

*Essays on Economic Analysis of Competition Law:  
Theory and Practice*  
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The present dissertation is the result of a scientific research in the field of the economic analysis of competition law.

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## Section I

- *The Antitrust Treatment of Loyalty Discounts and Rebates in the EU Competition Law: In Search of an Economic Approach and a Theory of Consumer Harm*

## Section II

- *The Effectiveness of Competition Policy: An Econometric Assessment in Developed and Developing Countries*

## Section III

- *Cartel Detection and Collusion Screening: An Empirical Analysis of the London Metal Exchange*

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## *The Effectiveness of Competition Policy: An Econometric Assessment in Developed and Developing Countries*

- Research Proposal
- Literature Review
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- Econometric Model
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The ultimate objective of the present paper is to empirically investigate the effectiveness of competition policy in developed and developing countries. Although its importance is continuously increasing, the effectiveness of competition policy still seems to lack the attention that it would deserve.

At the present state of art, the number of academic contributions that attempts to estimate its impact on relevant economic variables appears very limited, in particular for the less developed countries.

However, an empirical literature aimed at measuring in objective terms the effect of competition policy on economic growth is emerging, starting from narrow variables of interest, such as Gross Domestic Product (GDP) and Total Factor Productivity (TFP).

As a result, the current work intends to contribute to this branch of research, focusing on broader indicators of market performance, to understand whether the presence of an antitrust authority has a significant impact, thus an effective utility, on the level of competition of a country.

In other terms, the research question behind the current work is rather straightforward: is a competition authority active in a developed or developing country able to implement effectively its primary role? If not, which are the institutional functions and powers that should be strengthened?

From a policy perspective, the aim of the present paper is also to comprehend whether the enforcement of a competition policy regime in a developing country has the same beneficial effects on the intensity of competition usually claimed to take place in the most developed countries.

At the same time, it may also be understood whether industrial and institutional differences jeopardize the effectiveness of such a tool of political economy, so much that in emerging countries it would be worthier to assign funds and priority to other tools for economic development.



# Literature Review (1/2)

According to the mainstream economic school of thought, competition is the critical process for a market economy to ensure the optimal allocation of resources and the highest level of social welfare. As it is common knowledge, competitive markets enable consumers to purchase better products at lower prices and incentivize firms to improve the quality of the goods and services offered.

However, the functioning of competition is not automatic but must be sustained through an intervention by the state, which normally occurs with the adoption of a competition legislation and the creation of a competition authority predisposed to the role of promoter of market democracy.

Nevertheless, despite the general consensus, at least from a theoretical standpoint, on the necessity of fostering competition in order to support economic efficiency and fairness on the markets, what appears extremely surprising is the quasi absence of academic contributions trying to assess empirically the effectiveness of competition policy.

In the present paper, therefore, we provide an exhaustive overview of the results obtained in the empirical literature: Dutz and Vagliasindi (2000), Krakowski (2005), Kee and Hoekman (2007), Petersen (2013), Buccirossi *et al.* (2013).

# Dataset Description (1/6)

In the present paper, the empirical assessment has been divided into two main parts.

The first part analyzes developed and developing countries together, to obtain a general overview of the phenomenon studied.

The second part examines exclusively developing countries, to understand whether the adoption of a competition policy regime should be among the priorities in the political agenda of an emerging country.

The main reason for this distinction is to disentangle the effect of competition policy in such different contexts. This comparison may provide a better picture of the impact, also because in developing countries competition policy has been introduced only recently in comparison to developed countries.

## Dataset Description (2/6)

Accordingly, the first group includes the majority of OECD countries (i.e. 28 nations), whilst the second group includes all the developing countries for which data for the purposes of the current work are available (i.e. 51 nations).

Hence, the total number of countries present in the sample is 79 (by 2008, 111 countries had enacted a competition legislation). The result is a cross-sectional dataset, created *ad hoc* merging several existing datasets, with 2008 as common reference year.

For definitional sake, the term competition policy should be intended as any national law which promotes market fairness by regulating anti-competitive conducts undertaken by firms. With competition authority it is meant any institution which is set up for enforcing competition policy and is not sector specific.

## Dataset Description (3/6)

The independent variables of our dataset, i.e. the set of input variables to be tested in order to verify if they are the cause of the phenomenon object of study, results from a questionnaire submitted to competition agencies worldwide in 2007 and from which four indicators relative to the institutional quality of competition policy of each country are derived and used in Voigt (2009).

In particular, the survey, whose response rate is around 63%, was sent to 140 agencies belonging to the International Competition Network or participating to the Intergovernmental Group of Experts on Competition Law and Policy. The questionnaire was constructed so that respondents would not have to express personal perceptions but to provide factual information about the national competition policies.

## Dataset Description (4/6)

The dependent variables of our dataset, i.e. the set of output variables to be tested in order to verify if they are instead the effect of the phenomenon object of study, results from the Global Competitiveness Report, annually published by the World Economic Forum (2013). It assesses the class of factors, institutions and policies that influence the current and medium-term levels of economic prosperity of 144 different countries.

Since 2004, the report proposes a wide range of data, based on 110 variables across 12 pillars, about areas such as competition, education, finance, health, infrastructure, institutions, labour and technology. Data are collected through over 15,000 surveys with leading business executives who are asked to rank the determinants of competitiveness of their respective countries. This corresponds to an average of 100 respondents per country.

## Dataset Description (5/6)

In this regard, it is necessary to notice that, at least at the present state of art, there is a practical impossibility to find objective data about the intensity of market power, a solution that would represent of course a first best scenario for our study.

The basic reason for this limitation is that data such as level of concentration, mark-up on prices or number of market entries are available only for specific sectors of certain nations and in any case would remain rather insignificant if computed with respect to an entire economy.

Thus, we are forced to proceed to a second best scenario, that is to resort to indicators of market performance obtained from evaluations expressed by business respondents about a country competitions intensity.

Despite the unavoidable drawbacks that this solution entails, being data extracted from surveys not perfectly objective, the present paper still intends to investigate at a macroeconomic level whether the presence of a competition authority affects the degree of competition of a nation.

Future research, having at its disposal more rigorous and significant data, could certainly provide further answers to the research question at issue.



The econometric model developed for the present paper aims at estimating the effect on market performance of competition policy in developed and developing countries, the latter evaluated according to four institutional indicators.

These four indicators, built in Voigt (2009) and originally used to assess empirically the impact of competition policy on TFP, measure:

1. the substantive content of the competition law;
2. the degree the competition law incorporates economics;
3. the formal independence of the competition authority;
4. the factual independence of the competition authority.

In particular, as mentioned, this set of indicators has been constructed as a result of a questionnaire formed of 30 questions and submitted to 140 competition authorities worldwide.

As a result, the four institutional indicators, which evaluate the degree of competition orientation and authority independence of developed and developing countries, are investigated in the current work with respect to the impact on five indicators of market performance.

These five indicators of market performance, built by the World Economic Forum (2013), measure:

1. the intensity of local competition;
2. the extent of market dominance;
3. the effectiveness of anti-monopoly policy;
4. the intensity of national competition;
5. the goods market efficiency.

In particular, as mentioned, this set of indicators has been extracted from the 6<sup>th</sup> pillar (i.e. Goods Market Efficiency) of the Global Competitiveness Indexes (GCI).

## Econometric Model (3/8)

Accordingly, in our econometric model, the four institutional indicators are employed as explanatory and independent variables, whilst the five performance indicators are used as explained and dependent variables.

Nevertheless, all the variables that may affect the relationship between the variables of primary interest must be monitored, even though they may not be the focus of the study. Control variables, in fact, allow the econometrician to strictly measure the effect under examination, avoiding the so-called omitted-variables bias and improving the goodness of fit of the econometric model.

Therefore, we employ four standard economic control variables, such as government consumption, trade openness, rate of inflation and patents protection, under the reasonable assumption that they are all factors which influence, positively or negatively, the establishment of a competitive environment.

Moreover, we must consider two other control variables, that are an EU dummy, as our dataset includes countries members of the European Union, which are thus subject not only to the respective national competition authorities but also to the vigilance exercised by the Directorate-General for Competition (DG COMP) of the European Commission, and an OECD dummy, given the higher level of social welfare of OECD countries.

As a result, our regression equation can be written as follow:

$$PERF_i = \alpha + \beta(COMP_i) + \gamma(CTRL_i) + \varepsilon_i$$

The high intensity of competition typical of developed countries, as well as the high extent of market dominance typical of developing countries, might facilitate the establishment and the effectiveness of a competition authority.

This mechanism raises the question of endogeneity, as reverse causality (i.e. the effect precedes the cause, contrary to normal causation) might emerge between the dependent and independent variables of our econometric model.

In order to deal with this issue, we employ a further category of variables, that are the instrumental variables.

In a nutshell, using an instrumental variable is a method to clean out any endogenous relationship between dependent and independent variables, since we obtain new and filtered explanatory variables which can be correctly tested on the explained variables.

The first instrument is a dummy variable for former British colonies (Heston *et al.*, 2002). As proved by historical evidence, a common law legal system, typical of countries that in the past belonged to the British Empire, is more likely to adopt a competition policy regime compare to a civil law legal system, so that the legal origin influences the enforcement of an institution such as a competition authority.

The second instrument is the age of democratic regime (Keefer *et al.*, 2013), under the assumption that a country with a longer democratic tradition is in more suitable conditions to establish and enforce a competition policy regime.

The third instrument is the ethnic and linguistic fractionalization (Alesina *et al.*, 2003), element that traduces the difficulty of implementing valuable institutions.

We can now proceed with the estimation.

At a first step, we will employ as estimation technique the Ordinary Least Squares (OLS) method, without and with control variables, in order to carry out a preliminary assessment.

At a second step, after evaluating the validity of the instruments chosen through the Sargan test, we will employ as estimation techniques the Two-Stage Least Square (2SLS) and the Generalized Method of Moments (GMM), which are able to improve the prediction quality of our econometric model exploiting the information provided by the instruments.

# Econometric Model (8/8)

$$PERF_i = \alpha + \beta(COMP_i) + \gamma(CTRL_i) + \varepsilon_i$$

developed countries (28) + developing countries (51) = total sample (79) [2008]

$PERF_1$	Intensity of Local Competition
$PERF_2$	Extent of Market Dominance
$PERF_3$	Effectiveness of Anti-Monopoly Policy
$PERF_4$	Competition
$PERF_5$	Good Market Efficiency
$COMP_1$	Substantive Content of the Competition Law
$COMP_2$	Degree the Competition Law incorporates an Economic Approach
$COMP_3$	Formal Independence of the Competition Authority
$COMP_4$	Factual Independence of the Competition Authority
$CTRL_1$	Government Consumption
$CTRL_2$	Openness
$CTRL_3$	Inflation
$CTRL_4$	Patents
$CTRL_5$	OECD
$CTRL_5$	EU
$IV_1$	British Colony
$IV_2$	Age of Democratic Regime
$IV_3$	Ethnic-Linguistic Fractionalization
$OLS$	Ordinary Least Squares
$2SLS$	Two-Stage Least Square
$GMM$	Generalized Method of Moments



In order to obtain a general overview of the phenomenon object of the study, firstly we analyze developed and developing countries together.

Table 1 contains the OLS regression estimates without and with the standard economic control variables. It can be observed that all the institutional indicators present the expected sign, that is competition policy has a positive impact on all the performance indicators, although rather marginal but more significant when control variables are considered.

This means that competition authorities, even if to a limited extent, are usually able to implement effectively the role of promoters of fair competition.

# Estimation Results (Table 1)

## OLS Estimation of Performance Indicators on Competition Policy Indicators without/with Control Variables (Developing and Developing Countries)

Variables	<i>PERF</i> <i>local</i>	<i>PERF</i> <i>local</i>	<i>PERF</i> <i>dominance</i>	<i>PERF</i> <i>dominance</i>	<i>PERF</i> <i>antitrust</i>	<i>PERF</i> <i>antitrust</i>	<i>PERF</i> <i>competiton</i>	<i>PERF</i> <i>competiton</i>	<i>PERF</i> <i>efficiency</i>	<i>PERF</i> <i>efficiency</i>
Technique	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS
<i>COMP<sub>law</sub></i>	1.331*** (0.316)	0.431 (0.330)	1.594*** (0.454)	0.245 (0.404)	1.785*** (0.448)	0.457 (0.427)	0.858** (0.299)	0.066 (0.263)	1.123*** (0.309)	0.234 (0.273)
R <sup>2</sup>	0.189	0.458	0.140	0.622	0.173	0.585	0.098	0.589	0.148	0.608
SER	0.675	0.550	0.968	0.671	0.955	0.711	0.638	0.438	0.659	0.455
N	78	69	78	69	78	69	78	69	78	69
<i>COMP<sub>economics</sub></i>	1.068*** (0.235)	0.604* (0.287)	1.483*** (0.321)	0.825* (0.331)	1.725*** (0.299)	1.176*** (0.322)	0.820*** (0.217)	0.536* (0.210)	0.988*** (0.225)	0.657** (0.218)
R <sup>2</sup>	0.228	0.492	0.233	0.671	0.322	0.685	0.170	0.666	0.216	0.686
SER	0.677	0.549	0.925	0.634	0.862	0.617	0.625	0.403	0.647	0.418
N	72	63	72	63	72	63	72	63	72	63
<i>COMP<sub>dejure</sub></i>	1.452*** (0.309)	1.017** (0.314)	1.907*** (0.434)	1.264** (0.375)	2.334*** (0.400)	1.806*** (0.360)	1.092*** (0.289)	0.856*** (0.240)	1.324*** (0.298)	1.009*** (0.244)
R <sup>2</sup>	0.234	0.526	0.212	0.679	0.321	0.702	0.166	0.667	0.215	0.697
SER	0.665	0.521	0.932	0.622	0.860	0.597	0.620	0.626	0.640	0.405
N	74	65	74	65	74	65	74	65	74	65
<i>COMP<sub>defacto</sub></i>	1.163*** (0.206)	0.848*** (0.226)	1.568*** (0.288)	0.960*** (0.272)	1.818*** (0.259)	1.376*** (0.267)	0.870*** (0.200)	0.614** (0.182)	1.060*** (0.203)	0.764*** (0.181)
R <sup>2</sup>	0.329	0.574	0.313	0.698	0.431	0.706	0.225	0.665	0.295	0.708
SER	0.629	0.512	0.880	0.615	0.791	0.604	0.612	0.413	0.620	0.411
N	67	59	67	59	67	59	67	59	67	59

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$  (standard errors in parentheses)

Control Variables: Government Consumption, Openness, Inflation, Patents, OECD, EU.

From Table 2, which contains instead the OLS regression estimates over developing countries only, we can observe that only the factual independence of the competition authorities impacts positively on the performance indicators, while the degree to which the competition law incorporates an economic approach and the formal independence of the competition authority present a significant impact in a limited number of cases.

On the contrary, the fact that an emerging country has adopted a specific legislation safeguarding competition seems to not have any effect on the markets.

# Estimation Results (Table 2)

## OLS Estimation of Performance Indicators on Competition Policy Indicators without/with Control Variables (Developing Countries)

Variables	<i>PERF</i> <i>local</i>	<i>PERF</i> <i>local</i>	<i>PERF</i> <i>dominance</i>	<i>PERF</i> <i>dominance</i>	<i>PERF</i> <i>antitrust</i>	<i>PERF</i> <i>antitrust</i>	<i>PERF</i> <i>competition</i>	<i>PERF</i> <i>competition</i>	<i>PERF</i> <i>efficiency</i>	<i>PERF</i> <i>efficiency</i>
Technique	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS
<i>COMP<sub>low</sub></i>	0.538 (0.390)	0.389 (0.416)	0.006 (0.464)	0.074 (0.489)	0.273 (0.453)	0.341 (0.516)	-0.168 (0.341)	-0.236 (0.314)	0.174 (0.352)	0.120 (0.334)
R <sup>2</sup>	0.038	0.299	0.000	0.370	0.008	0.295	0.005	0.495	0.005	0.469
SER	0.641	0.573	0.762	0.673	0.745	0.711	0.561	0.433	0.579	0.461
N	50	42	50	42	50	42	50	42	50	42
<i>COMP<sub>economics</sub></i>	0.321 (0.319)	0.382 (0.392)	0.320 (0.370)	0.758 (0.422)	0.677* (0.329)	1.108** (0.384)	0.094 (0.274)	0.405 (0.259)	0.279 (0.281)	0.583* (0.274)
R <sup>2</sup>	0.024	0.329	0.018	0.477	0.092	0.510	0.003	0.619	0.023	0.610
SER	0.673	0.599	0.780	0.645	0.693	0.587	0.578	0.396	0.593	0.419
N	44	36	44	36	44	36	44	36	44	36
<i>COMP<sub>dejure</sub></i>	0.708 (0.357)	0.818 (0.384)	0.774 (0.418)	1.116 (0.429)	1.236** (0.376)	1.664 (0.396)	0.347 (0.315)	0.649 (0.278)	0.580 (0.319)	0.839** (0.285)
R <sup>2</sup>	0.082	0.378	0.072	0.488	0.197	0.547	0.027	0.583	0.070	0.597
SER	0.645	0.564	0.755	0.630	0.678	0.582	0.569	0.409	0.576	0.418
N	46	38	46	38	46	38	46	38	46	38
<i>COMP<sub>defacto</sub></i>	0.601* (0.274)	0.641* (0.298)	0.648 (0.337)	0.843* (0.355)	1.076*** (0.294)	1.362*** (0.318)	0.277 (0.257)	0.483* (0.228)	0.474 (0.257)	0.664** (0.228)
R <sup>2</sup>	0.110	0.427	0.087	0.497	0.256	0.584	0.029	0.598	0.080	0.629
SER	0.632	0.556	0.777	0.660	0.678	0.592	0.591	0.425	0.593	0.424
N	41	34	41	34	41	34	41	34	41	34

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$  (standard errors in parentheses)

Control Variables: Government Consumption, Openness, Inflation, Patents, OECD, EU.

## Estimation Results (3/4)

Proceeding with the more advanced estimation techniques, from Table 3, which contains the 2SLS and GMM regression estimates for the entire sample, we can observe results that confirm those obtained under OLS.

Although the substantive content of the competition law seems to lose statistical significance, what emerges, and this is more important for our purposes is that the estimates for the other three institutional indicators are stronger than those obtained through the OLS estimation, reaching in several cases the standard significance level of 5%.

# Estimation Results (Table 3)

## 2SLS & GMM Estimation of Performance Indicators on Competition Policy Indicators with Control and Instrumental Variables (Developed and Developing Countries)

Variables	<i>PERF</i> <i>local</i>	<i>PERF</i> <i>local</i>	<i>PERF</i> <i>dominance</i>	<i>PERF</i> <i>dominance</i>	<i>PERF</i> <i>antitrust</i>	<i>PERF</i> <i>antitrust</i>	<i>PERF</i> <i>competition</i>	<i>PERF</i> <i>competition</i>	<i>PERF</i> <i>efficiency</i>	<i>PERF</i> <i>efficiency</i>
Technique	2SLS	GMM	2SLS	GMM	2SLS	GMM	2SLS	GMM	2SLS	GMM
<i>COMP<sub>law</sub></i>	1.319 (0.949)	1.411 (0.816)	1.770 (1.218)	2.033 (1.065)	1.448 (1.211)	1.285 (0.796)	0.293 (0.720)	-0.065 (0.495)	0.980 (0.787)	0.806 (0.523)
R <sup>2</sup>	0.394	0.377	0.534	0.499	0.549	0.545	0.583	0.580	0.561	0.574
SER	0.546	0.554	0.701	0.727	0.697	0.700	0.414	0.416	0.453	0.446
N	69	69	69	69	69	69	69	69	69	69
<i>COMP<sub>economics</sub></i>	2.265 (1.407)	2.434** (0.887)	2.857 (1.660)	2.732* (1.107)	3.734* (1.824)	4.053* (1.730)	1.486 (0.952)	1.778* (0.843)	2.105 (1.132)	2.398** (0.875)
R <sup>2</sup>	0.183	0.116	0.4460	0.472	0.3241	0.227	0.543	0.451	0.436	0.323
SER	0.651	0.677	0.76881	0.751	0.84442	0.903	0.441	0.483	0.524	0.574
N	63	63	63	63	63	63	63	63	63	63
<i>COMP<sub>dejure</sub></i>	2.335* (1.111)	2.445 (0.825)	2.678* (1.295)	2.636 (0.975)	4.689** (1.622)	4.710 (1.480)	2.289* (0.945)	2.404 (0.878)	2.586** (0.994)	2.511 (0.765)
R <sup>2</sup>	0.380	0.354	0.599	0.603	0.367	0.361	0.458	0.495	0.475	0.495
SER	0.558	0.570	0.651	0.648	0.815	0.818	0.475	0.490	0.500	0.490
N	65	65	65	65	65	65	65	65	65	65
<i>COMP<sub>defacto</sub></i>	1.880* (0.825)	1.999*** (0.567)	1.845* (0.919)	1.823** (0.660)	3.069** (1.098)	3.292** (1.206)	1.485* (0.675)	1.747* (0.751)	1.813* (0.718)	1.994** (0.702)
R <sup>2</sup>	0.400	0.357	0.635	0.636	0.473	0.406	0.515	0.410	0.517	0.444
SER	0.565	0.585	0.629	0.628	0.751	0.798	0.462	0.510	0.492	0.528
N	59	59	59	59	59	59	59	59	59	59

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$  (standard errors in parentheses)

Control Variables: Government Consumption, Openness, Inflation, Patents, OECD, EU.

Instrumental Variables: British Colony, Age of Democratic Regime, Ethnic-Linguistic Fractionalization.

Instead, from Table 4, which presents the 2SLS and GMM regression estimates only for the subsample of developing countries, we can observe results that confirm as well what is stated in Table 2, that is the fact that in emerging countries the factual independence of competition authorities seems to matter most.

Furthermore, the impact of the formal independence of competition authorities appears strengthened in comparison to that one obtained through the OLS estimation, whilst the presence of economists still maintains a positive effect in some cases.

# Estimation Results (Table 4)

## 2SLS & GMM Estimation of Performance Indicators on Competition Policy Indicators with Control and Instrumental Variables (Developing Countries)

Variables	<i>PERF</i>	<i>PERF</i>	<i>PERF</i>	<i>PERF</i>	<i>PERF</i>	<i>PERF</i>	<i>PERF</i>	<i>PERF</i>	<i>PERF</i>	<i>PERF</i>
	<i>local</i>	<i>local</i>	<i>dominance</i>	<i>dominance</i>	<i>antitrust</i>	<i>antitrust</i>	<i>competition</i>	<i>competition</i>	<i>efficiency</i>	<i>efficiency</i>
Technique	2SLS	GMM	2SLS	GMM	2SLS	GMM	2SLS	GMM	2SLS	GMM
<i>COMP<sub>law</sub></i>	0.740 (1.028)	0.729 (0.995)	0.560 (1.211)	-0.114 (1.195)	-0.396 (1.297)	-0.482 (0.890)	-0.770 (0.799)	-0.861 (0.551)	0.025 (0.818)	-0.169 (0.645)
R <sup>2</sup>	0.284	0.283	0.352	0.363	0.254	0.209	0.4535	0.437	0.468	0.456
SER	0.529	0.529	0.623	0.618	0.667	0.687	0.41112	0.417	0.421	0.426
N	42	42	42	42	42	42	42	42	42	42
<i>COMP<sub>economics</sub></i>	1.972 (1.964)	2.004 (1.034)	2.624 (2.184)	2.463* (1.167)	2.383 (1.806)	2.407* (1.130)	-0.088 (1.099)	-0.138 (0.676)	0.872 (1.117)	0.883 (0.668)
R <sup>2</sup>	0.125	0.182	0.125	0.182	0.324	0.309	0.571	0.550	0.595	0.591
SER	0.749	0.724	0.749	0.724	0.619	0.626	0.377	0.386	0.383	0.385
N	36	36	36	36	36	36	36	36	36	36
<i>COMP<sub>dejure</sub></i>	1.438 (0.899)	1.746*** (0.466)	2.149* (1.051)	2.127** (0.675)	3.192** (1.084)	3.097*** (0.892)	1.438 (0.899)	1.746*** (0.466)	2.149* (1.051)	2.127** (0.675)
R <sup>2</sup>	0.325	0.257	0.392	0.394	0.330	0.557	0.325	0.257	0.392	0.394
SER	0.530	0.557	0.620	0.619	0.640	0.380	0.530	0.557	0.620	0.619
N	38	38	38	38	38	38	38	38	38	38
<i>COMP<sub>de facto</sub></i>	1.282* (0.618)	1.279*** (0.274)	1.458* (0.715)	1.499*** (0.437)	2.087** (0.665)	1.880* (0.877)	0.826 (0.455)	0.620 (0.491)	1.040* (0.457)	0.944* (0.409)
R <sup>2</sup>	0.329	0.330	0.440	0.431	0.503	0.535	0.581	0.591	0.591	0.604
SER	0.536	0.536	0.620	0.625	0.576	0.558	0.394	0.387	0.396	0.390
N	34	34	34	34	34	34	34	34	34	34

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$  (standard errors in parentheses)

Control Variables: Government Consumption, Openness, Inflation, Patents, OECD, EU.

Instrumental Variables: British Colony, Age of Democratic Regime, Ethnic-Linguistic Fractionalization.



# Policy Conclusions (1/4)

In the present paper, the aim has been to investigate the effectiveness of competition policy in developed and developing countries from an empirical standpoint.

It has shown that four competition indicators, originally built to explain differences in productivity, once controlled with the proper economic and institutional variables, seem to have an effect on five market indicators.

Although not particularly strong, the presence of a competition authority increases the degree of competition of a country.

## Policy Conclusions (2/4)

In particular, two main results are worth recapping.

Firstly, as a general trend, apart from the mere adoption of a competition legislation by the national parliaments, all the institutional indicators exercise a positive impact on the markets, therefore competition authorities seem to be effective in enhancing the level of competitiveness of the respective countries.

Secondly, as for the poorest countries, what seems to be the the most important factor for its effectiveness is the factual independence of the authorities predisposed.

The essential reason for this should be that the quality of the institutions of developing countries is certainly lower than the one of the industrialized nations, being affected more frequently for example by cases of corruption or government interference.

## Policy Conclusions (3/4)

However, emerging countries, historically characterized by the nationalization of basic industries, are still adopting or constructing primordial competition policy frameworks, whose results could be seen only in delay, so in the near future.

Actually, to be more precise, 81 of the 111 of the existing competition authorities worldwide have been created only in the last twenty years.

Moreover, private enforcement, although still in an embryonic phase even in the developed countries, could undoubtedly make the market surveillance, thus the market efficiency, stronger.

In any case, one conclusion seems certain, that is competition policy is not harmful to development.

## Policy Conclusions (4/4)

As a result, the current work shows that in developed countries competition policy has actually beneficial effects on the intensity of competition, result so far unclear and often claimed only on the paper or taken for granted, while in developing countries it shows that is not the mere existence or the degree of competence, but the institutional quality of the competition authorities matters most for the effectiveness of a competition policy regime.

In both cases, therefore, the creation of a competition authority is definitely worth, even though its functions and powers should be strengthened in order to register a more significant impact on the markets in comparison to the current results.

Future research, exploiting more precise data that we hope will be available soon, could certainly offer further support to the conclusions reached in the present study.



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*"This was one of the best things about Lennon and McCartney, the competitive element within the team. It was great. But hard to live with".*

Paul McCartney

Thank You Very Much for Your Kind Attention

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