264

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EXECUTIVE SUMMARY

TRADE AND COMPETITION: MARK-UPS, CONCENTRATION, AND INTERNATIONAL ORIENTATION – DISCUSSION AND EMPIRICAL TESTS FOR BRAZILIAN MANUFACTURING SECTORS

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The paper discusses the use of indicators, developed with data from Brazilian industrial surveys (PIA/IBGE) and foreign trade (Comtrade/UN), and their application in the discussion or public policies, especially in competition and foreign trade.

The work begins with a review of the literature concerning the recent processes of industrial concentration verified in developed economies such as the United States and the European Union. This process is concomitant with the advance of globalization, either by competition with imported goods or by the increase of foreign direct investment. Therefore, despite mounting international competition in domestic markets, there is a trend toward oligopolization in national economies, including industries with product and technological differentiation. The effect of this phenomenon on profit margins (or *mark-ups* – price in excess of costs) and whether, in fact, this harms competition has been a matter of much debate in the antitrust literature. The theory of international trade informs that external competition brings net benefits to society, along the lines of the Hecksher-Ohlin model, that is, the abundant production factors in a country would tend to benefit from the opening processes. Yet the trend of sectoral concentration of national economies in recent years seems to indicate a more complex relationship, and the modern theory of international trade also informs that imperfect competition is prevalent in many sectors, especially those with greater technological content. Hence, higher mark-ups, despite globalization, can have an effect of transferring income from consumers to producers, in the sense of higher prices, fewer products and less innovation. While innovation seems to be a feature of new digital markets, there is concern about the increasing limitation of competition in world markets.

The paper brings these theoretical debates and discussions to the Brazilian context, focusing on the manufacturing industry. Some basic indicators used in the literature are proposed and empirical exercises are carried out. However, contrary to what is prevalent in many developed economies, especially in tradable goods, the Brazilian economy is characterized by low international participation both in terms of import penetration and export orientation. This characteristic aggravates the increasing sectoral concentration, ubiquitous in many economies, which is also observed with the Brazilian data. Thus, this paper proposes that the contemporary debate of the international economy must be applied to the Brazilian economic structure to grasp the interconnection between domestic and international competition forces.

The basic premise is that the structure of domestic competition, manifested in concentration indices, such as CR4 and HHI, has a positive correlation with the dependent variable – the profit margin, *or mark-up*. Other indicators would have the ability to curb profits, among which are the variables related to international competition, such as the import penetration and the export coefficient. Hence, the paper verifies indeed a mild negative impact of international competition on the domestic profit margins of the Brazilian manufacturing sectors. Additionally, the level of investment – a proxy for the entry capacity of new companies, which also indicates dynamism – and the content of the labor factor are variables that negatively affect the profits in a sector.

The empirical results show the statistical significance of the mentioned variables, in different estimation methods (OLS, Fixed Effects panel and Random Effects, GMM). In fact, emulating the international experience, the concentration in Brazil has not only increased, but also presented the expected positive and statistically significant effect on profit. Empirical regularities are observed, despite methodological limitations, which suggest the application of instrumental variables. The treatment of concentration as an endogenous variable is necessary, so that instrumental variables of production factors (natural resources, physical capital, and human capital) are used to provider further statistical validity to the empirical exercises.

Recent literature relates profits, sectoral concentration and globalization processes (investment, foreign trade) in the international economy, toward the empirical validation that foreign competition disciplines high domestic profits. The Brazilian case and data seem to indicate that more open sectors would also portray lower profits. The results, although with some non-significant coefficients in broader specifications, point to some empirical regularities that deserves discussion. In this sense, the entry of new firms and the labor content also stand out as variables that limit profits, as highlighted. Import penetration and export coefficient, however, do not present statistical significance in the baseline model. Therefore, a more parsimonious model is tested, comprising only the structural variables (CR4 and HHI) and the coefficients of international orientation. In these more restricted models, the variables of international competition are robust, with the expected signs, so that, when the domestic demand is relatively more supplied by imports, the domestic profit margin is lower. Conversely, industries directed toward foreign markets have lower profit rates compared to those that focus on the domestic market only.

These effects may have several explanations, but, broadly, the paper argues that industries with greater entry capacity to attract new firms, or more dynamic because of investments, as well as those constrained by external competition, exhibit a greater degree of discipline and smaller profit margins. The paper supports the idea, therefore, that the interaction between sectoral concentration and external competition can limit market power, and the negative effects associated with it, a much necessary debate for the Brazilian economy.

In retrospect, the fundamental objective of this research is to indicate possible methodologies and discussions for the evaluation of foreign trade and competition policies, in order to contribute to the productive efficiency of the Brazilian economy. The Brazilian industry has always been characterized by protection from external competition, as well as there is a degree of concentration, in line with the developed economies recent experience. Thus, this exercise aims to put these results into perspective, in order to guide policy decisions.