Does labour law hurt labour by reducing employment?

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Using longitudinal data on labour law for 108 countries over the period 1996–2013, the present study estimates the impact of labour regulation on total and youth employment. Using the dynamic panel data analysis it is observed that worker-protective labour laws including the dismissal law do not hamper the long-term employment prospects of the general work force and the youth population. Rather it provides a better legal environment for increasing employment opportunities. By and large this result holds in the two sub-samples: one consisting of 23 developed countries and the other consisting of 85 less-developed countries (including 26 ex-socialist countries).

JEL Codes: K31, J08, J50, J60, J83.

Keywords: labour regulation, dismissal law, employment

1. Introduction

Since the late 1990s La Porta and his collaborators (La Porta et al., 1997, Beck et al., 2003, Botero et al., 2004) had been arguing that the civil law countries interfere more in the market and their pro-labour policy exerts a negative influence on their employment and productivity. During the 2000s similar arguments were put forward by the World Bank (2007: 19): 'laws created to protect workers often hurt them—especially women, youth and unskilled workers'. On the contrary, the ILO's Philadelphia Declaration of 1944 advocated for labour regulations 'to ensure a just share of the fruits of progress to all' (Supiot, 2012).

Our contribution to this debate is an empirical one and makes two methodological innovations. Firstly, we make use of a recently constructed data set, the Labour Regulation Index of the Centre for Business Research (CBR), which provides the most detailed and systematic analysis of trends in labour law over time (1970-2013) in 117 countries. It differs from the most commonly used alternatives (the OECD's Employment Protection Index and the World Bank's Employing Workers Index) in providing a continuous time series based on consistent coding of primary legal sources covering the full range of laws governing individual and collective work relations. Secondly, we analyse the impact of labour law on the economy using econometric techniques which distinguish between short-run and long-run effects of legal change and take into account dynamic interactions between legal and economic variables. These techniques mark an advance on the more static cross-sectional and time invariant analyses which have mostly been used until now to analyse the economic effects of labour laws.

2. The debate on the impact of labour regulation: a brief overview

In the 1990s and 2000s the international bodies such as OECD (OECD, 1994), IMF (2003) and World Bank (2007) made the argument for liberalising labour laws as part of a strategy for enhancing labour market flexibility and thereby boosting job creation. It was

argued that stringent labour regulation would lead to substitution of capital for labour, and that there would be a shift in production from the formal sector to unregulated areas of the economy together with flight of capital and relocation of production in a country with more market-friendly labour regulation (Fallon and Lucas, 1993; Heckman and Pagés, 2004; Botero et al., 2004). In the words of Besley and Burgess (2004: 101), 'labor regulation will typically create adjustment costs in hiring and firing labor'.

From the 'structuralist'/neo-Kaleckian macroeconomic model one can get a 'positive economic' argument in favour of labour regulations promoting fair income distribution: it leads to higher rate of profit and growth (see Dutt, 1984 and for a critique of this 'structuralist' model see Bhaduri and Margin, 1990 and Sarkar, 1992, 1993).

There are some other arguments: the laws setting basic labour standards in the areas of pay and working time and providing employees with protection against arbitrary discipline or dismissal may encourage firms and workers to co-invest in firm-specific skills and complementary productive assets (Sengenberger and Campbell, 1994); legislation mandating collective employee representation in the workplace can help raise worker commitment and morale (Rogers and Streeck, 1995).

For more other arguments and references see Deakin and Sarkar (2008 and 2011) and Deakin *et el*. (2014).

The empirical literature on this issue does not disclose a clear-cut view. One influential work was conducted by Botero et al. (2004), partly funded by the World Bank. Botero et al. (2004) based their analysis on an index of labour regulation consisting of around 60 individual indicators, covering a full range of labour law rules, including laws on the employment relationship, collective labour relations, and social security. Their index covered 85 countries and coded for their laws as they stood in the late 1990s. The econometric analysis carried out by Botero et al. (2004) found that higher scores on the labour index were

correlated with lower male employment, higher youth unemployment, and a larger informal sector.

A growing number of studies, however, suggest that the supposed negative effects of labour laws may be either very small or simply non-existent (Blanchflower, 2001; Baker et al., 2005), and that such laws could, in fact, have beneficial effects on productivity and innovation (Acharya, Baghai and Subramanian, 2014). In the light of this evidence, some scholars have called for a reappraisal of the assumptions underlying equilibrium-based models of the labour market (Freeman, 2005).

3. The Present Study

The Labour Regulation Index (LRI) is one of a number of databases developed at the Centre for Business Research in Cambridge since the mid-2000s which provide longitudinal data on changes in labour and company law. The LRI is based on a "fine-grained" approach to the coding of primary legal sources which makes it possible not just to indicate the presence or absence of a worker-protective law in a given country, but to estimate magnitudes concerning the degree of protection conferred on workers by a given legal rule. These are represented using graduated scores between 0 (indicating little or no protection of workers) and 1 (indicating high protection of workers). Coding algorithms or protocols are used in an attempt to ensure consistency in the scoring of legal rules, and primary sources are reported in full alongside the scores for particular variables.

The study covers a sample of 108 countries (due to non-availability of other data we dropped 9 countries) covering 23 highly developed countries such as USA, UK, 26 former-Socialist countries which started market economy transition in the 1990s such as China and Russia and 59 other emerging countries such as India and Brazil. To get a balanced panel with no missing values we have chosen a period of study, 1996-2013.

What is the impact of labour protection on employment?

To examine the proposition that protection of labour affects employment prospect we shall use dynamic panel data modelling technique. This econometric method involves regressing the labour regulation scores (LRI) against measures of employment rates for the 108 countries.

The following two labour regulation indices are considered as alternative independent/causal variable:

(i) The simple average of all the forty indicators, Aggregate Labour Protection index

(ii) The simple average of nine indicators dealing with dismissal, Dismissal Law.

As outcome variables we have considered two alternative variables collected from the online World Bank source:

http://databank.worldbank.org/data/views/variableselection/selectvariables.aspx?source=world-development-indicators (Last accessed on 14/10/2015):

(i) Youth employment: Percentage of population employed in the age group, 15-24;

(ii) Total Employment: Percentage of population employed in the age group, 15 plus.

The control variable is the real growth rate (GGDP). This is expected to net out the country-specific effects of time-trend and cyclical fluctuations on employment rates. In our earlier papers (Sarkar, 2013;Deakin-Malmberg-Sarkar, 2014) we have used the log of real GDP; for international comparability these are to be converted into a common currency using purchasing power parity exchange rates. Due to currency exchange market complications and the arbitrariness involved in finding a common basket of commodities the true picture of country-wise time-trend and cyclical fluctuations may be obscured. Furthermore for some countries these PPP GDP data are not available. So we think GDP

growth rate. GGDP is a better control variable. The relevant data are easily available from the online source of World Bank (World Development Indicators) mentioned above.

Estimates of short-run and long-run relationships

In a case where, as here, there is an extended time dimension to panel data, Pesaran and Smith (1995) show that the traditional procedures for estimation of pooled models, such as fixed effects models, instrumental variables, and generalized method of moments (GMM) models, 'can produce inconsistent, and potentially very misleading estimates of the average values of the parameters in dynamic panel data models unless the slope coefficients are in fact identical (Pesaran *et al*. 1999, p. 622). Their dynamic panel data analysis makes it possible to distinguish between short-run and long-run effects of a change in one or more of the variables of interest.

We start with a postulate of a long-run relationship involving X (youth and total employment taken one at a time), Y (real GDP growth rate) and Z (various labour regulation indexes taken one at a time):

$$X_{it} = \psi_i Y_{it} + \pi_i Z_{it} + \eta_{it} \quad (1)$$

where i (=1,2,3..) represents the different countries, t (=1,2,…) represents periods (years), ψ_i and π_i are the long-run parameters and η_{it} is the error term.

The dynamic panel data approach enables us to establish whether there are long-term and short-term effects of Z (labour regulation) along with Y (real GDP growth rate) on X (youth or total employment) and whether there exists a stable adjustment path from the short-term relationship (if any) to the long-run relationship. Following Pesaran *et al*. (1999), our panel data analysis is based on the following error correction representation:

$$\Delta X_{it} = \theta_i \left(\eta_{it-1}\right) + \sum_{j=1}^{p-1} \lambda_{ij} \Delta X_{i,t-j} + \sum_{k=0}^{q-1} \psi_{ik} \Delta Y_{i,t-k} + \sum_{l=0}^{r-1} \pi_{il} \Delta Z_{i,t-l} + \mu_i + \phi_{it} \quad (2)$$

where Δ is the difference operator, θ_i is the country-specific error-correcting speed of adjustment term, λ_{ij}, ψ_{ik} and π_{ij} are the coefficients of the lagged variables, μ_t is the country fixed effect and ϕ_{it} is the disturbances term. The existence of a meaningful long-run relationship with a stable adjustment dynamics requires that $\theta_i < 0$.

Within this general structure, there are three alternative models. At one extreme, we can use a dynamic fixed effect estimator (DFE) in which intercepts are allowed to vary across the countries, but all other parameters and error variances are constrained to be the same. At the other extreme, we can estimate separate equations for each country and calculate the mean of the estimates. This is the mean group estimator (MG). The intermediate alternative is the pooled mean group (PMG) estimator. This model allows intercepts, short-run coefficients and error variances to differ freely across the countries but constrains the long run coefficients to be the same; that means, $\psi_i = \psi$ and $\pi_i = \pi$ for all i while θ_i may differ from group to group.

The Hausman test is used to select the appropriate model, comparing two at a time (PMG vs. MG or DFE and so on). This test is based on the null hypothesis: the difference between the estimated coefficients is not systematic. If the null hypothesis is accepted, implying no systematic difference between the two estimates, the choice of the appropriate model is based on the efficiency property of the estimated coefficients. If the null hypothesis is rejected, implying systematic difference between the two estimates, the choice of the appropriate model is based on the consistency property of the estimated coefficients. These tests often fail to give an unequivocal consistent choice of an appropriate model. Our estimates are reported in Table 1.

Table 1 around here

Aggregate labour law has a long-term positive effect on total employment but the adjustment path from short-term no relationship to this long-term relationship does not exist.

So we can ignore this positive long-term relationship and conclude in favour of no meaningful long-term relationship as concluded by the two other models (MG and DFE).

As regards youth employment the PMG model finds a long-term favourable effect of labour regulation but it is not corroborated by the other two models: MG and DFE. The Hausman test chooses the DFE model.

Coming to one specific but crucial aspect of labour law – pro-labour regulations concerning their dismissal we find a long-term favourable effect of it on both total and youth employment in the PMG models. The Hausman test chooses the PMG model for our analysis of the relationship between youth employment and the dismissal law. For the other relationship the test is inconclusive. On the whole, we find no evidence in favour of the opinion that labour regulations hurt labour by reducing total unemployment in general and youth unemployment in particular. There is some evidence that it provides better legal environment for increasing the employment opportunities.

In the next stage we have divided the sample of 108 countries in two groups: 1. 23 developed countries and 85 less developed and emerging ex-socialist countries. We replicated the same analysis for these two sub-samples (Tables 2 and 3). In each case the PMG model finds a favourable effect of labour regulation on employment irrespective of whether we consider aggregate labour regulation or dismissal labour regulation and whether we consider total or youth employment. For the 23 country developed group, the DFE model also shows the same favourable effect in the majority of cases.

If we just consider only the estimates of models chosen by Hausman tests, we find only one case where the long-run positive relationship between employment and labour regulation is not statistically significant for the 23 developed country sample: namely the relationship between youth employment and aggregate labour regulation (Part A.1, Table 2).

For the 85 less-developed country sample a similar doubtful case is regarding the relationship between youth employment and dismissal regulation(Part B.1, Table 3).

Tables 2 and 3 around here

Theoretically PMG model seems to be more appealing. In panel data model it makes sense to derive a long-term fundamental relationship that comes out of varieties of time-variant factors influencing short-term adjustment process and time-invariant history and initial conditions. PMG model allows for country-wise difference in short-term adjustment process and the time-invariant country heterogeneity. So we can draw our conclusion from the PMG estimates; DFE and MG estimates by and large give no significant and diametrically opposite result: labour regulation in general and dismissal regulation in particular promotes total and youth employment.

Thus our study casts serious doubt on the orthodox standpoint that strictness of labour regulation hurts labour by limiting the scope of employment especially for the youth population.

Table 1. Short-run and Long-run Impact of Labour Protection Index on Youth and Total Employment, 1996-2013: Dynamic Panel Models of 108 Countries[1]

A. Relationship between Aggregate Labour Protection Index and Total Employment

Long-term and Short Term variables	PMG Model	MG Model	DFE Model
Long-term Relationship			
GDP Growth, GGDP	-1.817***	.945**	.392***
Aggregate Labour Protection, ALLLAB	271.862***	-29.583	7.893*
Short-term Relationship			
θ	.003	-.249***	-.209***
$\Delta TOTALEMP_{t-1}$	.017	-.059	.113
$\Delta TOTALEMP_{t-3\ t}$	.06	.002	.144
$\Delta GGDP_t$	.094***	-.142***	-.017
$\Delta GGDP_{t-1}$	.107***	-.059	.012
$\Delta GGDP_{t-2}$	.079***	-.034	.008
$\Delta GGDP_{t-3}$	.055***	-.006	.003
$\Delta ALLLAB_t$	-346.209	-813.404	.383
μ	9.299	23.693*	9.335***
Chosen Model[2]	?	?	?

B. Relationship between Aggregate Labour Protection Index and Youth Employment

Long-term and Short Term variables	PMG Model	MG Model	DFE Model
Long-term Relationship			
GDP Growth, GGDP	4.112***	-.919	.757***
Aggregate Labour Protection,	44.234***	23.627	-12.356

ALLLAB			
Short-term Relationship			
θ	-.102***	-.437***	.202***
$\Delta YOUTHEMP_{t-1}$	-.061	-.114*	.095***
$\Delta YOUTHEMP_{t-3}$	-.043	.061	-.01
$\Delta GGDP_t$	-.224***	-.196**	-.044*
$\Delta GGDP_{t-1}$	-.13***	-.065	.004
$\Delta GGDP_{t-2}$	-.079**	-.004	-.013
$\Delta GGDP_{t-3}$	-.012	.019	.006
$\Delta ALLLAB_t$	-1266.548	-1248.722	.447
μ	24.822	48.153*	10.662
Chosen Model[2]			DFE

C. Relationship between Dismissal Regulation and Total Employment

Long-term and Short Term variables	PMG Model	MG Model	DFE Model
Long-term Relationship			
GDP Growth, GGDP	1.658***	-3.361	.397***
Dismissal Regulation, DISMISSAL	47.32***	247.591	.167
Short-term Relationship			
θ	-.083***	-.33***	-.207***
$\Delta TOTALEMP_{t-1}$	.028	.004	.112***
$\Delta TOTALEMP_{t-3}$	.082**	.086*	.141***
$\Delta GGDP_t$	-.012	-.074*	-.018
$\Delta GGDP_{t-1}$	.014	-.019	.012
$\Delta GGDP_{t-2}$	.015	-.003	.008
$\Delta GGDP_{t-3}$	.013	.012	.003
$\Delta DISMISSAL_t$	-8.163	-6.399	1.251
μ	2.219	17.955***	11.55

Chosen Model[2]	?	?	?

D. Relationship between Dismissal Regulation and Youth Employment

Long-term and Short Term variables	PMG Model	MG Model	DFE Model
Long-term Relationship			
GDP Growth, GGDP	.764***	1.894	.619***
Dismissal Regulation, DISMISSAL	72.375***	104.218	-4.112
Short-term Relationship			
θ	-.192***	-.489***	-.226***
$\Delta YOUTHEMP_{t-1}$	-.018	-.067	.112***
$\Delta YOUTHEMP_{t-2}$	.117**	.11	.137***
$\Delta YOUTHEMP_{t-3}$	.086**	.122*	.007
$\Delta GGDP_t$	.035	-.217	-.026
$\Delta GGDP_{t-1}$	.081**	-.012	.024
$\Delta GGDP_{t-2}$	.079**	.049	-.009
$\Delta GGDP_{t-3}$	.059**	.075	.003
$\Delta DISMISSAL_t$	-10.756	-1.123	1.391
μ	.785	14.145*	8.68***
Chosen Model[2]	PMG		

* Significant at 10 per cent level.

** Significant at 5 per cent level.

*** Significant at 1 per cent level.

1 The regressors are estimated from the following long-term relationship and its error correction form.

Long-run Relationship:

$$X_{it} = \psi_i Y_{it} + \pi_i Z_{it} + \eta_{it}$$

where i represents countries, t represents periods (years), ψ_i and π_i are the long-run parameters and η_{it} is the error term.

It's Error Correction Form:

$$X_{it} = \theta_i \left(\eta_{it-1}\right) + \sum_{j=1}^{p-1} \lambda_{ij} \Delta X_{i,t-j} + \sum_{k=0}^{q-1} \psi_{ik} \Delta Y_{i,t-k} + \sum_{l=0}^{r-1} \pi_{il} \Delta z_{i,t-l} + \mu_i + \phi_{it}$$

where X stands for employment rate, Y stands for GDP growth rate, Z stands for labour regulation indices (taken one at a time); Δ is the difference operator, θ_i is the country-specific error-correcting speed of adjustment term, λ_{ij}, ψ_{ik} and π_{il} are the coefficients of the lagged variables, μ_i is the country fixed effect and ϕ_{it} is the disturbances term. The existence of a meaningful long-run relationship with a stable adjustment dynamics requires $\theta_i < 0$.

2 An appropriate model is chosen on the basis of a series of Hausman tests. If the tests cannot decide a consistent choice we put a question mark (?).

Table 2. Short-run and Long-run Impact of Labour Protection Index on Youth and Total Employment, 1996-2013: Dynamic Panel Models of 23 Developed Countries[1]

A. Relationship between Aggregate Labour Protection Index and Total Employment

Long-term and Short Term variables	PMG Model	MG Model	DFE Model
Long-term Relationship			
GDP Growth, GGDP	2.031***	2.873*	1.858***
Aggregate Labour Protection, ALLLAB	54.136***	28.293	35.95**
Short-term Relationship			
θ	-.183***	-.309***	-.139***
$\Delta TOTALEMP_{t-1}$	.095	.024	.191***
$\Delta TOTALEMP_{t-3}$	-.009	-.179	.045
$\Delta GGDP_t$	-.183**	-.381***	-.074**
$\Delta GGDP_{t-1}$	-.095	-.216***	.004
$\Delta GGDP_{t-2}$	-.041	-.12**	.025
$\Delta GGDP_{t-3}$	-.005	-.026	.028*
$\Delta ALLLAB_t$	-8.19*	-12.801**	-3.876
μ	5.134***	11.664	4.988***
Chosen Model[2]	PMG		

B. Relationship between Aggregate Labour Protection Index and Youth Employment

Long-term and Short Term variables	PMG Model	MG Model	DFE Model
Long-term Relationship			
GDP Growth, GGDP	4.233***	-2.106	3.079***
Aggregate Labour Protection, ALLLAB	54.399***	599.381	31.901

Short-term Relationship			
θ	-.211***	-.546***	-.215***
$\Delta YOUTHEMP_{t-1}$	-.011	-.031	.099*
$\Delta YOUTHEMP_{t-3}$	-.018	.153*	-.056
$\Delta GGDP_t$	-.509**	-.816***	-.305***
$\Delta GGDP_{t-1}$	-.246	-.44**	-.059
$\Delta GGDP_{t-2}$	-.162	-.227	-.029
$\Delta GGDP_{t-3}$	-.005	-.046	.063
$\Delta ALLLAB_t$	4.963	1.592	-3.393
μ	3.248**	22.453	4.769*
Chosen Model[2]			DFE

C. Relationship between Dismissal Regulation and Total Employment

Long-term and Short Term variables	PMG Model	MG Model	DFE Model
Long-term Relationship			
GDP Growth, GGDP	3.612***	-14.666	1.736***
Dismissal Regulation, DISMISSAL	216.52***	1592.642	27.886***
Short-term Relationship			
θ	-.065***	-.191**	-.134***
$\Delta TOTALEMP_{t-1}$	.004	-.064	.184***
$\Delta TOTALEMP_{t-3}$	.104	.138	.022
$\Delta GGDP_t$	-.018	-.107	-.055*
$\Delta GGDP_{t-1}$	.054	-.005	.018*
$\Delta GGDP_{t-2}$	.052	-.003	.032
$\Delta GGDP_{t-3}$	.061**	.035	.034**
$\Delta DISMISSAL_t$	-12.311**	-6.464	-1.815
μ	-3.639***	14.295*	5.493***
Chosen Model[2]			DFE

D. Relationship between Dismissal Regulation and Youth Employment

Long-term and Short Term variables	PMG Model	MG Model	DFE Model
Long-term Relationship			
GDP Growth, GGDP	1.267***	9.699	2.224***
Dismissal Regulation, DISMISSAL	97.087***	555.017	40.583***
Short-term Relationship			
θ	-.379***	-.411***	-.283***
$\Delta YOUTHEMP_{t-1}$	.11	-.4033**	.119**
$\Delta YOUTHEMP_{t-2}$	.136*	-.181	.136**
$\Delta YOUTHEMP_{t-3}$	.189*	.028	-.053
$\Delta GGDP_{t}$	-.126	-1.178***	-.288***
$\Delta GGDP_{t-1}$	-.023	-.706***	-.039
$\Delta GGDP_{t-2}$	-.001	-.335*	-.043
$\Delta GGDP_{t-3}$	.036	-.094	.038
$\Delta DISMISSAL_{t}$	-42.453	-37.693	-6.481
μ	-1.842	19.439	6.043***
Chosen Model[2]			DFE

Notes: See Table 1

Table 3. Short-run and Long-run Impact of Labour Protection Index on Youth and Total Employment, 1996-2013: Dynamic Panel Models of 85 Less Developed and Emerging Countries[1]

A. Relationship between Aggregate Labour Protection Index and Total Employment

Long-term and Short Term variables	PMG Model	MG Model	DFE Model
Long-term Relationship			
GDP Growth, GGDP	-.324***	.424	.259***
Aggregate Labour Protection, ALLLAB	146.525***	-45.244	10.129*
Short-term Relationship			
θ	-.082***	-.233***	-.214***
$\Delta TOTALEMP_{t-1}$	.036	-.082	.071**
$\Delta TOTALEMP_{t-3\ t}$	.094**	.051	.142***
$\Delta GGDP_t$	.093***	-.077	-.005
$\Delta GGDP_{t-1}$	.099***	-.017	.019
$\Delta GGDP_{t-2}$	.077***	-.011	.011
$\Delta GGDP_{t-3}$	.052***	-.0001	.003
$\Delta ALLLAB_t$	-427.238	-1030.037	.028
μ	10.817	26.948	8.431***
Chosen Model[2]	?	?	?

B. Relationship between Aggregate Labour Protection Index and Youth Employment

Long-term and Short Term variables	PMG Model	MG Model	DFE Model
Long-term Relationship			
GDP Growth, GGDP	.422***	-.598	.369***
Aggregate Labour Protection,	198.166***	-132.166	-7.115

ALLLAB			
Short-term Relationship			
θ	-.148***	-.408***	-.229***
$\Delta YOUTHEMP_{t-1}$	.004	-.137*	.043
$\Delta YOUTHEMP_{t-3}$	.012	.037	-.002
$\Delta GGDP_t$	.061**	-.029	-.009
$\Delta GGDP_{t-1}$	.065**	.036	.021
$\Delta GGDP_{t-2}$	.057**	.057	-.001
$\Delta GGDP_{t-3}$	.048**	.036	.008
$\Delta ALLLAB_t$	-856.882	-1587.042	-1.794
μ	13.763	55.107	10.807***
Chosen Model[2]	PMG		

C. Relationship between Dismissal Regulation and Total Employment

Long-term and Short Term variables	PMG Model	MG Model	DFE Model
Long-term Relationship			
GDP Growth, GGDP	.059***	-.302	.274***
Dismissal Regulation, DISMISSAL	85.181***	-116.363	-.742
Short-term Relationship			
θ	-.146***	-.368***	-.212***
$\Delta TOTALEMP_{t-1}$	.098	.023	.072***
$\Delta TOTALEMP_{t-3}$	.137***	.072	.141***
$\Delta GGDP_t$	.073***	-.065	-.008
$\Delta GGDP_{t-1}$	.079***	-.023	.017
$\Delta GGDP_{t-2}$	.07***	-.003	.01
$\Delta GGDP_{t-3}$	.04***	.005	.003
$\Delta DISMISSAL_t$	-3.386	-6.382	1.301

μ	2.022875	18.94643***	11.98676***
Chosen Model[2]	PMG		

D. Relationship between Dismissal Regulation and Youth Employment

Long-term and Short Term variables	PMG Model	MG Model	DFE Model
Long-term Relationship			
GDP Growth, GGDP	.649***	-.218	.331***
Dismissal Regulation, DISMISSAL	1.827***	-17.763	-6.241
Short-term Relationship			
θ	-.299***	-.511***	-.246***
$\Delta YOUTHEMP_{t-1}$	.032	.024	.062***
$\Delta YOUTHEMP_{t-2}$	.167**	.189	.105***
$\Delta YOUTHEMP_{t-3}$	.085*	.147*	.016
$\Delta GGDP_{t}$	-.062	.043	-.0001
$\Delta GGDP_{t-1}$	.015	.175	.032*
$\Delta GGDP_{t-2}$	.021	.154	.0005
$\Delta GGDP_{t-3}$	.022	.12**	.006
$\Delta DISMISSAL_{t}$	5.752	8.772	1.437
μ	10.161***	12.712	9.606***
Chosen Model[2]			DFE

Notes: See Table 1

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