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How Do Crisis Affect Economic Policy?

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Abstract**—**After recession that began in 2007 in the United States and subsequently spilled over the Europe we could expect recovery of economic growth. According to the last estimation of economic progress of European countries, this recovery is not strong enough. Among others, it will depend on economic policy, where and in which way, the economic indicators will proceed. Economic theories postulate that the economic subjects prefer stably, continual economic policy without repeated and strong fluctuations. This policy is perceived as support of economic growth. Mostly in crises period, when the government must cope with consequences of recession, the economic policy becomes unpredictable for many subjects and economic policy uncertainty grows, which have negative influence on economic growth. The aim of this paper is to use panel regression to prove or disprove this hypothesis on the example of five largest European economies in the period 2008–2012.

Keywords**—**Economic Crises in Europe, Economic Policy, Uncertainty, Panel Analysis Regression.

I. Introduction

IN economic crisis period governments are obligated to take special measure to counter the crises consequences, eventually to prevent its deepening. Mostly they take steps in tax area or on the side of public expenditures or investments. According to e.g. Keynesian theory, in economic crisis period government should increase public expenditure or decrease the taxes to reach economic growth support through aggregate demand. Indeed the reality differs from theory. Each European country coped with recession in Europe, which started in 2007 in the United States and which is already known as crisis, differently. Nevertheless member countries of European Union were forced to limit government spending and increase budget revenues resulting in investment reduction and tax rate hikes, thus failing to contribute to kick-starting the economy and having rather the opposite effect. These instruments should be used just for necessary time. If these steps are made transparently, are clear for economic subjects and its force is time-limited, they could be accepted from economic subject. The problem is, when the government acts vaguely, when it is not enough strong in order to get its concepts through parliament, when it has to negotiate with opposition about concepts approval, when the government does not have clear conception and it changes it very often. In these cases economic policy uncertainty grows and economic subjects postpone investment decisions. The aim of this paper is to ask the question: How do Crisis Affect Economic Policy? We suppose that in recession economic policy uncertainty is higher, so it has negative effect on economic growth. We use panel regression to verify the validity of the hypothesis arguing negative impact of EPU on economic growth in these European countries (France, Germany, Italy, UK and Spain) in economic crisis period 2008 – 2012.

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II. Literature Review

The negative impact of policy uncertainty has been long discussed [1]-[4], but there has been no tool how to measure the quantity. This was only changed by Baker, Bloom and Davis [5], who have recently published a working paper describing the construction of an index measuring Economic Policy Uncertainty (EPU) in the United States and several other selected countries. The higher is the value of index, the higher is the economic policy uncertainty. At the same time, they used econometric analysis to show that in the United States, EPU causes a consistent decline of about 2.3% in economic performance, 14% in investment, and of 2.3 million in employment.

Their work builds on two views of the impact of uncertainty on economic performance [5]. The first is the literature on the impact of general economic uncertainty on investment; postulated that uncertainty with regard to the economy leads firms to postpone investment decisions [6]. Another reason why uncertainty is seen as a negative phenomenon is that it pushes up the costs of finance [7], and it increases managerial risk aversion [8].

The other group of authors [1], [2], [4], [9] works with policy uncertainty. They consider the detrimental effects of monetary, fiscal and regulatory policy uncertainty on an economy. As policy uncertainty we can classify political instability too [10]. These topics are closely related. Political instability means that the government changes very often so its policy is not continual and it is perceived as uncertain.

A. Economic Policy Uncertainty

This index is produced by Scott Baker, Nicholas Bloom and Stephen Davis (henceforth BBD) for measuring economic policy uncertainty. Primarily it was constructed for US economy and consequently for some European countries.

Index for US is constructed from three types of underlying components [5]. First component quantifies newspaper coverage of policy-related economic uncertainty. Second one reflects the number and size of federal tax code provisions set to expire in future years and the third component uses disagreement among economic forecasters about policy relevant variables as proxy for uncertainty.

In Europe authors selected 5 largest European economies (Germany, the United Kingdom, France, Italy and Spain). Given that the legislation in the area of taxation in the

European Union is not uniform, and that it is very extensive in each of the countries, it was not possible to use the second component in the construction of the index for European countries, or Europe as a whole. Thus, the authors based their overall policy uncertainty indices on 50% newspapers searches and 50% forecaster disagreement. To construct the first component, two newspapers from each of the countries were used, which include El Pais, El Mundo, Corriere della Sera, La Repubblica, Le Monde, Le Figaro, the Financial Times, The Times of London, Handelsblatt, and FAZ.

As well as for the US version of the index, the authors analysed a number of newspaper articles containing specific selected terms (uncertain or uncertainty, economic or economy) as well as policy-relevant terms, which include: policy, tax, spending, regulation, central bank, budget and deficit. All searches are done in the native language of the newspaper in question. Each paper-specific series is normalized to standard deviation 1 prior to 2011 and then summed. The series is normalized to mean 100 prior to 2011. The higher is the index value, the greater the uncertainty of economic policy.

To measure the second part of the index (forecaster disagreement), the Consensus Economics forecast database of public expenditure for each European country was used. For each country, BBD use data on individual forecast for the following calendar year of Consumption Price Index (CPI) and federal budget balances. The problem of seasonality is corrected with using interquartile ranges. So for the CPI disagreement measure BBD use the raw values. For the budget balance, they scale by a country's GDP. Index of each country (see Fig. 1) is then scaled to standard deviation 1 and summed to create a single European-wide index.

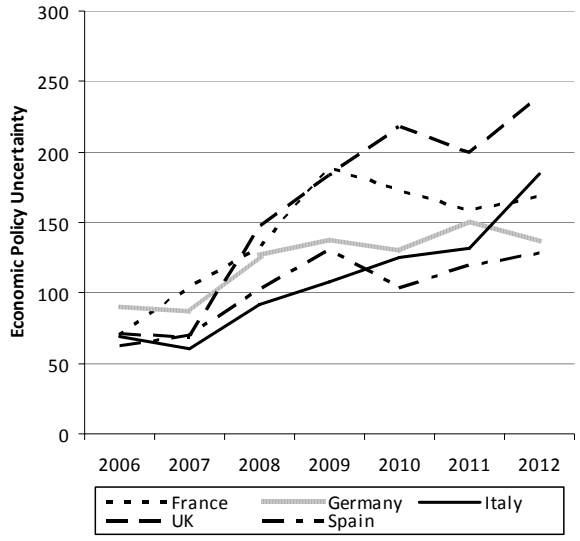

Fig. 1 Economic Policy Uncertainty Index in selected European countries (2006 – 2012)

At the end of 2007 economic policy uncertainty is increasing in all selected economies.

B. Methodology and Data

In the regression analysis performed, the neoclassical model was used in its basic form, as recommended [11]. The theory of long-term economic growth is mainly based on the original neoclassical Solow model [12] and its further extension toward endogenisation of technological progress [13], [14].

The dependent variable was real GDP per capita in USD adjusted by purchasing power parity (PPP) and the independent variables were standard growth variables, understood as a control variable – the level of real investment relative to real GDP (INVESTMENT) and the variable describing the degree of uncertainty in economic policy (UNCERTAINTY).

The GDP per capita and the share of investment in GDP were obtained from the OECD iLibrary Statistics. The data approximating the level of uncertainty in economic policy was obtained from www.policyuncertainty.com, and are freely available, including the methodology of calculation. The period under analysis was 2008-2012, which could ensure almost complete and reliable time series of economic crisis in France, Germany, Italy, UK and Spain.

The method used was the panel regression. Given the relatively small number of countries and the relatively short time series, the combination of time and cross-country data is absolutely essential. This makes the presented statistics more reliable. The software used was E-Views, version (7).

The regressions aimed to verify the hypothesis arguing the negative impact of economic policy uncertainty on economic growth.

In the first phase, the stationarity tests were performed using the "panel unit root test" according to Levin, Lin, Chu [15]. Only the UNCERTAINTY variable was found to be non-stationary. Its stochastic instability was removed in subsequent analyses using first differences. In terms of interpretation, it was also necessary to use the first differences for other variables. The problem of autocorrelation and heteroscedasticity was resolved by using a robust estimator which, when calculating the covariance matrices, ensures the correctness of the results of standard deviations of parameters and hypothesis tests with regard to a possible occurrence of autocorrelation and heteroscedasticity (White period).

The estimates employed the model with fixed effects, which is, according to Wooldridge [16], more suitable in the case of macroeconomic data. This procedure also relied on support of Hausman test.

III. Empirical Analysis

Full results of the regression for the reference period 2008-2012 are shown in Table I.

TABLE I
REGRESSION FULL RESULTS

Dependent Variable: D(GDP)
Method: Panel Least Squares
Sample: 2008 – 2012
Periods Included: 5
Cross-section Included: 5
Total Panel (balanced) observation: 25
White Period Standard Errors & Covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.342662	0.274468	1.248460	0.2279
D (EPU	-0.030066	0.014764	-2.036421	0.0567
D(INV)	0.311142	0.065058	4.782542	0.0001
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.743738	Mean dependent var		-0.305557
Adj. R -squared	0.658317	S.D. dependent var		3.952442
S.E. of regression	2.310347	Akaike info criterion		4.744168
Sum squared res.	96.07864	Schwarz criterion		5.085454
Log likelihood	-52.30210	Hannan-Quinn criter.		4.838826
F-statistic	8.706758	Durbin-Watson stat		2.576876
Prob (F-statistic)	0.000155			

The analyses suggest that with a high coefficient of determination (66%) and at 1% level of model significance, a statistically significant (1% significance level) negative impact of economic policy uncertainty on economic growth was demonstrated in 2008-2012 in the developed EU economies. The effect of the control growth variable expressing the share of investment relative to GDP was, in line with common papers, described as positive (at 1% significance level).

IV. Conclusion

How do crisis affect economic policy? Despite the impact of Economic Policy Uncertainty (EPU) being previously mentioned by some authors, a larger debate on this topic started only during the economic recession in the United States (2007-2009) which subsequently spilled over the Europe.

In crisis period the government is obligated to take special measure to counter the crises consequences, eventually to prevent its deepening. Although the economic theories recommend, what should the government do, which instruments to use, it is necessary to optimize them to the real situation of each economy and to its conditions. Approved steps not have to be direct and effective, that is why they could be often changed. And additionally the government is not able to specify time of their validity. All these aspects increase Economic Policy Uncertainty. If economic subjects perceive economic policy uncertain, they could react differently than they were supposed to. They delay their entry decision and reduce firm investment, contracts etc. Consequently the impact on economic growth will be negative.

It is supposed that the Economic Policy Uncertainty increases in economic crises period, so the paper aimed to test the hypothesis of negative effects of Economic Policy Uncertainty on economic growth in the 5 largest European economies. Panel regression was employed for this purpose. The dependent variable was real GDP per capita in USD adjusted by purchasing power parity and the independent variables were standard growth variable, understood as a control variable – the level of real investment relative to real GDP and the variable describing the degree of uncertainty in economic policy.

The analyses suggest that with a high coefficient of determination (66%) and at 1% significance model level, a statistically significant negative effect of economic policy uncertainty on economic growth was demonstrated in 2008-2012 in the developed EU economies. So it could be postulated that the impact of crises on economic policy is negative.

References

[1] M. Friedman, (March 1968). The Role of Monetary Policy. *The American Economic Review*. [Online]. 58(1). pp. 1–17. Available: http://www.aeaweb.org/aer/top20/58.1.1-17.pdf.

[2] R. Higgs, (Spring 1997). Why the Great Depression Lasted So Long and Why Prosperity Resumed After the War. *The Independent Review*. [Online]. 4(1). pp. 561-590. Available: http://www.independent.org/pdf/tir/tir_01_4_higgs.pdf.

[3] R. S. Pindyck, (September 1991). Irreverstibility, Uncertainty, and Investment. *Journal of Economic Literature*. [Online]. 29(3). pp. 1110-1148. Available: http://www.jstor.org/stable/2727613.

[4] D. Rodrik, (1991). Policy Uncertainty and Private Investment in Developing Countries. *Journal of Development Economics*. [Online]. 36(2). pp. 229-242. Available: http://www.gdsnet.org/Rodrik1991PolicyUncertaintyInvestmentJDE36.pdf.

[5] S. Baker, N. Bloom and S. Davis, (2013). *Measuring Economic Policy Uncertainty*. Working paper No. 83. [Online]. Available: http://www.policyuncertainty.com/papers.html.

[6] B. Bernanke, "Irreversibility, Uncertainty and Cyclical Investment," *Quarterly Journal of Economics*, vol 98, pp. 85-106, 1983.

[7] S. Gilschrist, J. W. Sim and E. Zkrajsek, (June 2010). *Uncertainty, Financial Friction and Investment Dynamics*. [Online]. 60 p. Available: http://www.policyuncertainty.com/papers.html.

[8] L. Pastor and P. Veronesi, (August 2012). Uncertainty about government policy and stock prices. *The Journal of Finance*. [Online]. 67(4). pp. 1219-1264. Available: http://www.stanford.edu/group/SITE/archive/SITE_2011/2011_segment_5/2011_segment_5_papers/veronesi.pdf.

[9] K. Hasset and G. E. Metcalf, "Investment with Uncertain Tax Policy: Does Random Tax Policy Discourage Investment?" *Economic Journal*, vol. 109, issue 457, pp. 372-393, 1999.

[10] A. Alesina, S. Ozler, N. Roubini and P. Swagel, (September 1996). Political Instability and Economic Growth. *Journal of Economic Growth*. [Online]. 1(2). pp. 189-211. Available: http://nrs.harvard.edu/urn-3:HUL.InstRepos:4353024.

[11] R. J. Barro, (1996). *Determinants of Economic Growth: A Cross-Country Empirical Study*. NBER Working Paper, No. 5698. [Online]. 118 p. Available: http://www.nber.org/papers/w5698.pdf?new_window=1.

[12] R. A. Sollow, (1956). Contribution to the Theory of Economic Growth. *Quartely Journals of Economics*. [Online]. 70(1). pp. 65-94. Available: http://faculty.lebow.drexel.edu/LainczC/cal38/Growth/Solow_1956.pdf.

[13] R. E. Lucas, (February 1988). On the Mechanics of Economic Development. *The Journal of Monetary Economics*. [Online] 22(1). pp. 3 – 42. Available: ttp://www.parisschoolofeconomics.eu/docs/darcillon-thibault/lucasmechanicseconomicgrowth.pdf.

[14] P. Romer, "Increasing Returns and Long-run Growth." *Journal of Political Economy*, vol. 5, pp. 10-19, 1986.

[15] A. Levin, C. F. Li and C. Chu. C,"Unit Root Tests in Panel Data: Asymptotic and Finite-Sample Properties," *Journal of Econometrics*, No. 108, pp. 1-24, 2002.
[16] J. M. Wooldridge, *Introductory Econometric: A Modern Approach.* Mason: South-Western Cengage Learning, 2009.

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