OPEN ACCESS
ISSN 2280-4056

E-Journal of International and Comparative
LABOUR STUDIES

Volume 6, No. 2 May-June 2017

ADAPT
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E-Journal of International and Comparative **LABOUR STUDIES**

ADAPT *International School of Higher Education in Labour and Industrial Relations*

E-Journal of
International and Comparative

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UNIVERSITY PRESS

Online Publication of the ADAPT Series
Registration No. 1609, 11 November 2001, Court of Modena
www.adaptbulletin.eu

Okun's Law Revisited Within the Context of High Eurozone Unemployment: A Note

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Abstract Purpose. The purpose of this paper is to empirically investigate Okun's Law that proposes an inverse relationship between the rate of unemployment and economic growth. In other words, the higher the unemployment rate the lower the economic growth for a given country which represents lost production opportunities.

Design/methodology/approach. The paper analyses 185 countries around the world. In particular, the average economic growth rate over 5 years [from 2011 to 2015] is regressed against the average unemployment rate over the same period.

Findings. The paper discovers that or 185 countries in the world, a strongly negative association [26% Correlation at a 1% significance level] is found. More importantly, the results strongly support Okun's Law: that a 1% drop in unemployment leads to a ¼ % increase in growth, in crude terms, across the globe.

Research limitations/implications. The research uses a parsimonious but robust analytical framework and invites future empirical investigation that uses a cross-sectional time series approach.

Originality/value. The paper suggests that from the rudimentary but robust analysis, there is a strong link between unemployment and economic growth.

Paper type. Empirical paper.

Keywords: *Unemployment, Economic Growth, Okun's Law, European Unemployment, Eurozone, Ben Bernanke, Brexit, Social Costs.*

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1. Introduction

With unemployment in the Eurozone running at over 10%, with some countries like Spain and Greece experiencing in excess of 45% youth unemployment, the loss in potential economic growth is huge. This is coupled with high unemployment's damaging social cost which brings depravity to millions.

The purpose of this note is to bring attention to the link between economic growth in unemployment across the globe then apply that to the EU member states by analysing this issue from a global perspective.

Okun's law "is intended to tell us how much of a country's gross domestic product (GDP) may be lost when the unemployment rate is above its natural rate"[2]. It explains that "the logic behind Okun's law is simple. Output depends on the amount of labor used in the production process, so there is a positive relationship between output and employment. Total employment equals the labor force minus the unemployed, so there is a negative relationship between output and unemployment (conditional on the labor force)"[3].

Bernanke summarizes Okun's law basic concepts in a speech at the National Association for Business Economics Annual Conference, Arlington, Virginia, March 26, 2012[4]:

> That rule of thumb describes the observed relationship between changes in the unemployment rate and the growth rate of real gross domestic product (GDP). Okun noted that, because of ongoing increases in the size of the labor force and in the level of productivity, real GDP growth close to the rate of growth of its potential is normally required, just to hold the unemployment rate steady. To reduce the unemployment rate, therefore, the economy must grow at a pace above its potential. More specifically, according to [the] currently accepted versions of Okun's law, to achieve a 1 percentage point decline in the unemployment rate in the course of a year, real GDP must grow approximately 2 percentage points

[2] Okun, Arthur M. *Potential GNP: Its Measurement and Significance,* American Statistical Association, Proceedings of the Business and Economics Statistics Section, p. 98–104. 1962.

[3] Wen, Y. and Chen, M. "Okun's Law: A Meaningful Guide for Monetary Policy?", *Economic SYNOPSES, short essays and reports on the economic issues of the day*, Number 15, Federal Reserve of St. Louis, https://research.stlouisfed.org/publications/es/12/ES_2012-06-08.pdf. 2012.

[4] Bernanke, B. S. *Recent Developments in the Labor Market*, Speech at the National Association for Business Economics Annual Conference, Arlington, Virginia, March 26, 2012.

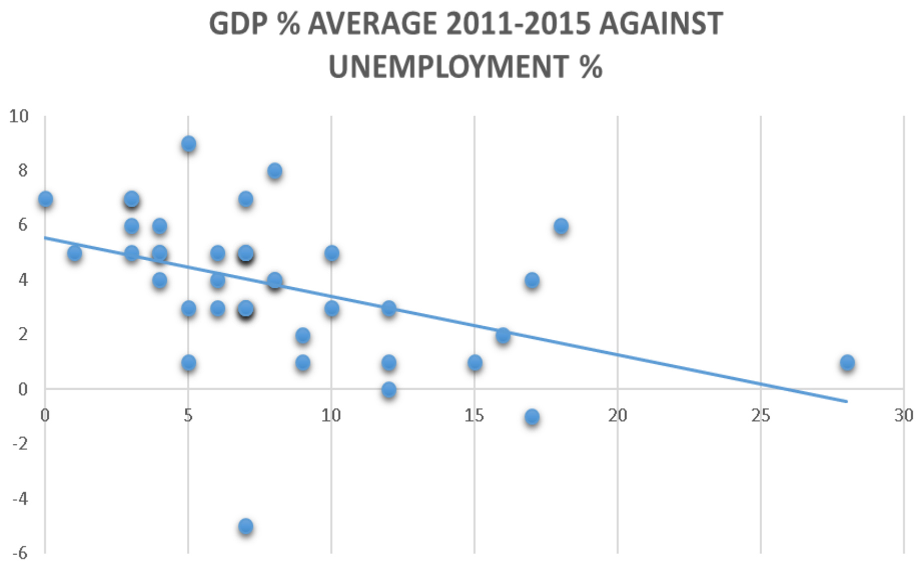
faster than the rate of growth of potential GDP over that period. So, for illustration, if the potential rate of GDP growth is 2%, Okun's law says that GDP must grow at about a 4% rate for one year to achieve a 1 percentage point reduction in the rate of unemployment.

2. Research Method

In order to test parsimoniously the cross-sectional relationship between unemployment and economic growth, the following univariate regression is estimated:

Economic Growth as Measured by GDP Growth %age [average over 5years] = α + β_1 %age Unemployment + ε

Data is sourced from the World Bank Economic and Social Indicators Database.



3. Results

For 185 countries in the world [in the Chart above], a strongly negative association [26% Correlation at 1% significance level] is found. More importantly, my results strongly support Okun's Law: that a 1% drop in unemployment leads to a ¼ % increase in growth, in crude terms, across the globe.

Quite clear from the rudimentary but robust analysis is that there is a strong link between unemployment and economic growth. The high levels of unemployment in the Eurozone member states needs to be addressed within the context of economic reform so as to alleviate the pain and suffering among the long-term disempowered youth as a priority.

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