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# Imperfect labor market and convergence: theory and evidence for some OECD countries

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## Abstract

In this paper, we show the existence of a negative relationship between long run growth and labor market imperfections both theoretically and empirically. We consider a “monopolistic union” imperfect labor market in a neoclassical growth framework and show that labor market rigidity, captured by the mark-up over the reservation wage, does lower the growth rate along the transitional path. For policy purposes, this result implies that removing labor market imperfections in Europe is important not only for reducing unemployment but also for fostering output growth. In this respect, the traditional evaluation of these policies has greatly been underestimated for their beneficial effects on output growth.

We verify empirically the convergence relationship implied by the model on a panel of 18 OECD countries using both traditional cross-countries growth regression and the system GMM estimator proposed by Arellano and Bover (1995) and Blundell and Bond (1998). The data support the basic implications of our model. In particular, the standard proxies for mark-up, the unemployment replacement ratio and union density, result to affect the long run growth rate negatively. We also analyze the relationship between growth and an alternative mark-up proxy based on Bean’s (1994a) insight: the ratio of per worker wage on per capita consumption. A negative and significant relationship between output growth rate and this mark-up proxy is found.

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## 1. Introduction and relation to the literature

Policies aimed at enhancing long run economic growth refer mostly to physical and human capital accumulation, macroeconomic stability, R&D and infrastructure (OECD, 2000b) but ignore labor market functioning. On the other hand, many invoked labor market reforms toward more flexibility do not consider the possible effects on long run growth (OECD, 1999). This fact can be in part explained by the traditional dichotomy in tackling the issues of unemployment and long run growth as well as by the uncertainty surrounding the links between these two economic phenomena.

In fact, the links between unemployment and growth proposed recently in the literature are far from being univocal. Pissarides (1990), for example, considers the effects of an exogenous rate of productivity growth in a labor market model of the “search” type. He finds a positive relationship between productivity growth and the rate of job creation that causes a decrease in unemployment rate for a given flow of unemployed agents. An “inverted U” relationship between innovation and unemployment is derived in Aghion and Howitt (1991, 1992, 1994) where the authors consider both the re-allocation of jobs that accompanies the innovation processes as well as the positive effect on capital accumulation due to innovations. In the two preceding approaches the causality links are from growth to unemployment although it is natural to consider the opposite direction as well. Bean and Pissarides (1993) consider an overlapping generation growth model with an imperfect labor market where the higher the equilibrium unemployment the lower the pool of saving of the current generation that in turn lowers the growth rate of the economy. Daveri and Tabellini (2000), also in an overlapping generation context, consider a monopolistic union that is able to transfer all increases in labor taxes on firms. Firms observe decreasing returns to capital in trying to substitute costly labor factor and restrain capital investment lowering the growth rate of the economy.

Other authors explore the possible effects of unemployment upon human capital accumulation. Bean and Layard (1989) are the first to our knowledge to suggest the possibility of a deterioration of human capital due to an extended period of unemployment. This idea has been developed by Podrecca (1998) whose model implies a negative relationship between equilibrium unemployment rate and long run growth whereas during the transitional dynamics, the two can be positively related depending on the parameters values. Saint Paul (1991) instead in a stylized two sectors endogenous growth model inserts an “efficiency wage” mechanism that implies a positive relationship between unemployment and growth.

Connected to the innovation process and labor market imperfections as in Aghion and Howitt (1994) the model by Bertola (1994) imply a negative link between growth and unemployment. Firms in his economy operate in a set up a’ la Grossman and Helpmann (1991) or Romer (1990) and they are subject to idiosyncratic shocks due to product innovations calling for labor force re-allocations. To the extent that rigidity of labor market prevents firms from adjusting their labor

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