of EPL regulations. A high proportion of the informal sector in the economy reduces effective coverage and, therefore, increases actual labor market flexibility. In the Russian context, the proportion of "large and medium sized firms" (L&M firms) in total employment can be interpreted as an approximate measure (more precisely, for the upper end) of effective EPL coverage.[7]

The second dimension gauges the *institutional capacity of law enforcement agencies,* which determines the supply and quality of enforcement-related services. Here one could mention the density of labor inspectorate offices, the number of inspectors standardized with respect to the employment or population in the region. These variables affect the ability of the labor inspectorate to undertake inspection missions, to detect violations of the law, to restore justice, and finally to punish discovered violators. Another indicator relates to the institutional capacity of courts to deal with labor disputes filed in the judiciary system. It can be measured by the number of judges available for trying labor disputes or the plaintiffs' total costs of using the judiciary. Low institutional capacity reduces the probability of detecting violations and makes non-observance less costly, therefore increasing de-facto flexibility in the labor market.

---

[7] So called large and medium sized firms comprise a special group that is more closely monitored by the regulatory and tax authorities. They are also obliged to fill out monthly statistical reports. The strict definition of these firms is quite complex but, roughly speaking, these are largely those employing 50+ workers.

The third dimension concerns the *demand for enforcement,* which comes from workers (or trade unions) and employers. It corresponds to their propensity to raise their voices for better enforcement. The enforcement activity of the labor inspectorate and that of the courts can be initiated by those whose rights are (or were) violated. The number of legal cases on labor disputes filed in court is one of these measures. A stronger voice calling for better enforcement increases the degree of EPL observance. The activity of trade unions also partially contributes to better enforcement through the monitoring of law observance, activating workers' voices against EPL violations, and providing legal assistance to workers whose rights were violated, etc.

In sum, the probability of being caught for non-compliance depends on the institutional capacity of special agencies responsible for monitoring the legal compliance of firms (detecting and punishing violators through fines), on firm characteristics (such a size, sector, and legal status), and activities of labor market players (employers and employees).

In Russia, such an agency, the State Labor Inspectorate (LI), is a part of the Federal Service for Labor and Employment (*Rostrud*). Given the size of the country, the LI has offices in all regions, and its activity is further decentralized to the local level. Rights and obligations of the LI are regulated by the Labor Code; the latter contains a special chapter that describes the functions and authority of the labor inspectorate.

The LI's main objective is to monitor the enforcement of all labor regulations concerning hirings, firings, pay, and safety. However, the Labor Code provides the inspectorate with executive authority extending far beyond simple monitoring. The LI runs regular (planned in advance) and extraordinary control missions. Every firm is obliged to execute orders or requests issued by the LI. Otherwise, the LI inspectors can file a case with a local court office or involve the prosecutor's office in the conflict. The LI enjoys significant discretion in deciding what labor regulations to monitor, in what firms, and when. It may also allocate inspections after workers' complaints or after a call to the prosecutor's office. According to the law, all firms, regardless of the size, ownership and legal status are accountable to the LI for any labor related issues. This endows the labor inspectorate with significant powers in enforcing labor regulations and in intervening in employer-employee relations.

Though jurisprudence can potentially play a very important role in enforcing the EPL provisions since employers can be sanctioned for non-observance of these rules, its effect is conditional upon a number of factors.

Judicial intervention assumes that workers are ready to defend their rights and interests in court. Opportunity costs of appealing to the judiciary can strongly affect the propensity of workers to file their case in court. Legal provisions are subject to court interpretations, which may constitute a major (but often hidden) source of variation in the EPL strictness, both across regions and over time. As some recent studies suggest, the jurisprudence may be affected by underlying labor market conditions. For instance, judges' decisions may be particularly unfavorable to employers when unemployment is high (Ichino et al, 2003; Bertola et al, 1999). In some countries, compensation for unfair dismissal set by courts can deviate widely from the minimal set out in the legislation since judges may account for damages corresponding to past and expected future financial losses and psychological damage in their final decision (OECD, 2004). The judiciary system, if politicized, may introduce bias to decision making in courts. This can be due to ideological bias in the nomination of judges (Berger and Neugart, 2006) as well as to administrative interventions from regional or local governments into independent judiciary decision-making. Finally, potential corruption clearly distorts the judiciary's role and, therefore, can affect enforcement of the regulations. All these factors may play a role in Russia.

If legal cases brought to courts by workers are rare and episodic, employers may not consider the judiciary threat as credible and binding. However, if the number of cases put before the court becomes quite significant, sanctions for the non-observance of rules are unavoidable and binding, the likelihood of expecting a particular ruling is high, and the duration of the trial is short, we may expect that the enforcement regime will become stricter and more robust.

3.   Data Issues

In order to measure the regional variation in enforcement and to estimate its impact on regional labor market outcomes, we have constructed a database that covers all years from 2000 through 2005. This provides us with a data panel containing approximately 480 year-region observations. A more detailed description of the data used in the paper follows below.

The data on labor inspectorate activity is regularly collected by the Federal Labor Inspectorate and covers all regions of the Russian Federation. We consider the total number of inspectors allocated across regions a key variable for measuring the institutional capacity of this agency. The intuition for this is straightforward; more inspectors are able to undertake more control missions and these missions can be more efficient if more time is allowed per mission. Fewer inspectors can undertake more missions only by reducing the time allocated

per mission and, therefore, sacrificing enforcement efficiency. As Squire and Suthiwart-Narueput (1997, p.127) point out, when inspection resources are limited, investigations tend to be initiated in response to complaints rather than being random. Additionally, there is also a higher probability of producing more in-desk reviews and fewer in-depths audits.

In order to account for cross-regional variation in population, we divide the number of inspectors by employment in L&M sized firms, by the total number of firms, and by the number of control missions. We put special emphasis on employment in L&M size firms since that is the only segment of the economy that can pretend to be in fact monitored by the agency. Though formally the Labor Inspectorate's authority extends far beyond the L&M segment, its actual outreach there is almost negligible.

Another set of data used in our study reflects judiciary performance. These data are routinely collected by the Judicial Department of the Supreme Court. The key variable here is the number of labor disputes annually filed in courts in a region. Within the total number of legal cases, one can single out legal cases concerning wages and cases concerning employment and dismissals. We use data only on the total number of labor disputes filed and the number of cases concerning unfair dismissals. In order to account for variation in regions' size we standardize (divide) these measures by L&M sized employment, and by the number of firms, etc.

Data on labor market outcomes comes from the annual labor market statistics routinely provided by Rosstat, the Russian State Statistical Agency. We use such variables as the employment rate (total, female, and youth) and the unemployment rate (total, female, and youth)[8] and pay special attention to female and youth employment/unemployment rates since they are more sensitive to labor market conditions compared to those for prime-age men.

The variables presented above pretend to draw an objective picture using hard measures of the enforcement. We supplement them with additional indicators, which have to reflect how major labor market actors and the EPL enforcing agencies perceive the actual stringency of enforcement and the degree of compliance.

For collecting subjective information, we conducted a special survey covering all regions of the Russian Federation.[9] A questionnaire focused on EPL enforcement was sent to

---

[8] Since these variables are routinely measured using the LFS data and correspond well to standard ILO definitions, we do not go into additional details here (For robustness of employment and unemployment measurement in Russia see Brown et all, 2006)

[9] The survey was conducted in late 2006-early 2007.

top officers in all regional staff-quarters of the Labor Inspectorate and the Employment Service, to regional representatives of the major trade union federation (the Federation of Independent Trade Unions of Russia or FNPR), and to regional representatives of major employers' association (the Russian Union of Industrialists and Entrepreneurs or RSPP). For each agency, we designed a specialized questionnaire that combined a general (common to all agencies mentioned above) part and an agency-specific block. Altogether we collected about 400 completed questionnaires covering all Russian regions.

4.   Main Hypotheses and Empirical Strategy

Our empirical strategy is organized around two interconnected "Saltykov-Tchedrin hypotheses" that can be derived from his famous phrase presented in the epigraph to this paper. As we have already shown, the Russian EPL is very stringent, if formally measured. The gap between the formal stringency of legislation and its actual observance tends to be larger when laws are stricter and enforcement is weaker. Such a gap, if it looms large, makes the actual regulations less certain and more varying across space and over time. But higher variation in the regulative regime is likely to translate into higher variation in market outcomes.

Hypothesis H1 assumes that the EPL enforcement is not complete and varies significantly across regions. Whatever enforcement measures we consider, they will show significant interregional variation. In practice, this means that the actual regime of regulation varies within a wide range: from very liberal in some regions to rather stringent in the others.

Hypothesis H2 tests labor market implications of the variable enforcement. According to H2, stricter enforcement of the stringent legislation is expected to correlate negatively with regional labor market performance. This may lead to the fact that in regions with stricter enforcement, employment rates tend to be significantly lower, while unemployment rates higher, if other regional characteristics are controlled for.

Several econometric techniques were used to estimate the causal effects of EPL enforcement on labor market performance. They differ in how they account for differences across regions and changes through time. Another distinction concerns the way they treat the endogeneity problem.

We start with estimating impacts of enforcement by applying random effects (RE) estimation. We estimate the set of relationships for various labor market outcomes based on the following equation:

$$Y_{it} = \alpha_0 + \beta E_{it} + \gamma X_{it} + \phi_t + \alpha_i + \varepsilon_{it}, \tag{1}$$

where Y_{it} refers to a specific labor market outcome in the i region and time t. E_{it} is some measure of EPL enforcement, X_{it} is a vector of exogenous regional characteristics, ϕ_t's are yearly dummies, α_i – unobserved regional effect, and α_0, β, γ's are coefficients. Finally, ε_{it} is an idiosyncratic iid error term.

We use six indicators of labor market performance as dependent variables. Two indicators refer to the general situation on the labor market: employment and unemployment rates. Other indicators – female and youth employment rates, female and youth unemployment rates – concentrate on specific segments of the labor force, which are considered more vulnerable to demand shocks. A priori we expect β's to be negative when Y's are employment rates and positive in case of unemployment outcomes.

In all equations, on the right hand we control for real per capita Gross Regional Product, or GRP, taken as natural logarithm, GRP growth rate, and demographic variables (the proportion of urban population, the proportions of females and young people aged 15-29; fertility rates). We also include a dummy for Moscow and St. Petersburg, dummies for macro-regions (federal districts), dummies for autonomous republics and interactions between regional dummies and dummies for autonomous republics in RE specification.

Several econometric problems may complicate estimating the equation (1).

First, regional effects may be correlated with the explanatory variables. Region-specific effects can be generated by political factors, specific policies of local administrations, cultural and historical traditions of law observance and enforcement, etc. RE estimation treats these region-specific effects as randomly distributed across regions and, therefore, uncorrelated with other explanatory variables. However, if this assumption does not hold (for example, if the pressure for EPL enforcement is correlated with the unobserved balance of political forces in a region), the RE estimator is not applicable. To cope with this problem we use the fixed effects (FE) estimator.

Second, the series of labor market indicators tend to be persistent, demonstrating high autocorrelation. Additionally, the assumption that all region-specific effects are time-invariant (as in FE models) may not be plausible and we may want to account in some way for region-specific dynamics. This problem can be solved by adding a lagged dependent variable to the explanatory variables and estimating equation (1) with the Arellano-Bover/Blundel-Bond method (System GMM), which is an extension of the Arellano-Bond method. This estimator

was designed specifically for "small T-large N" panels (Arellano, Bond, 1991; Arellano, Bover,1995; Blundell, Bond, 1998).

Third, FE and RE estimators assume that enforcement indicators are uncorrelated with the error term (ε_{it}) or, in other words, that they are exogenous to labor market outcomes. If such assumption does not hold, then panel estimates would also be inconsistent. Such correlations with past and possibly current realizations of the error term can appear if labor markets outcomes influence enforcement variables. For example, regional authorities in high unemployment regions may exert additional pressure upon labor inspectorates, requiring more control missions in order to preserve existing jobs. Additional inspections that enforce strict firing regulations are likely to increase total firing costs for employers and, therefore, to dampen new hiring, which contributes to making unemployment more persistent. This argumentation suggests that we are likely to have a positive bias for the indicators of the LI activities.

We do believe that the number of inspectors and judges are exogenous to local employment and unemployment rates.

The number of inspectors is allocated across regions by the central office according to federal uniform norms, which are based on the population size in the region, but not on local labor market conditions. This allows us to argue that the density of a regional inspector network is not conditional upon the level of employment or unemployment. However, actual performance (measured as the number of control missions and violations detected) of regionally located inspectors is likely to be endogenous to the local labor market outcomes.

Concerning judges, the cross-regional allocation of judges is also set at the federal level (accounting mostly for population size) and certainly does not account for local labor market conditions. In Russia, special labor courts are non-existent and labor disputes are considered in courts of general jurisdiction, which deal with all criminal, civil and administrative cases. Poor local labor markets conditions affect enforcement by encouraging dismissed workers to go to courts while affecting local judges' decisions in favor of workers (Ichino et al 2003). In this case, the estimate of the enforcement effect tends to be positively biased. If courts were favoring firms in such situations, then dismissed workers would be discouraged to file their cases in court and the bias would go in the opposite direction. Another set of arguments can be offered in favor of negative bias relating workers' propensity to apply for judicial protection to the availability of outside options. In a tight labor market, outside conditions are favorable to workers and workers can exploit an exit option at relatively low cost. On the contrary, higher unemployment reduces the availability of outside

options and thus decreases relative costs of using judiciary protection. Thus, in case of courts the direction of the bias cannot be determined theoretically.

To solve the endogeneity problems, one would usually use fixed effects instrumental variables estimation. We tried various exogenous instruments – the homicide rate, the crime rate, the industrial injury rate, the density of motorways, the distance from Moscow, the share of federal and local government employment in total employment, a dummy for the new Labor Code (enacted in 2002), proxies for the state of democracy in Russian regions and their interactions. Unfortunately, validity of these instruments was not supported by statistical tests. Finally, we arrived at using lagged values of endogenous enforcement indicators as instruments in our System GMM estimation.

5.   How Does the EPL Enforcement Vary Across Regions? Descriptive Analysis

The measures presented in Table 2 show significant variation in EPL enforcement efforts across Russian regions. We will discuss this issue in the next part of this section.

---------------------TABLE 2 GOES HERE ------------------------

Coverage. As it usually happens, small firms are partially or fully exempt from the standard EPL norms (Boeri, Jimeno, 2005). Those hired by individual entrepreneurs or by other private citizens are de-facto exempt from these regulations as all self-employed are. In Russia, only those working for L&M size firms are actually subjected to EPL. This makes the proportion of covered employees in the total employment an indirect indicator of the efficiency of EPL coverage. While the country mean equals 58%, this measure varies across regions from 40% to 74%. The share of L&M size employment has been shrinking permanently in all regions over time, while the distribution has become more skewed to the left. At the same time, the interregional variation remained significant and impressive. This means that the EPL-exempt employment can reach 60% of the total in some regions, hinting at strong labor market segmentation.

Activity of the Labor Inspectorate. The key indicator in this family of measures is the density of inspectors, calculated as the number of inspectors standardized per 100,000 employees in large and medium sized firms. It varies from 3.0 in Moscow (followed by other relatively well developed regions) to 25.0 in the ethnic Republic of Ingushetia or 13-20 in other remote or scarcely populated underdeveloped regions. The density of inspectors in the latter group of the regions exceeded the country average by 3-5 times and the Moscow level by 7-8 times, making firms much more exposed to the regulatory pressure.

In Moscow City, one inspector was in charge of monitoring about 6,000 firms (or organizations) during the year; in St. Petersburg it was 3.000 firms. Obviously, such a high load makes the probability that a firm in either region will be inspected very low. The difference emerged from a higher density of inspectors as well as from a lower density of firms in less populated and remote regions. Low population density (small population scattered across small villages on a large territory) may need more inspection offices and therefore more inspectors. However, this can be true only in some regions (to the East of the Urals).

Efficiency of the regional LI offices measured as the number of inspections (control missions) conducted during the year depends on the density of inspectors (since more inspectors per given population of firms or employees can initiate more missions) as well as on the propensity of the LI to intervene in the situation (since additional extraordinary or irregular missions may emerge as local initiative). The latter makes this variable partially endogenous to the regional/local labor market situation. In 2000-2005, in the least inspected (controlled) regions there were on average 2.0-2.2 control missions per 1,000 employees. In the most frequently inspected regions, there were 15.7-18.6 missions per 1,000 workers, or 8-9 times more (see Table 2). Over the year, on average labor inspectors managed to inspect 12 out of 1,000 firms in Moscow, in St. Petersburg the number was also at low -- 23. In contrast, in Kursk Oblast 460 firms of 1,000 were checked, in the Chukotka region – 350, in Buryatia – 260. This means that up to half of all firms were inspected for EPL observance.

Regarding the rate of detected EPL violations (calculated as the number of detected violations divided by total employment), its maximum value exceeds the minimum by 5 times. In general, it is positively correlated to the density of inspectors.

As we can see, all major indicators based on the Labor Inspectorate statistics show remarkable variation across regions in exposure of firms to inspections.

When examining interaction between the Labor Inspectorate and judiciary, we also observe high variation. In 2005, the LI in 35 of 79 regions did not file any case with the judiciary. However, in some regions the number of court appeals was quite high, and the southern regions were especially salient in this respect. Krasnodar Kray took the lead with 69 cases filed per 100,000 employees. In these regions the number of court filings (standardized by employment) was 7-17 times higher than the country mean. Given that the maximum figures were not high in absolute numbers we can hypothesize that the LI had weak incentives to use judiciary. They could have preferred alternative options when dealing with violations of the labor law.

Judiciary authority (courts). Quantitative variables based on judiciary statistics tell basically the same story, showing significant inter-regional variation in enforcement of the labor regulations. This variation was also high throughout the entire period of 2000-05.

The Far Eastern Magadan region with 200 legal cases (per 1,000 employees) filed in courts took the leading place. It was followed by a few other Northern and Far Eastern regions, where the corresponding values ranged from 30 to 70. On the opposite end of the scale, we find the most urban and densely populated regions like the cities of Moscow and St. Petersburg, and the Moscow and Nizhny Novgorod oblasts situated in the European part of the country. Here, of every 1,000 employees, only 1 to 4 were involved in legal conflicts with their former or current employers in regional or local courts.

Largely the same distribution of regions emerges if we look at legal cases related to pay issues. The Northern and Far Eastern regions are among the most litigious regions, while the regions with more developed and diversified economies are among the least litigious. Again, the gap between these two ends of the scale is remarkably large. The Magadan region shows as many as 160 litigations per 1,000 employees against just 0.8 litigations filed in Moscow. Interregional variation in workers' propensity to use the judiciary for disputing unjust dismissals is somewhat narrower but the general tendency is the same.

All the data that we are presenting here provide a very consistent and robust picture. The northern and remote regions of the Far East with the least favorable climate conditions are among the most conflict prone. Here, the workers are legally endowed with a generous package of additional social guaranties and benefits (the so called "northern benefits package"), on the one hand. On the other, these local labor markets are weakly diversified and strongly isolated local monopsonies. Outside options for dismissed workers here are scarce, while migration costs in contrast emerge as prohibitively high. As a result, incredibly high alternative costs of losing jobs to workers activating their "voice" strategy and stimulate litigious activity. Expectation of easy winning a lawsuit supports this strategy. On the contrary, in regions with the more diversified labor demand a "voice" strategy becomes less beneficial compared to an "exit" strategy, and these simple cost-benefit considerations may suppress or drive down the propensity to litigate. If a worker loses a job, he/she can find a new one quickly at low cost instead of being dragged into a lengthy and costly litigation.

Survey evidence. Our survey provides additional evidence that EPL observance, while being far from complete, varies across regions within the wide band.

As Table 3 undoubtedly illustrates, the proportion of those surveyed believing that EPL observance does not pose any problem is strikingly small. This opinion is shared by just

3% of the judges, 8% of the employers' representatives and by 3% of the TU regional leaders that were surveyed. None of the surveyed labor inspectors or the employment service top officers emphasized this position. On the contrary, 10-37% of our respondents consider non-observance an acute problem. If measured on a 7-point scale with the maximum given to the complete observance, regions vary from 2.3 to 5.0 points. Most of the averages are under 4 points, while the employers only assign just a little more than that.

--------------------------Table 3 GOES HERE --------------------

Table 4 extends the picture further differentiating these scores by segments of the EPL. Our respondents assessed the issues of enforcing the rules that regulate hirings, separations, and pay as the most problematic. The preparation of collective agreements and provision of TU rights appeared to be the least problematic and the most observed. However, the table confirms the basic conclusion that EPL enforcement seems to be quite problematic.

---------------------------------------Table 4 GOES HERE ----------------------

All the evidence mentioned above tends to confirm the key point that EPL observance in Russian regions is incomplete, selective, and varying. This concerns particular segments of labor law relatively more than others. Some firms are also more exposed to enforcement than others. This seems to turn the legislative framework into a kind of mosaic or patchwork. To explore how variation in observance and enforcement across regions may affect labor market performance, we turn to the next paragraph.

6.   Estimating the Impact of Enforcement

We include three sets of estimation results – random effects, fixed effects, and System GMM – for each dependent variable. Given a short panel, only the first lag of dependent variable is included in the GMM model. As discussed in Section 4, the number of inspectors and the number of judges are exogenous, four other enforcement indicators – the number of violations detected, the number of control missions, the number of all labor disputes filed, the number of disputes on unfair dismissals – are treated as endogenous and instrumented by their lagged values. In this regard, System GMM is our preferred specification.

Applying various estimation procedures allows for assessing the robustness of the estimated effects and thus will protect us from potential bias associated with using just one estimator. We can compare whether different methodologies provide similar results and if so,

we get an additional robustness check. Doing so, we follow methodological suggestions based on studies of the impact of EPL strictness on labor market outcomes (OECD, 2004).

According to our second hypothesis, stricter enforcement is expected to drive employment rates down. If this holds true, then coefficients for enforcement proxies in the regressions are expected to be negative and statistically significant. Table 6 presents the point estimates drawn from all tested specifications. We consequently consider three different employment measures (for the total population, for women, for youth aged 15-29). The male prime-age employment rate is usually quite robust and not as sensitive to marginal changes in regulations. Over the whole transition period in Russia, this e/p ratio has changed very little. Since women and youth positions in the labor market are more volatile and sensitive to shocks, we may expect that the coefficients of enforcement variables in these specifications display higher statistical significance than in equations with overall employment.

-----------------------------Table 5 goes here-----------------------

For the general employment rate, the number of inspectors in all specifications is statistically significant and has the expected (negative) sign. All point estimates in RE, FE, and System GMM models are almost identical for all workers and for the youth. For females the coefficient in the System GMM model is twice as large as the absolute value than in the RE and FE models. The coherency of coefficients in all models suggests that larger institutional capacity of labor inspectorates tends to suppress employment. We estimate that, on average, when the number of inspectors per 100,000 L&M employment in the region increases by 1, the e/p ratio goes down by 0.25 percentage points. In our sample, the average number of inspectors per 100,000 L&M employment in the region is 11.5 and the e/p ratio is 58.3. Based on these numbers the computed elasticity of the general employment rate with respect to the number of inspectors is of -0.050- -0.055. For females, the relevant elasticity lies in a wider range of -0.045- -0.123. Females do not seem to benefit from stricter enforcement of labor law. For youth, we find the elasticity two times higher than that for the entire population. Our estimates of elasticity of the youth employment rate with respect to the number of inspectors fall in the range between -0.08 and -0.09. Thus, larger institutional capacity of labor inspectorates has stronger negative effects on new entrants to the labor market and probably on women.

The variables that are based on the number of violations detected by the LI and the number of control missions used as enforcement proxies are mostly statistically insignificant,

except for the RE estimation. Much statistical significance vanishes when we account for time-invariant regional effects. Thus, these measures do not provide strong support for adverse consequences of stricter EPL enforcement.

The last three lines in each panel of Table 5 relate to judiciary enforcement. Here, the evidence is also mixed. The coefficients for our measures of the judiciary enforcement are mostly significant and have expected negative signs in all specifications only for one enforcement variable – the total number of labor disputes filed in court. Two other variables – the number of judges and the number of disputes on unfair dismissal – enter equations with insignificant coefficients or even have significantly positive coefficients in the FE estimation. These results seem to be reasonable. While association between the number of judges and labor market outcomes is too indirect (since judges do not specialize in labor conflicts, e.g.), the number of disputes on unfair dismissals is small in many regions and make a minor fraction of all labor related cases tried in regional courts. In this light, the number of all labor disputes filed emerges as the best (of all three) measure of judicial enforcement. An elasticity of the general employment rate with respect to the number of labor disputes filed in court is not larger than -0.01 (if computed from the RE estimates and insignificant in the System GMM). For females and youth, the relevant elasticities are marginally higher and do not exceed -0.02. Thus, the effect of judiciary enforcement on employment rates, if any, is small and less important than the impact of labor inspectorates' activities. The limited court capacity may be one of the reasons and the limited propensity of workers to seek judicial protection is another.

Let us now turn to another basic indicator of labor market performance - the unemployment rate. Our main expectation here is to see statistically significant and positive coefficients for all enforcement variables. If H2 holds true, then stricter enforcement should bring higher unemployment. Again, the motivation is straightforward since higher labor costs associated with enforcement of the strict EPL constrain labor demand and keep people out of jobs, other things being equal. Table 6 presents our abbreviated results.

-------------------------------------- TABLE 6 GOES HERE ---------------------

Again, the number of inspectors performs better than other proxies of enforcement by labor inspectorates. It has significant coefficients in the System GMM models for all our measures of the labor market situation. Elasticities of the unemployment rate with respect to the inspectors' density are fairly large. For the overall unemployment rate, our estimates are

about 0.30. Young people and females are the most affected by stricter enforcement. For young people and females the elasticity is between to 0.40 and 0.55.

Other measures of EPL enforcement by labor inspectorates give inconclusive results. The coefficients of the number of violations detected are positive and significant in the System GMM specifications for females and youth, but not for all workers. On the contrary, the number of violations enters with a significant coefficient in the System GMM model for all workers but has no impact for females and youth. We can only argue that activities of labor inspectorates tend to have a stronger effect on unemployment rates than on employment rates.

Judicial enforcement of EPL seems to have no effect on the unemployment rates for the total population – only one coefficient (that of the number of disputes on unfair dismissals) is significant at the 10% level in our preferred model. We find more significant coefficients in the models for females and young people. Though the number of disputes on unfair dismissals enters the equation (for the female unemployment in FE and GMM models) with an unexpected negative sign, our preferred measure (that is the number of labor disputes filed in court) enters the equations as a significant (at least at the 5% level) one and with the expected sign. According to the System GMM, elasticities of the unemployment rates with respect to the number of labor disputes filed in court are lower for the youth unemployment rate and equal 0.18. Female unemployment rates are the most sensitive to the strictness of judicial enforcement with an elasticity of 0.23.

Combining the estimates, we can cautiously say that despite multiple measurement and estimation problems, the econometric evidence available to us so far suggests that there are no reasons to reject Saltykov-Tchedrin's hypothesis. Comparing female and youth segments with the labor market average we can conclude that young workers and women disproportionally bear the burden of stricter employment protection.

7.   Conclusion

For many Russians, Saltykov-Tchedrin's statement presents not a hypothesis but a self-evident axiom. However, whether it is true or not has never been tested with the use of empirical data. If this is still in fact true, many important policy implications related to design and enforcement of legislation may emerge. We believe that laws governing job protection are a good example of how to test Saltykov-Tchedrin's idea. Adoption of this legislation and its enforcement lay in different dimensions and are governed by different political and economic logics. The large and widening gap may have multiple consequences. On the one

hand, it destroys the rule of law and feeds into lawlessness and corruption; on the other, it partially compensates negative economic and social outcomes from poorly designed regulations.

Since the early 1990s, economists in many countries have been paying much attention to the interaction between EPL and operation of the labor market. This interest has brought a wide stream of literature on the impact of job protection regulations on labor market outcomes. Nevertheless, empirical evidence on these effects remains incomplete or ambiguous. Researchers usually equate formal legislative norms to actual law compliance. The degree of actual enforcement/compliance is hard to measure, partially due to the fact that in the OECD economies the gap between regulations and compliance is relatively small. However, transition economies make a special case since weak institutions cannot enforce EPL rules, though these rules are quite strict. If in practice the EPL works as a paper protection only, then it can hardly have any binding impact on the labor market activity.

Our study tries to overcome these limitations. This is the first attempt to study this issue using such a large and diverse transition country as Russia. Second, it uses not national, but sub-national data. Third, we account for EPL enforcement variation, which allows for a better capture of the actual EPL effects on regional labor markets.

Russia has inherited very strict EPL from its socialist past, and this EPL has undergone only marginal adjustments. However, state institutions remain weak, and their interventions are inefficient and non-random. Russian labor legislation is under the federal jurisdiction and is universal across the country, though its enforcement is always regional or sub-regional. Social, economic and political diversity of regions generate significant heterogeneity in EPL enforcement.

These considerations were translated into two key hypotheses. First, we expected to see significant variation in the EPL enforcement across regions. Second, we assumed that stricter control over EPL compliance is likely to have suppressive (negative) effects on major labor market outcomes (employment, unemployment, vacancies). For testing these assumptions we used data related to the Labor Inspectorate activity and to the judiciary activity. Neither of the hypotheses can be rejected given the available data.

We have revealed significant variation in EPL enforcement across Russian regions. This is true regardless of which of the EPL enforcement variables we considered. Some regions tend to cluster closer to one end of the scale and others appear to be closer to the opposite end. The place a region occupies on this scale is explained by various factors: by specific features of these regional economies, by the institutional capacity of regional courts

and judiciary, by political bias of regional authorities. As it appeared, even within the same regions the LI and judiciary could react differently, therefore, increasing total variation in actual enforcement/compliance.

Our analysis also suggests that interregional differences in EPL enforcement have a statistically significant impact on regional economies and labor markets. We regress regional labor market performance indicators on regional enforcement variables, controlling for other regional characteristics. For most of the estimated equations (though not for all), coefficients are statistically significant and have the expected sign. In order to account for unobserved heterogeneity, we apply FE, RE and GMM panel data techniques. This adds empirical arguments to the point that stringent EPL, if efficiently enforced, tend to suppress employment and stimulate unemployment. Women and young people are among those who hit first and foremost. Therefore, strict EPL targeted on protection of the most vulnerable groups in the labor market is likely to act precisely against these groups.

From the policy implications point of view, our analysis warns against straightforward strengthening of enforcement, if the formal EPL is very stringent. This can bring the outcome that is opposite to what politicians actually want. Since many legal norms in Russia are too burdensome and costly, following them threatens to suppress labor demand. Employers may choose to exit the market or to reduce their participation in the labor market instead of fully complying.

In order to raise the general level of EPL compliance, the EPL should become easier, more transparent, and less costly. Its rationalization, even under weak enforcement institutions, could weaken incentives to avoid laws and formal rules, limit the selectivity of enforcement, and compress variation in compliance with the laws. This would be a significant contribution to creating the institutional environment in which Saltykov-Tchedrin's hypothesis could be rejected.

References

Almeida, R., Carneiro, P. (2005) Enforcement of Regulation, Informal Labor, and Firm Performance, IZA Discussion Paper No.1759.

Almeida, R., Carneiro, P. (2007) Inequality and Employment in a Dual Economy: Enforcement of Labor Regulation in Brazil, IZA Discussion Paper No. 3094.

Almeida, R., Carneiro, P. (2009) Enforcement of Labor Regulation and Firm Size. *Journal of Comparative Economics*, Vol.37, 28-46.

Arellano, M., Bond, S. (1991) Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations, *Review of Economic Studies*, Vol.58, 277-297.

Arellano, M., Bover, O. (1995) Another Look at the Instrumental Variable Estimation of Error-Components Models, *Journal of Econometrics*, Vol.68, 29-51.

Bertola, G., Boeri, T., Cazes, S. (1999) Employment Protection and Labor Market Adjustment in OECD Countries: Evolving Institutions and Variable Enforcement, ILO Employment and Training Papers, No.48.

Berger, H., Neugart, M. (2006) Labor Courts, Nomination Bias, and Unemployment in Germany, CESifo Working Paper No.1752.

Blundell, R., Bond, S. (1998) Initial Conditions and Moment Restrictions in Dynamic Panel Data Models, *Journal of Econometrics*, Vol.87, 115-143.

Boeri, T., Jimeno, J. (2005) The Effects of Employment Protection: Learning from Variable Enforcement, *European Economic Review*, Vol. 49, 2057-2077.

Botero, J., Djankov, S., La Porta, R., Lopez-de-Silanes, F., Shleifer, A. (2004) The Regulation of Labor, *Quarterly Journal of Economics,* Vol. 119, 1339-1382.

Brown J, J.Earle, V.Gimpelson, R.Kapeliushnikov, H.Lehmann, A.Telegdy, I.Vantu, R.Visan, A.Voicu (2006). Non-standard Forms and Measures of Employment and Unemployment in Transition: A Comparative Study of Estonia, Romania, and Russia, *Comparative Economic Studies*, Vol.48, 435-457.

Gimpelson V., Kapeliushnikov, R. (2008) Applying Labor Law in Russia: Role of Judiciary, HSE, Centre for Labor Market Studies, mimeo.

Eamets R., Masso, J. (2004) Labor Market Flexibility and Employment Protection Regulation in the Baltic States, IZA Discussion Paper No.1147.

Ichino, A., Polo, M., Rettore, E. (2003) Are Judges Biased by Labor Market Conditions?" *European Economic Review*, Vol. 47, 913-944.

Labor Code of the Russian Federation (2008), Moscow, Berator-Publishing

Lambert-Mogiliansky, A., Sonin, K., Zhuravskaya, E. (2007) Are Russian Commercial Courts Biased? Evidence from a Bankruptcy Law Transplant, CEFIR/NES Working Paper No 99.

Lazear, E. (1990) Job Security and Employment, *Quarterly Journal of Economics*, Vol.105, 699-726.

OECD (1999) Employment Outlook 1999, Paris, OECD.

OECD (2004) Employment Outlook 2004, Paris, OECD.

Rutkowski, J., Scarpetta, S. (2005) Enhancing Job Opportunities: Eastern Europe and the Former Soviet Union, World Bank, Washington, DC.

Squire, L., Suthiwart-Narueput, S. (1997) The Impact of Labor Market Regulations, *World Bank Economic Review*, Vol. 11, 119-143.

Vishnevskaya, N., Kapelyushnikov R. (2007) The EPL Enforcement in Russia: Coverage, Dynamics, Interregional Differentiation, HSE Working paper WP3/2007/02 (*in Russian*).

Appendix: Tables and Graphs

Table 1. The Simple Typology of Labor Markets

Formal stringency of EPL rules	Effectiveness of EPL enforcement	
	High	Low
High	1 (Continental Europe: Germany, France, …)	**2** (Russia, CIS countries, Brazil,…)
Low	3 (Anglo-Saxon countries: USA, UK,…)	4

Table 2. Enforcement in Russian Regions: Descriptive Statistics, 2005

	N	mean	se(mean)	sd	p50	min	max	cv
Proportion of L&M employment	79	57.8	0.7	6.5	57.9	37.8	72.2	11.2%
Labor Inspectorate								
N of firms per 1 inspector	80	1043.2	105.4	943.1	900.5	318.8	8089.5	90.4%
N of inspectors per 100,000 L&M employees	79	113.6	6.9	61.5	100.5	51.4	483.4	54.1%
N of control missions per 1 inspector	80	72.4	2.3	20.7	70.0	30.5	138.5	28.6%
N of control missions per 1 firm	80	0.090	0.006	0.052	0.083	0.010	0.362	57.5%
N of control missions per 1000 empl (L&M)	79	8.08	0.46	4.10	7.05	3.16	24.71	50.7%
N of law violations per 1 inspector	80	521.6	23.5	210.1	507.8	170.2	1188.7	40.3%
N of employees returned to jobs due to LI intervention, per 100,000 L&M employees	79	56.2	6.8	60.2	33.5	0.0	322.1	107.1%
Av N of violations per 1 control mission	80	7.3	0.3	2.6	6.9	1.6	16.2	34.8%
Courts								
N of legal cases on unjust dismissals by 1,000 L&M employees	79	1.088	0.064	0.566	0.867	0.419	3.094	52.0%
Total N of legal cases in courts per 1,000 L&M employees	79	26.8	3.0	26.3	21.0	3.2	200.9	98.0%

Table 3. How Serious is the Problem of the EPL Observance in Your Region? (%)

	Judges	Labor Inspectors	RES	Employers	TU
- very acute problem	12	37	18	23	10
- quite a serious problem	85	56	77	68	83
- almost unserious problem	3	-	-	8	2

Table 4. To What Degree are the Following Norms Observed? (Full Compliance = 7)

	Judges	LI	ES	Employers	TU
Preparation and signing of collective agreements	4.5	4.7	4.1	4.6	4.3
Hirings, signing up labor contracts	3.9	3.6	3.9	4.3	3.7
Separations, cancellation of labor contracts	3.8	4.0	3.9	4.2	3.7
Use of short-term contracts Working time, incl over-time work	4.3	4.0	3.9	3.5	3.9
Pay	4.0	3.4	3.7	4.2	3.6
Timing of pay	4.2	4.5	4.3	4.4	4.3
Social guaranties and benefits for particular groups of workers	4.1	4.4	3.8	4.1	4.0
TU rights	4.4	4.9	4.1	4.5	4.4

Table 5. RE, FE, and System GMM Estimates: Employment Rates

		RE	FE	System GMM
	Dep. var.: *employment rate (e/p ratio)*			
1	LI: N of inspectors	-0.263***	-0.252***	-0.285***
2	LI: N of violations detected	-0.011	-0.011	0.023
3	LI: N of control missions	-0.094*	-0.052	-0.197**
4	Courts: N of judges	0.003	0.028	-0.005
5	Courts: N of all labor disputes filed	-0.025***	-0.019**	0.011
6	Courts: N of disputes on unfair dismissals	-0.493	0.081	-0.435
	Dep. var.: *female employment rate*			
1	LI: N of inspectors	-0.213***	-0.209***	-0.580***
2	LI: N of violations detected	0.007	0.007	0.018
3	LI: N of control missions	0.020	0.071	0.166
4	Courts: N of judges	-0.018	-0.026	-0.085***
5	Courts: N of all labor disputes filed	-0.048***	-0.044***	-0.056***
6	Courts: N of disputes on unfair dismissals	0.528	1.295***	0.326
	Dep var.: *youth employment rate*			
1	LI: N of inspectors	-0.343***	-0.334***	-0.352***
2	LI: N of violations detected	-0.024**	-0.011	-0.001
3	LI: N of control missions	-0.204***	-0.130	0.035
4	Courts: N of judges	0.009	0.047**	-0.007
5	Courts: N of all labor disputes filed	-0.046***	-0.047***	-0.044***
6	Courts: N of disputes on unfair dismissals	-0.071	0.935**	-0.112

Note: *** p-value<0.01, ** p-value <0.05, * p-value <0.1.

Table 6. RE, FE, and System GMM Estimates: Unemployment Rates

		RE	FE	System GMM
	Dep. var.: *unemployment rate*			
1	LI: N of inspectors	0.274***	-0.040	0.257***
2	LI: N of violations detected	-0.006	-0.007	-0.022
3	LI: N of control missions	0.110**	-0.006	0.288***
4	Courts: N of judges	0.028**	-0.023	0.011
5	Courts: N of all labor disputes filed	0.023**	0.000	0.012
6	Courts: N of disputes on unfair dismissals	1.017***	-0.589*	0.379*
	Dep. var.: *female unemployment rate*			
1	LI: N of inspectors	0.323***	0.005	0.446***
2	LI: N of violations detected	-0.019*	-0.018	0.050**
3	LI: N of control missions	0.074	-0.126	0.144
4	Courts: N of judges	0.065***	0.033	0.032
5	Courts: N of all labor disputes filed	0.065***	0.028**	0.107***
6	Courts: N of disputes on unfair dismissals	0.486	-2.502***	-2.601***
	Dep var.: *youth unemployment rate*			
1	LI: N of inspectors	0.419***	0.060	0.339***
2	LI: N of violations detected	-0.010	-0.015	0.079***
3	LI: N of control missions	0.137	-0.046	0.094
4	Courts: N of judges	0.044**	-0.024	-0.011
5	Courts: N of all labor disputes filed	0.080***	0.054***	0.126***
6	Courts: N of disputes on unfair dismissals	0.252	-2.544***	0.105

Note: *** p-value<0.01, ** p-value <0.05, * p-value <0.1.