Who is claiming for Fixed-Term Contracts?

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Very preliminary, comments welcome

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Abstract

Using a Rajan and Zingales (1998) difference-in-difference empirical approach, this paper explores the response of industries that differ in their "intrinsic need" of workers turnover under the presence of Employment Labor Legislations (EPL). Particularly, we analyze the use of fixed-term contracts (FTCs) as a way to avoid the cost of firing insiders.

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1. Introduction

Using a Rajan and Zingales (1998) difference-in-difference empirical approach, this paper explores the response of industries that differ in their "intrinsic need" of workers turnover under the presence of Employment Labor Legislations (EPL). Particularly, we analyze the use of fixed-term contracts (FTCs) as a way to avoid the cost of firing insiders.

Our study is related to the literature concerning unemployment, EPL and FTCs, developed mainly in Europe in order to analysis high unemployment rates and the labor market hysteresis phenomenon. The previous studies are mainly theoretical pieces or empirical analysis for particular country cases focused in the use of FTCs by the “disadvantaged workforce”, such as the young, women or unskilled workers.

In search for an explanation to the fact that countries with high EPL seems to have not different job turnover than flexible labor markets, Boeri (1999) claims that the use of FTC’s create an intermediate labor market status of temporary workers, with negative implications in overall employment and welfare through the so-called “musical chair effect”, with not permanent jobs created for ending FTCs.

Blanchard and Landier (2001) analyze the impact of partial reforms in labor markets, taking the permission in the use of FTCs as reductions in firing costs for entry-level jobs. If regulations for regular jobs are kept, they argue that the main effect may be high turnover that could lead to higher unemployment. And even if the unemployment goes down, they say, the quality of jobs will be worse off. They study the case of France, with high EPL and increasing use FTCs, particularly focusing in the consequences for young workers, which they say are the most affected. While seems to be logical to see the effects in this group, they fail to recognize heterogeneity of industries and how the reforms may affect differently in each sector, and then the outcomes to analyze and the level of dissagregatation required.
Cahuc and Postel-Vinay (2001) find similar results than Blanchard and Landier (2001) in a framework of simultaneous use of FTCs and permanent jobs. They suggest that the distribution of firm ownership is likely to influence labor markets regulations. If the workers share of profits is small (as in continental Europe), they are going to prefer labor markets with combinations of FTCs and firing restrictions. If the opposite (as in Anglo-Saxon countries), workers may prefer very flexible labor markets.

The present study extends the analysis in two ways. Firstly, the technique used allows us to expand the study to a broad panel of developed and developing counties. Second, we show that, on the labor demand side, industries where the “intrinsic labor turnover” is high will claim for the use of FTCs if the EPL are binding. The paper is organized as follow: In section 2 we present the empirical methodology and the data. Section 3 summarizes the results. Section 4 concludes.

2. Methodology and data

Our empirical approach follows the literature on difference-in-differences, in a Rajan and Zingales (1998) framework, to test for the implication in different industries of labor laws that combine EPL and FTCs, extending the results of Micco and Pages (2006) for EPL and labor turnover. This approach allows us to use country and sector fixed effects to control for all observable and unobservable characteristics in both dimensions. This technique also alleviates the potential endogeneity problem that regulations present in cross-country analysis, because the use of sector level data and country fixed effects allow us to account for the feedback from employment outcomes to regulations.

We exploit country-sector variation estimating a panel in both dimensions, where there is no time variability since we are using one period with a quinquennial average. The empirical specification is:

\[
\ln(Y_{ic}) = D_c + D_l + \beta_1 \text{SUM}, JS_c + \beta_2 \text{SUM}, FC_c + \beta_3 \text{SUM}, JS_c \text{FC}_c + \delta c I_1 + \mu_{ic} \quad (1)
\]
where $Y_{ic}$ denotes the employment level or other economic indicator in sector $i$, country $c$, taken from the Industrial Statistics Yearbook produced by the United Nations Industrial Development Organization (UNIDO, 2006). $D_i$ and $D_c$ are sector and country fixed effects. $\text{SUM}_i$ is the intrinsic flexibility requirements of sector $i$, measured as the average job reallocation (sum of job creation and job destruction) for USA during the period 1973-93, using data from Davis and Haltiwanger (1999)\(^1\). $J_{Sc}$ and $FC_c$ are dummies that take value 1 for countries with labor regulations and consent for the use of FTCs, respectively, over the median in the data of Botero et al. (2004)\(^2\).

The term $C_c$ and $I_i$ in (1) is a vector of controls with interaction between different country and sector variables that may explain the dependent variable. We use four of these controls: (i) Following Rajan and Zingales (1998), the interaction of external financial dependency in USA industries with a measure of country’s financial development (private credit over GDP, taken from IFS). (ii) The Claessens and Laeven (2003) specification for sector dependency on intangible assets interacted with a country-level indicator of property rights taken from Heritage Foundation indicators. (iii) The Klapper et al. (2004) specification for sector firm entry rate in USA industries (constructed by Dunne et al., 1988) interacted with the World Bank’s Doing Business indicator of country barriers to entry. (iv) Finally, we include the interaction of $\text{SUM}_i$ and the GDP per capita, in order to be sure that EPL is not just a proxy for country economic development.

The parameters of interest are $\beta_1$, $\beta_2$ and $\beta_3$. We expect $\beta_1$ to be negative and significant, indicating that, following Micco and Pages (2006), industries with larger flexibility requirements will have lower employment levels in countries with restrictive EPL. For $\beta_2$, the sign and significance it is uncertain, since the presence of fixed-terms contracts have not clear effects by itself. The most important result in this paper is related

\(^{1}\) We use USA because its low EPL permit this country to be a representation of the job turnover in a frictionless world. For more details, Micco and Pages (2006)

\(^{2}\) Specifically, to measure EPL we use the sum of the Cost of firing workers and Dismissal procedures indicators. In the case of the FTCs, we take a variable that is the average of a measure of maximum
to the parameter $\beta_3$, which we anticipate to be positive and significant, indicating that the presence FTCs tend to mitigate the negative impact of EPL in the employment level for sectors with high flexibility requirements.

3. Results

The regression results are showed in Table 1. The dependent variable is average for the period 1991-95, except in the last column, and the explicative variables are averages with one quinquennium lag, when possible (as in credit over GDP and GDP per capita), in order to avoid possible endogeneity problems. The sample consists in 1218 observations for 45 countries, 19 industrialized and 26 developing, as a result of eliminate countries with observations for less than 20 industries and less than 3 years in the five years period. We also dismiss countries that significantly changed the results by them self when running the main regressions subtracting one country each time$^3$. USA is not included in the sample either, since the methodology of construction for the industry-level variables may imply that the presence of this country could lead to endogeneity problems. At the industry level, the sample consist in 28 manufacturing sectors, at three-digit level of disaggregation in the International Standard Industrial Classification (ISIC-rev2).

The first two columns of Table 1 are the result of perform the basic regression of Micco and Pages (2006) using employment level as dependent variable, but splitting the sample according to permissiveness in the use of fixed-terms contracts in country’s labor regulations, with column (1) for countries that tend to allow them and column (2) for those that do not. The results show that the interaction of industry flexibility requirements and country EPL dummy (SUM_JS) is just significant, and with the expected sign, in the latter sub-sample, giving a first evidence that under the presence of FTCs the EPL effects in economic outcomes are partially mitigated.

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$^3$ We did the same process for industries, and none of them have significant individual influence in the results.
For the next two columns we also split the sample, but now guided by the level of EPL in each country, with column (3) including countries with high labor regulations using the Botero et al. index. In this sub-sample, the interaction of industry flexibility requirements and the FTCs dummy (SUM_FC) is positive and significant, providing support to the idea that sectors that need labor flexibility will have higher employment level when the national legislation agree the use of FTCs. Nevertheless, this result is just present if EPL is binding, since for the sub-sample of countries with low labor regulations (column (4)), the effect disappears, which is in line with prior that FTCs have not significant influences under flexible labor laws. This result is corroborated in column (5), where the whole sample is used and the interactions SUM_JS and SUM_FC are included, with the former holding sign and significance, but the latter being statistically irrelevant.

Column (6) is the most important result of the paper. We use the complete sample and all the double interactions, but also include a triple interaction: industry-level labor flexibility requirements with the dummies for EPL and FTCs (SUM_JS_FC). This variable is positive and significant, indicating that countries with labor legislations that combine high EPL with the use of FTCs tend to compensate the adverse effects in employment levels of the former that affect industries with high flexibility requests, since the magnitude of SUM_JS_FC similar, but with opposite sign, to SUM_JS, that also hold significant. On the other hand, SUM_FC is statistically insignificant by itself, as indication that FTCs have just effects when labor regulations are present.

It is relevant to note that in Column (6), as well as in all the other regressions, all the controls have the expected results: (i) The Rajan and Zingales (1998) interaction of external financial requirements and financial development (RZ_FD) is positive and relevant, indicating higher employment level in sectors that need external financing and are located in countries with credit availability. (ii) The Claessens and Laeven interaction (CL_PR) have the expected sign, but no significance. (iii) The interaction of firm entry rate and entry regulations (ENTRY_ER) is negative and significant, meaning less employment in sectors with high firm turnover located in countries with restrictive entry
regulations. (iv) The interaction of flexibility requirements and GPD per capita (SUM_GDPPPC) is negative and signifiative, meaning that industrialize economies will use technologies less intensive in labor when intrinsic turnover is high.

In column (7) and (8) we explore if the effect in combine EPL and FTCs holds for different economic outcomes. In (7) we use the county-sector value added as dependent variable, and the main results are identical, which can be considered as an indication that what we are really capturing with the effect is the long-term sector size. In (8) we test the effects in wages, and find no evidence of decreases when FTCs are presents. This do not necessarily indicates that FTCs wages are not lower, but that the total amount that the industry spent in the payment of workers do not change significantly, what can be driven, for example, by the use of more employees earning worse salaries. It is important to note that SUM_JS is positive and significant, giving evidence that in countries with high EPL, sectors with high flexibility requirements are “forced” to increase labor productivity.

In order to be sure that the results do not depend exclusively on the chosen period time, in column (9) we perform the same regressions that in column (9), but now using as dependent variable the five years average employment level during the 1996-2000 quinquennium, and for 1991-1995 for the regressors (when possible). Using the data for this more recent period implies a reduction in the number of countries, now just 36, and, therefore, the number of observations, now 300 less than in the other regressions. Nonetheless, the main findings keep unaffected.

4. Conclusions

Most of the studies about the effects of FTCs on the labor market and the economic performance are theoretical or analyze country cases. Also the focus has been in the use of FTCs by “disadvantaged workforce”, like young, women or unskilled workers. We extend the analysis in two ways. First, we use a difference-in-difference empirical technique that allows us to expand the study to a broad panel of developed and developing counties. Second, we show that not only the “disadvantaged workforce” is
claiming for FTCs, but, on the demand side, industries where the “intrinsic labor turnover” is high need them if the EPL are binding.

We find that in countries with high EPL where the use of FTCs is allowed, the negative effects in employment for high labor turnover industries are neutralized, which not necessarily implies that FTCs are good, since could just be reflecting the creation of temporarily jobs that worsen the total welfare impact of EPL, an effect that has to be tested in further empirical work.

References


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Observations: 658, 560, 592, 626, 1218, 1218, 1218, 1218, 929
R-squared: 0.8519, 0.8657, 0.8515, 0.8596, 0.8507, 0.8517, 0.8812, 0.9723, 0.8574
Sample: FC=1, FC=0, JS=1, JS=0, ALL, ALL, ALL, ALL, ALL
Period: 1991-95, 91-95, 91-95, 91-95, 91-95, 91-95, 91-95, 91-95, 96-00
Countries: 24, 21, 22, 23, 45, 45, 45, 45, 36

Robust standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%