THE IMPACT OF MACROECONOMIC FACTORS ON COMPETITION POLICY EFFECTIVENESS WITHIN EUROPEAN UNION

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In the last decades, more and more countries have enacted competition laws, understanding the importance of this process in providing a normal functioning of the economy. Analyzing competition policy effectiveness is important not only because of the recent extent of the phenomenon, but also because of the impact of competition policy effectiveness on economic development and, in the current economic climate, on the economic recovery process. For this reason, quantitative evaluation for competition policy effectiveness became very useful as data handling and understanding the whole phenomenon are easier this way and an international perspective is provided. This was made possible by various international institutions that have created a system of aggregated indicators for the evaluation of competition law enforcement and competition advocacy (perceived effectiveness). The purpose of our research is to identify the macroeconomic factors that influence the effectiveness of competition law implementation within the European Union Member States. We have tasted the influence of 13 macroeconomic, using panel data methodology and data from the last four years. We obtained ß coefficients statistically significant only for 11 of them. The results are consistent with prior analyzed studies and economic logic: positive influence from market division, intensity of local competition, ethical behavior of firms, strength of auditing and reporting standards, efficiency of legal framework in settling disputes, protection of minority shareholders' interests, public trust of politicians, economic dimension and market size and negative influence from corruption level and diversion of public funds. Based on the achieved results we can perform an analysis of principal components leading to causal space reduction with minimal information loss and without informational redundancy, creating the premises for building a model that explains competition policy effectiveness through macroeconomic factors.
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I. The concept of competition policy effectiveness

When defining competition policy and competition law, specialists have different views. But one thing is certain. All definitions converge to the idea of providing a functional competitive environment.

Massimo Motta defines competition policy as a set of policies and laws which ensure that competition in the market place is not restricted, in a way that is detrimental to society (Motta 2004: 28).

Competition law and competition policy are not synonymous concepts. Competition policy refers not only to competition law but also to institutions that enforce competition law, to competition advocacy and to industrial policy concerns (Papadopoulos 2010: 30).

Competition policy role has increased significantly in recent decades. Both at national and international level, competition policies have gained an increasingly important role. In the last decades, more and more countries have enacted competition laws, understanding the importance of this process in providing a normal functioning of the economy. Specifically, over half of all the countries that have legalized the competition field so far, have adopted the first law after 1990.

For this reason, quantitative evaluation for competition policy effectiveness became very useful as data handling and understanding the whole phenomenon are easier this way and an international perspective is provided. This was made possible by various international institutions that have created a system of aggregated indicators for the evaluation of competition law enforcement and competition advocacy (perceived effectiveness). The main indicators are: effectiveness of antitrust policy (World Economic Forum), effectiveness of competition law (International Institute for Management Development) and EBRD competition policy indicator (European Bank for Reconstruction and Development).

Although there are many obstacles in realizing such a valuation caused by the heterogeneous content of competition policies, the implementation mechanisms, types of regulated anti-competitive practices these institutions have developed methodologies meant to outline a clearer picture of countries position in the global economic system and capture competition policy implementation effects on business environment performance (Vass 2010: 10).

In this paper we analyze the competition policy effectiveness in the European Union Member States in terms of macroeconomic factors that influence it. Within the European Union, competition policy is aimed to maintain a normal competitive framework in member states.

This research is important not only because of the recent extent of the phenomenon, but also because of the impact of competition policy effectiveness on economic development and, in the current economic climate, on the economic recovery process.

Regarding this last aspect, competition policy is seen as an economic instrument during the current crisis. More than ever, companies are tempted to resort to anti-competitive practices in order to survive or for profit purposes, therefore ensuring a fair competitive framework eventually leads to maintenance of or reduce of prices and survival of companies that could not function if there are price agreements between big sellers on the market. On June 26, 2009, at Chatham House Conference, European Commissioner for Competition at the time, Neelie Kroes has stated that competition policy is now "part of the solution, rather than the problem, by bringing parties together, put a stop to potential subsidy races and being as flexible as we can without undoing the basic principles of competition policy".

II. Literature Review

Researches related to factors influencing competition policy effectiveness include both directly dependent variables (such as: clarity of competition law content, competition authorities budget, number of the personnel and level of qualification - as input and number of cases - as output), various explicative macroeconomic variables such as: commercial openness (measured as the ratio between exports plus imports and GDP), economic dimension, economic reforms in transition countries (index of economic freedom), foreign direct investments (net inflows as a share of gross capital formation), sector structure (relevant in this case is the share of industry in GDP), government policy effectiveness, corruption level, effectiveness and independence of legal institutions etc. The main studies on the impact of macroeconomic factors on competition policy effectiveness are briefly presented below.

Palim (Palim 1998: 105-145) studies the factors influencing competition policy, through the process of enacting a competition law. Main results obtained using empirical tests are: a positive and significant relation between economic development and the decision of enacting a competition law; a positive relation between economic size and the probability to legislate competition framework; an increase in government spending reduces the enacting probability. The factors that determine adoption of competition law are, after all, further drivers of competition policy effectiveness.

Evenett (2003: 9-89) tests, on the same sample of countries as WEF, the influence of several factors centralized from previous studies. Several determinants of competition policy effectiveness witch impact on law enacting are identified. Those with a positive influence are:

economic development, economy dimension, degree of economic freedom, intensity of imports, openness to foreign direct investments, dependence on international organizations and social security system development level. The factors with negative influence are: the level of industrialization, government intervention, export and import restrictions and corruption level.

Kronthaler (2007: 4-19) analyzes a sample of 71 countries that have enacted competition laws after 1990 in the time span between 1995 and 2005. Then, he extended the study to all countries with competition laws since the '80s and '70s. The empirical results suggest that the perceived effectiveness of competition law implementation, rather than its actual effectiveness, depends positively on the economic development level, commercial openness, legislative experience and negatively on economic size and corruption level.

Borrell and Jiménez (2007: 69-88) also tested various factors considered to have influence on competition policy effectiveness on a sample of 57 countries and concluded that among tested factors the following are significant: commercial openness (positive influence), corruption level (negative influence), market division (positive influence) and intensity of local competition (positive influence).

III. Research methodology, data and results

The purpose of our research is to identify the macroeconomic factors that influence the effectiveness of competition law implementation within the European Union member states.

Thus, we will use WEF competition policy effectiveness indicator as proxy variable for effectiveness implementation of competition policy. The indicator takes values between 1 (lowest - competition policy is lax and ineffective in promoting competition) and 7 (highest value - competition policy effectively promotes competition). It has been shown that this indicator is the most comprehensive indicator available in terms of sampled countries and covered period of time. Among scientists this is considered a useful measure for comparisons between countries (Nicholson 2004: 5-12).

We have chosen the endogenous variables taking into account the existing studies as well as regional aspects in competition field. Therefore, the macroeconomic factors included in analysis will be: market division (not. div), intensity of local competition (not. loc_comp), corruption level (not. corr), diversion of public funds (not. dpf), ethical behavior of firms (not. ethics), strength of auditing and reporting standards (not. reporting), efficiency of legal framework in settling disputes (not. legal), protection of minority shareholders' interests (not. protection), and public trust of politicians (not. publ_trust), all these indicators being published by the World Economic Forum and scale from 1 to 7. To these we add the national market size index (calculated as follows: GDP + value of imports of goods and services - exports of goods and services, normalized on the 1-7 scale; not. nms), commercial openness (measured as the ratio of exports plus imports and GDP; not. opp), the economy dimension (national GDP as a percentage of world GDP, not. gdp_m) and population (in millions; not. pop).

Data source is represented by World Economic Forum and World Bank.

In order to study the impact of macroeconomic factors on the effectiveness of competition policy we will use panel data methodology. Panel data models consist of estimation of regression equations using both time series and cross sectional data simultaneously.

We have collected data from the last four years for the 27 European Union member states for the WEF indicator and the 13 exogenous variables, which is a total of 108 observations per variable.

Data was log-transformed before use in order to provide homogeneity for our data series. This procedure is widely used in econometric analysis.

The general regression formula we are going to use to estimate parameters using EViews software is:

$$l\_ef_{it} = \alpha + \beta * l\_x_{zit} + \varepsilon_{it} \quad (1)$$

where i is the section (country in our case); t is the year; l_ef is the natural logarithm of WEF indicator for competition policy effectiveness; l_xz is the natural logarithm of proxy variable for initial variable z; ε_t is the residual variable.

We will use Least Squares Method (NLS and ARMA) for panel data in order to estimate the parameters.

Unifactorial regression parameters estimation results on panel data and corresponding p-value are summarized in the table below.

Table no. 1. Unifactorial regressions parameters estimated using panel data when competition policy effectiveness is the endogenous variable

No.	Endogenous Variables	α	β	No.	Endogenous Variables	α	β
1	l_div	0,3676 (0.000)	0,7759 (0.000)	8	l_publ_trust	1,1596 (0.000)	0,329 (0.000)
2	l_loc_comp	-0,786 (0.064)	1,3794 (0.000)	9	l_legal	0,8536 (0.000)	0,4903 (0.000)
3	l_corr	0,4079 (0.000)	0,6827 (0.000)	10	l_gdp_m	1,5702 (0.000)	0,0304 (0.002)
4	l_op	1,4473 (0.000)	0,0186 (0.586)	11	l_pop	1,5116 (0.000)	0,0108 (0.313)
5	l_dpf	0,8692 (0.000)	0,4545 (0.000)	12	l_protection	0,1932 (0.029)	0,8698 (0.000)
6	l_nms	1,3294 (0.000)	0,1484 (0.010)	13	l_reporting	-0,35 (0.007)	1,1295 (0.000)
7	l_ethics	0,5797 (0.000)	0,6115 (0.000)				

α is the intercept and **β** is the estimated parameter corresponding to a factor

With the exception of commercial openness and population, all other factors prove to have a significant influence on the effectiveness of competition policy implementation.

The influence of economic dimension and market size resulted as positive. Comparing this result with previous studies does not lead us to a definite conclusion. For example, Kronthaler (Kronthaler 2007: 6, 14-15) concludes that the relation is a negative one.

On one hand, it is assumed that in small economies the competitive strength of imports is higher than competition legislation, but on the other, small economies have the ability to easily develop an appropriate competition culture, which leads to greater efficiency of its implementation (the range of analyzed anticompetitive practices is smaller, as the number of actors is also smaller as well as domestic market).

Other significant macroeconomic factors with positive influence are: market division, intensity of local competition, ethical behavior of firms, strength of auditing and reporting standards, efficiency of legal framework in settling disputes, protection of minority shareholders' interests and public trust of politicians.

The significant factors with negative influence are: corruption level and diversion of public funds.

IV. Short conclusion and further researches

We are experiencing a period when, more than ever, ensuring a functional competitive framework is absolutely necessary. The focus is on the quality of competition policy, on its

effective implementation. The existence of a legal framework is not the key. We intuit from the start the positive effects of an effective conceived competition policy and, especially, effectively applied. In fact, this is the objective, to ensure the normal functioning of market economy.

Figure no. 1. WEF competition policy effectiveness indicator for EU member states
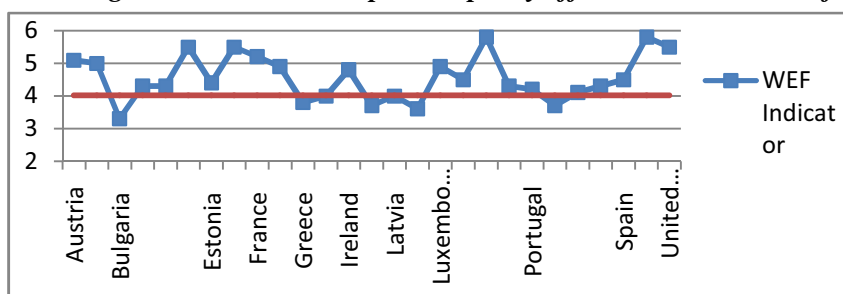
In the European Union competition policy has a central role in common policies. The indicators published by World Economic Forum for 2011 outline relatively high values of effectiveness, but not always above world average (Figure no. 1).

Based on the achieved results we can perform an analysis of principal components leading to causal space reduction with minimal information loss and without informational redundancy, creating the premises for building a model that explains competition policy effectiveness through macroeconomic factors.

References
Books

Motta, Massimo. *Competition Policy: Theory and Practice*. Cambridge: Cambridge University Press, 2004.
Mosteanu, Tatiana, Dumitrescu, Dalina, Alexandru, Felicia, Vuta, Mariana, Obreja, Laura and Serbanescu, Cosmin. *Prices and Competition*. Bucharest: Editura Universitara, 2006.
Papadopoulos, Anestis. *The International Dimension of EU Competition Law and Policy*. Cambridge: Cambridge University Press, 2010.

Journal Articles

Borrell Joan-Ramon and Perdiguero Jordi. *The drivers of effectiveness in competition policy*. Hacienda Pública Española / Revista de Economía Pública 2(2008): 69-88.
Evenett, S. J., *Study on Issues Relating to a Possible Multilateral Framework on Competition Policy*. Documents of the Working Group on the Interaction between Trade and Competition Policy, 2003, Accessed on November 2, 2011: 1-165. *http://www.wto.org/english/tratop_e/comp_e/wgtcp_docs_e.htm*
Kronthaler, Franz. *Effectiveness of Competition Law: A Panel Data Analysis*. Halle Institute for Economic Research, Discussion Papers 7(2007): 1-26, Accessed on November 9, 2011. *http://www.iwh-halle.de/e/publik/disc/7-07.pdf*
Kronthaler, Franz and Stephan, Johannes. *Factors Accounting for the Enactment of a Competition Law – An Empirical Analysis*. The Antitrust Bulletin 52 (2007): 137-168.
Mosteanu, Tatiana and Alexandru, Maria. *Considerations on the Role of Economic Analysis in the Field Of Competition*. Theoretical and Applied Economics, 12(517)(s)(2008): 5-8.
Nicholson, Michael. *Quantifying Antitrust Regimes*. FTD Bureau of Economics, Working Papers 267(2004): 1-26. Accessed on November 10, 2011. *http://papers.ssrn.com/sol3/papers.cfm?abstract_id=531124*
Palim, Mark. *The Worldwide Growth of Competition Law: An Empirical Analysis*. The Antitrust Bulletin 43 (1998): 105-145.

Vass, Andreea. *Competition policy effectiveness in protecting national business environment.* OEconomica Journal 3(2010): 101-124.

Sites

World Economic Forum. „*The Global Competitiveness Report 2008–2009*", „*The Global Competitiveness Report 2009–2010*", „*The Global Competitiveness Report 2010–2011*", „*The Global Competitiveness Report 2011–2012*". Accessed on February 3, 2012. *http://www.weforum.org/issues/global-competitiveness*
European Union. *European Union Competition Policy.* Accessed on January 16, 2012. *http://ec.europa.eu/competition/index_en.html*
World Bank. *Economic Data.* Accessed on January 16, 2012. *http://data.worldbank.org/indicator*