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Do labor market institutions matter for business cycles?

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ABSTRACT

Using panel data of 19 OECD countries observed over 40 years and data on specific labor market reform episodes we conclude that labor market institutions matter for business cycle fluctuations. Spearman partial rank correlations reveal that more flexible institutions are associated with lower business cycle volatility. Turning to the analysis of reform episodes, wage bargaining reforms increase the correlation of the real wage with labor productivity and the volatility of unemployment. Employment protection reforms increase the volatility of employment and decrease the correlation of the real wage with labor productivity. Reforms reducing replacement rates make labor productivity more procyclical.

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1. Introduction

Many economists have argued that labor market frictions affect the short run responses of macroeconomic variables to shocks (see [Walsh, 2005](#); [Trigari, 2006](#); [Campolmi and Faia, 2011](#); [Blanchard and Gali, 2010](#); [Thomas, 2008](#); [Gali and van Rens, 2010](#) among others). For that reason, business cycle models have been recently augmented with a variety of labor market frictions. Two broad categories of rigidities have been considered: (a) frictions limiting flows in and out of unemployment, such as hiring costs and employment protection legislation; and (b) rigidities preventing the adjustment of real wages, such as collective wage bargaining. Despite these theoretical developments, the empirical literature on the relevance of labor market frictions for business cycle fluctuations is rather scant. A number of business cycle models have been structurally estimated (see e.g. [Tomas and Zanetti, 2009](#); [Krause et al., 2008](#); [Christoffel et al., 2006](#)), but the focus of the investigation has been on the effects of labor market rigidities on inflation or the transmission of monetary policy decisions. In general, existing contributions look at the data through the lens of a model, so that the results are specific to the modelling assumptions and to the nature of the shocks included in (and excluded from) the analysis.

This paper provides stylized facts about the relationship between labor market institutions (henceforth LMIs) and business cycle fluctuations. We investigate how institutional arrangements, such as employment protection, replacement

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rates, union density and coverage shape business cycle statistics in a panel of 19 OECD countries using data from 1971 to 2007. Rather than modelling explicitly the link between institutions, labor market frictions and macro variables, we examine the direct relationship between business cycles and LMIs. This is advantageous because it allows us to avoid controversial assumptions about how institutions map into labor market frictions and what their functional form is.

We use various indicators to capture the institutional characteristics of labor markets obtained from the CEP-OECD Institutions Data Set (Nickell, 2006) and the ICTWSS Database on Institutional Characteristics of Trade Unions, Wage Setting, State Intervention and Social Pacts (Visser, 2009). The data covers a sufficiently long span of time to include both expansionary and recessionary periods. We have information about replacement rates, labor unions (density, coverage, concentration, centralization), the wage bargaining process (coordination, government involvement, the level at which bargaining takes place, and coverage extension of bargained wages), and employment protection legislation.

We look at the data from two different angles. Following Fonseca et al. (2009, 2010), we split the sample by decades and compute partial Spearman rank correlations between beginning of decade labor market characteristics and decade-average business cycle statistics, controlling for macroeconomic conditions. We collapse the information contained in the set of labor market indicators we have available using principal component analysis, and construct four “statistical” factors. We also construct factors using economic intuition, extracting a common factor separately from indicators that characterize (a) replacement rates, (b) the strength of unions, (c) wage bargaining, and (d) employment protection. We then relate second moments of macroeconomic variables such as real GDP per capita, inflation, unemployment, employment, labor productivity and the real wage to the statistical and economic principal components of the LMIs, controlling for macroeconomic conditions.

There is a strong positive correlation between the statistical factor which we call “overall rigidity” and the variance of output, real wages, labor productivity, and inflation. The second statistical factor is also positively related to macroeconomic volatility but is negatively related to the correlation of output and employment. Hence, more flexible labor market institutions are generally associated with lower business cycle volatility. The results obtained using “economic factors” are similar: (i) replacement rates correlate positively with the volatility of unemployment, (ii) unions’ power and wage bargaining both correlate positively with macroeconomic volatility (for output, wages, labor productivity, and inflation) and unions’ power correlates negatively with the correlation between output and employment, and (iii) employment protection relates positively with the volatility of unemployment.

To sharpen our conclusions about the effects of LMIs on business cycles, we then turn to specific reform episodes. We assemble a new dataset using various existing data sources (“the Social Policy Reform Inventory” assembled by the Fondazione Rodolfo DeBenedetti; the Labor Markets Reforms Information provided by the OECD; the Database for Institutional Comparisons in Europe (DICE)), national statistical offices, and government and non-governmental agencies (Australian Council of Trade Unions, New Zealand Planning Council, Japan Institute for Labor Policy and Training, among others) that contains major labor market reforms for the countries of our sample between 1970 and 2007. We consider three broad categories of reforms: (i) those weakening employment protection, (ii) those reducing non-employment benefits, and (iii) those decentralizing the wage bargaining process. Reforms occur in time waves and we consider as many waves as possible for each of the reform categories to control for time effects. We cluster countries into two groups and contrast the macroeconomic performance of reformers and non-reformers using a difference-in-difference approach.

The dynamic evidence of reforms is strong and persuasive. Labor market institutions reforms affect crucially cyclical fluctuations. Reforms reducing employment protection make employment more volatile and decrease significantly the correlation of the real wage with labor productivity. Reforms reducing replacement rates increase the correlation of output with labor productivity. Reforms that render wage bargaining more flexible have positive effects on the volatility of unemployment and increase the correlation of real wages with labor productivity. In addition, for many macroeconomic variables, changes in cyclical volatility occur simply as a result of reversion to the mean. The fact that reforms are more likely to occur during times of macroeconomic turbulence is consistent with the positive correlation we observe between LMIs and business cycle volatility in the first part of our analysis.

The facts we collect have important implications for both business cycle models and policy making activities. On one hand, to understand how the economy works, it is important to model flow and wage restrictions. Loose bargaining increases the volatility of unemployment and the correlation between the real wage and labor productivity, inducing a smaller wedge between real wages and labor productivity. Reforms on EPL seem to have the reverse effect on the correlation of the real wage with labor productivity and have significant effects on the volatility of employment. On the other hand, LMIs should not be taken as exogenous as their dynamics may be related to the dynamics of macro variables and the probability that institutional changes take place may be related to macroeconomic turbulence.

The literature investigating the relationship between institutions and labor market performance is vast.¹ A few studies, including Nunziata and Bowdler (2007), Merkl and Schmitz (2011), Fonseca et al. (2010), Rumber and Scharler (2011), and Abbritti and Weber (2010) have analyzed the effects of certain labor market arrangements on inflation dynamics or output and unemployment volatility and on international business cycle correlations.² However, as far as we know, no study has yet

¹ See, for instance, Layard et al. (1991) and Nickell and Layard (1999), Blanchard and Wolfers (2000), Nunziata (2003) and Costain and Reiter (2008).

² Canova et al. (2012) and Altug et al. (2012) investigate the impact of monetary and fiscal institutions on cyclical fluctuations in a variety of developed and developing economies.

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