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## DISCUSSION PAPER

### THE ROLE OF COMPETITION POLICY IN ECONOMIC GROWTH AND DEVELOPMENT\*

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#### Introduction

The main purpose of this work is to preliminarily assess the interactions between antitrust enforcement institutional development and the process of economic growth. In a general sense we wish to discuss the extension to which the effectiveness of competition policy affects economic performance in less developed countries, i.e, what features of competition policy could enhance or otherwise harm economic growth after the market-oriented structural reforms that took place in many of these nations.

The exact meaning of the term competition policy is subject to much controversy. Whether it should embody strictly antitrust policies or if it also should include other related policies such as industrial policy is not yet established. Since we want to discuss the role of antitrust enforcement in the development of a market economy, the use of a strict notion of competition policy concerning only antitrust measures could yield more accurate results.

However, that does not mean other factors should be completely disregarded. Some of them are very important to explain the interactions between competition policy, understood in its broad sense, and economic growth. For example the elimination of governmental restrictions and the excess of public regulations that burden the private sector could significantly enhance economic growth and to separate such effect from the others is convenient to understand the actual effect of antitrust policies solely.

Another distinction that must be clear at this point is the one between the concepts of economic growth and development. Economic growth is usually understood in its traditional theoretical sense, as the rate of growth of GDP (or *per capita* GDP), which is simply a measure of changes of nations' wealth. On the other hand, economic development stands for a broader notion of economic performance that takes account of several qualitative matters such as product diversification, political stability, distribution of income and wealth, among others.

The relationship between antitrust policies and economic growth sets out two preliminary issues that must be addressed. The first one is the question of what would be the best indicator of antitrust institutional development. In other words, how should we measure the effectiveness of competition policy? This is an important issue that certainly has worried several antitrust enforcement agencies.

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\* This discussion paper represents preliminary work, circulated to encourage discussion. Citation and use of such a paper should take account of its provisional character. Comments are welcome.

This paper does not represent the Brazilian government position in any of the subjects here mentioned.

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Second, there are theoretical and empirical issues regarding the interactions between growth and antitrust policy, such as the causality between these two variables, the selection of relevant variables through which policies could change the path of economic growth, among others.

The second section of this paper addresses the theoretical issues mentioned above. It provides a brief non-technical survey of the recent developments in the literature of economic growth. The third section is dedicated to empirical issues and the measurement of competition policy effectiveness in developing countries. Finally, the fourth section concludes the work and suggests issues for future discussions.

## **Theoretical Framework**

In a general sense the relationship between competition policy and economic growth involves a discussion of the efficiency of the antitrust policy itself. As mentioned above our objective is not to provide an exhaustive theoretical discussion of the competition-economic growth interaction under the perfect competition hypothesis, which is a matter well established in the economic literature, i.e., the absence of competition or the existence of market failures and imperfect competition generates price distortions that result in welfare losses.

Several authors have studied the channels through which antitrust measures impact economic growth. Rey (1997) identifies two classes of models dealing with this relationship. The first one stresses the role of competition (again in a broad sense) in R&D and in the production process of innovations. The second one focuses on the impact of competition on the firm's behavior and productivity.

The first approach is derived from Schumpeterian models according to which a profit-maximizing monopolist could enhance the innovation creation for two main reasons: i) a monopolistic firm can fund the innovation effort more easily than competitive ones due to credit market imperfections and ii) a monopolistic firm has larger incentives to produce innovation because the present value of its future net profits is usually higher than in competitive markets.

Whereas formal theoretical treatment of the former argument pointed out above is not yet established in the literature, the latter one has received several important contributions since Schumpeter, and has been embodied in the modern endogenous growth theory, notably the literature on R&D races. According to these models competition could jeopardize economic growth and development since the monopoly rents drive the innovation production by the firms. There is also another feature that should not be ignored: the potential risk of imitation that could reduce innovative efforts. This point has been stressed by several economists among which Grossman and Helpman (1991).

However, other studies have sought to demonstrate that the R&D race models result is sensitive to the kind of innovation considered. If the new product or process makes the old one completely useless ("leap-frogging" innovation), innovation could follow another optimal path, because the incumbent has no incentives to adopt the new technology and the entrants might not be strong enough to overlap the entry barriers imposed by the incumbent.

Alternatively if a gradual innovative process is considered, competition could accelerate the innovation process thus enhancing economic growth and development. This occurs because firms that finish an innovational race with technologically equivalent products or processes could easily fall into a price war that might decrease their profitability, leading them to raise the amount of investment in R&D in order to get out this situation.

The other class of models concerns the role of competition in the firm's behavior. Such models do not treat firms only as if they were just a profit-maximizing plant. Instead, this approach takes into

account the relationship between the profit-maximizing interests of the firm owner and the private concerns of their managers. In this sense, competition plays a disciplinary role that approximates the two interests inducing firms to behave in a better way.

Rey provides a brief discussion of each effect through which intensive competition improves the firm behavior. The majority of these arguments are related to some sort of managerial behavior and a detailed explanation of each one is outside the scope of this work.

Nevertheless some studies pointed out by the author stress that competition may increase managerial efforts, make comparisons between firms and managers possible, and that “entrepreneurial firms” could exert a positive pressure on “managerial firms” enhancing the behavior of their managers. Another important argument is related to the financial pressures brought by competition: the threat of bankruptcy could also induce better management.

## **Empirical Evidence**

In order to preserve the analytical structure developed in the theoretical survey, we could divide the empirical issues into two different questions associated with the broad class of models mentioned above.

The first matter concerns the empirical work on interactions between the innovation-growth process and competition. The second one is directly related to the behavioral approach as it concerns the competition-productivity relationship. At this point it must be clear that although the latter issue does not strictly emphasize the growth-competition interaction it does provide insights on the discussion since productivity enhancements increase GDP.

On the first matter there are several studies that lead to disputing results mainly due to different statistical methodologies and the use of distinct sets of data. The main difficulty concerning the empirical evaluation of this relationship regards the isolation, from other effects, of the impact of competition on the production of innovation. Among these factors there are externalities brought by the innovation process, notably the decrease of production costs.

Other source of empirical difficulty lies on the characteristics of concentrated industries. Scale economies for example could produce an ambiguous net effect from the balance between static welfare losses resulted from concentration and the dynamic positive effects obtained by the innovation. In other words, it is necessary to correctly assess the magnitude of these effects in order to understand the relationship between competition and innovation and consequently economic growth.

Another feature of concentrated industries is the negative feedback from the interactions between innovation and competition. That is, there is a positive effect of competition on innovations and a simultaneous negative feedback since innovations (mainly the schumpeterian ones) tend to generate more market power due to patent laws among other reasons. This usually generates statistical difficulties to separate the total net effect into the two opposite ones.

Regarding empirical problems concerning the behavioral approach and the impact of competition on productivity there is some evidence<sup>3</sup> showing that more intensive competition leads to more efficient technical choices.

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3 See Caves and Barton (1990) and Green and Mayes (1991) for cross-section studies, Haskel (1990) and Nickel et al (1992) for panel data approaches.

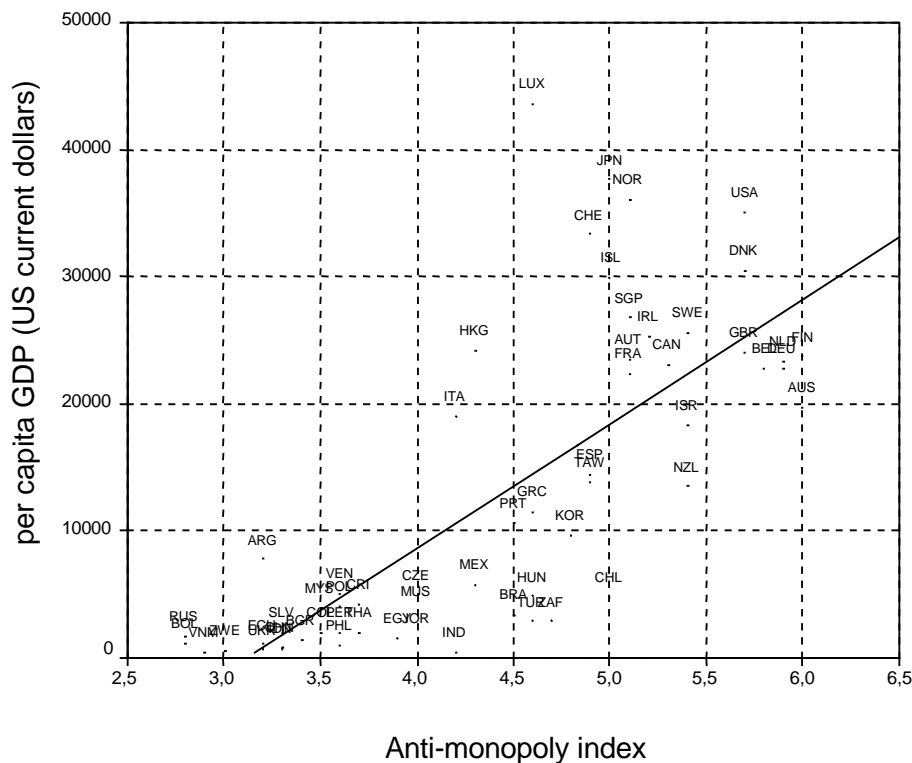
Empirical works have sought to demonstrate whether or not competition measured in different ways affects productivity and innovation. However, they only corroborate the general conclusions posted by the theoretical models. The specifics, namely, the channels through which competition influences the variables that translate into economic growth, have not yet been empirically established in a satisfactory way.

Besides that discussion we are still left with the task of identifying the relevant variables to be taken into account in order to represent adequately the degree of institutional development. The great challenge is to construct and compile a set of variables that might capture the effectiveness of competition policies.

Dutz and Hayri (1999) have taken a first step in that direction. They construct and compile some relevant variables two of which specifically seek to measure antitrust policy effectiveness. They are based on direct responses from business executives of large foreign and domestic companies to the questions: i) “Does antitrust and anti-monopoly policy in your country effectively promote competition?”; ii) “Do antitrust laws prevent unfair competition in your country?” The Institute for Management Development (IMD) conceived both variables. The answer to the first question takes the form of a grade from 1 to 7. High grades indicate strong agreement and low grades disagreement. Similar methodology is adopted in the second question with the exception that grades range from 1 to 10.

The first scatter plot below (Figure 1) shows the combination of *per capita* GDP and the index calculated as the average of the provided answers to the first question. Figure 2 shows an analog combination using the answers to the second question.

**Figure 1 – Per capita GDP and Anti-monopoly index (2000)**  
*Does antitrust and anti-monopoly policy in your country effectively promote competition?*

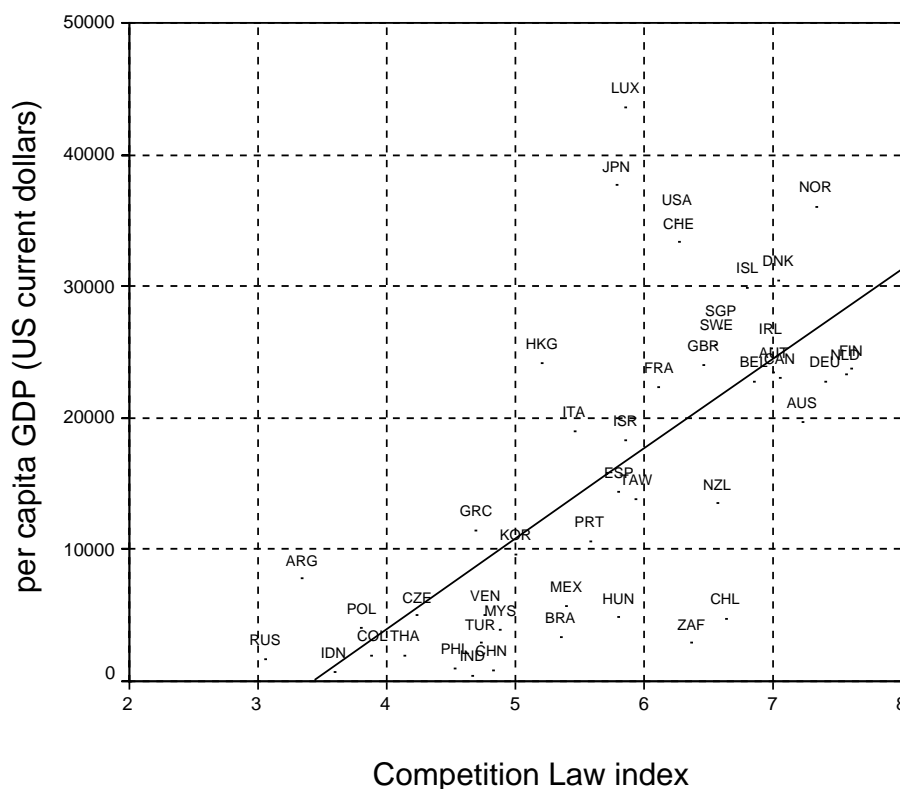


Source: Global Competition Report - 2001 "World Economic Forum. 2001

Both scatter plots show that the intensity of this relation differs according to the income range. For low-income countries (up to ten thousand dollars) both diagrams show a less strong interaction between the perceived antitrust policy effectiveness and *per capita* income level suggesting difficulties in the earlier stages of development.

Informational asymmetries in the credit and product markets, moral hazard concerns and regulatory deficiencies prevail in less developed nations. That is especially true for Latin American economies such as Brazil, Chile and Mexico. These countries have relatively good antitrust indicators but still have not entirely overcome the challenges of development. Although they have gone through important structural reforms much still have to be done. In other words there are several important variables that also lead to better economic performance and could be addressed by public policy such as the level of educational attainment, income distribution, budgetary transparency and other institutional improvements that should take place simultaneously to the development of antitrust enforcement.

**Figure 2 – Per Capita GDP and Competition Law Index**  
*Do antitrust laws prevent unfair competition in your country?*



Source: "The World Competitiveness Yearbook" Institute for Management Development. 2001

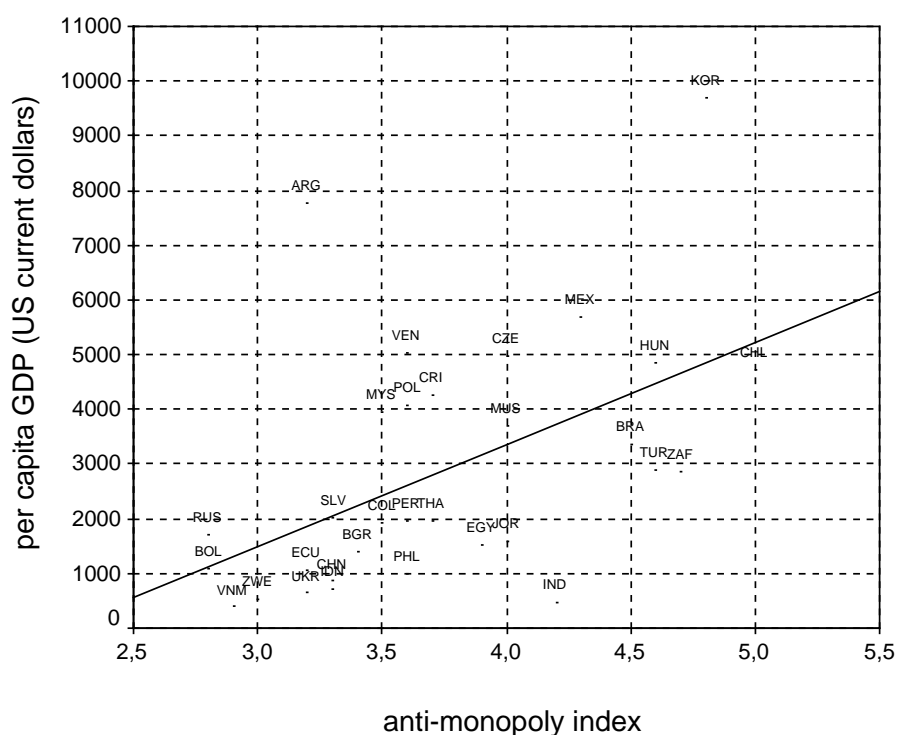
From the provided diagrams it is also possible to identify two other groups of countries: i) the middle-income economies that could be divided into two subgroups, the first one consisting mostly of European nations whose incomes lie between ten and twenty thousand dollars (Portugal, Spain and Greece, for example), and the second consisting mostly of richer European economies (United Kingdom, France, Sweden among others); finally ii) the high-income countries group (Japan, USA, Switzerland among others).

Both groups have similar antitrust performance but the middle-income countries present a clearer positive relationship between perceived antitrust enforcement and *per capita* income than the richest one. That could have happened among other factors due to reforms implemented in the first middle-income identified subgroup in order to join the European Union.

From the description provided in this section we cannot categorically establish a clear and undisputed causal *nexus* from antitrust policy perceived effectiveness to economic growth and development. In other words, it is not clear if antitrust policies lead to high national income or the other way around.

Probably at the earlier stages of development the other institutional concerns referred to above weaken this interaction but it still continues to be positive as can be inferred from Figure 3 (which provides the same kind of diagram for low-income countries only).

**Figure 3 – Per capita GDP and Anti-monopoly index (2000) Low-income countries**



The provided scatter plots show that the middle-income nations have the strongest positive relationship among the considered income groups, since these economies have implemented the necessary structural reforms that guarantee the effectiveness of antitrust enforcement.

## Conclusion

The theoretical models briefly described in this paper deliver several results some of which contradict each other. Investment in R&D for example could be enhanced or jeopardised by competition depending on the theoretical model considered or the kind of innovation taken into account (leap-frogging or gradualist). However, if a gradualist innovation is considered what is a reasonable description of recent technological developments, the R&D race models show that competition leads to an investment increase.

Despite the controversial theoretical and empirical results, the recent experiences of transitional economies, such as the Eastern European countries suggest a positive relationship between competition and economic growth, highlighting the role of antitrust enforcement as a disciplinary device. In this sense the behavioural approach, that deals with the effect of increased competition on the behaviour of firms provide useful insights to the present discussion.

The institutional framework present in these economies is systematically weak, as many market imperfections prevail. These features certainly make the behavioral assumption more insightful than the traditional profit-maximizing firm approach. In this environment competition tends to have a greater impact on the economy than on the industrialized economies, since it provides clear incentive rules, avoids resource unproductive use, reduces costs and increases profits.

The less strong relation between antitrust policies perceived effectiveness and the level of *per capita* GDP might be the result of deficient institutional frameworks in general and not because antitrust policy does not play an important role in developing countries' economic performance.

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