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Relation between growth and unemployment in a model with labor-force participation and adverse labor institutions[☆]



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ABSTRACT

Based on labor search models with an exogenous labor force, existing papers have found a negative relation between long-run economic growth and unemployment. Motivated by the fact that the labor force participation has changed substantially across OECD countries, this paper revisits the long-run relation by taking account of endogenous labor-force participation. We find that, via the effects on employment, changes in labor market institutions may increase or decrease long-run economic growth. Moreover, depending upon the effects on the labor force and employment, these labor market institutions may increase or decrease unemployment rates in the long run. Thus, changes in labor market institutions lead to a non-monotone relation between long-run economic growth and unemployment that is consistent with the data.

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1. Introduction

Is there a tradeoff between unemployment and economic growth in the long run? The simultaneous slowdown of economic growth and a rise in unemployment in industrial countries in the late 1970s has led numerous economists to believe that there is a negative relation between the two economic variables. Some authors have offered econometric evidence that estimated the effects of total factor productivity growth on unemployment in the long run.³

To the best of our knowledge, [Bean and Pissarides \(1993\)](#) was the first theoretical paper that studied the link between unemployment and economic growth in the long run. Using an overlapping-generations model modified to allow for sustainable growth and labor search, their paper found that adverse labor market institutions such as increases in unemployment compensation, vacancy posting costs, and workers' bargaining power all raise unemployment and lower employment and economic growth, and thus there is a negative relation between long-run economic growth and unemployment in the

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³ See [Pissarides and Vallanti \(2007\)](#) for the empirical evidence.

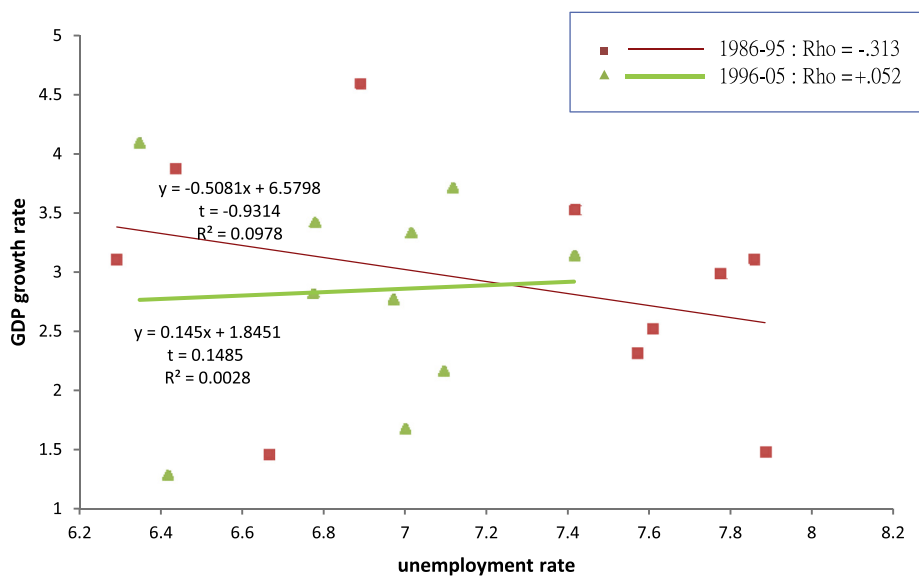
Table 1

Labor market and GDP growth rate in selected OECD countries, 1971–74 and 1997–2000.

	LF participation rate			Unemployment rate			Employment rate			GDP growth rate		
	71–74	97–00	diff.	71–74	97–00	diff.	71–74	97–00	diff.	71–74	97–00	diff.
Belgium	60.83	64.80	3.96	2.31	9.96	7.65	59.43	58.36	−1.07	4.83	3.22	−1.61
Denmark	74.55	79.41	4.86	1.65	5.47	3.83	73.32	75.05	1.73	2.53	2.86	0.33
Finland	70.50	73.26	2.76	2.21	11.03	8.82	68.94	65.18	−3.76	5.08	5.12	0.04
France	65.70	68.57	2.87	2.49	9.78	7.29	64.07	61.87	−2.20	5.29	3.13	−2.16
Germany	67.91	70.99	3.08	1.20	8.87	7.66	67.09	64.69	−2.40	3.28	2.13	−1.14
Ireland	63.74	66.82	3.08	6.05	7.18	1.13	59.88	62.07	2.19	4.74	10.46	5.72
Italy	57.30	59.38	2.08	5.93	11.49	5.56	53.90	52.56	−1.34	4.53	2.10	−2.43
Netherlands	56.72	73.05	16.33	2.17	4.06	1.90	55.49	70.09	14.60	4.22	4.21	−0.01
Spain	60.31	63.30	2.99	2.76	17.24	14.48	58.65	52.42	−6.23	6.55	4.53	−2.02
Sweden	75.62	77.15	1.53	2.42	7.92	5.50	73.79	71.04	−2.74	2.60	4.01	1.41
UK	71.52	74.43	2.92	2.55	6.16	3.61	69.69	69.84	0.15	2.84	3.80	0.96
EU	64.99	68.48	3.49	2.81	9.55	6.75	63.16	61.94	−1.22	4.24	3.17	−1.07
US	66.30	75.94	9.65	5.51	4.42	−1.09	62.65	72.59	9.94	3.42	4.47	1.05

Sources: OECD (2014a, 2014b).

Note: The labor force participation rate is the number of the labor force divided by the number of the population aged 15–64. The unemployment rate is the number of unemployed divided by the number of the labor force. The employment rate is the number of employed divided by the population aged 15–64. The GDP growth rate comes directly from OECD (2014b). The EU's GDP growth rate is the population weighted average of the 11 EU countries listed in the table.

**Fig. 1.** Relation between economic growth and unemployment in OECD countries. (Sources: OECD (2014a, 2014b))

long run. The same result was obtained in a model which was otherwise the same except for infinitely lived households (Eriksson, 1997).⁴

All the existing related work above assumed a fixed labor force, and thus all agents are either employed or unemployed. Then, changes in adverse labor institutions that increase unemployment will decrease employment, which reduces economic growth. However, the data in the OECD indicate that the labor force is not fixed across countries, but rather has increased substantially. See Table 1, which also suggests that the unemployment rates of all OECD countries, except for the US, have increased. Moreover, while some countries gained GDP growth, other countries lost GDP growth, with GDP growth moving in the same direction as employment. Nevertheless, the data suggest little evidence of a robust connection between long-run economic growth and unemployment of either sign. See Fig. 1, which indicates a statistically insignificant negative link between economic growth and unemployment in 1986–1995 and a statistically insignificant positive one in 1996–2005.⁵

⁴ The same long-run negative relation was obtained in models with semi-endogenous growth (Irmén, 2009) and human capital accumulation (Chen et al., 2011).

⁵ For relations found in early periods, see Figures 1 and 2 in Bean and Pissarides (1993) which point to a statistically insignificant, negative link in 1955–1965 and a statistically insignificant, positive one in both 1965–1975 and 1975–1985.

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