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# The Global Rise and Persistence in Surplus Profits: Further Evidence of Increasing Market Power?

## Abstract

This paper makes an empirical contribution to recent debates about the causes and consequences of rising market concentration, in which two polar views have surfaced: the “winner-takes-all” approach and the “market power” approach. The former sees rising market concentration as an inherent part of the innovative and productive drive of market economies, with no substantive change in market power whatsoever, whereas the latter views rising market concentration and market power as two simultaneous phenomena feeding off each other, and adversely affecting innovation and overall economic performance. To contribute to differentiate empirically between these two approaches, this paper proposes a new methodology to measure the magnitude of surplus profits, as in both Classical and Marxian traditions, and the persistence of these over time. It then presents global estimations based on firm-level accounting data for 56 developed and developing countries. The paper finds that the share of surplus profits in total profits has increased from an average of 7% in 1995-2000 to 25 % in 2009-2015, and from 24% to 42 % for the 1% most profitable companies. It also reports increasing market concentration and strong profit persistence among top corporations over time.

**Key words:** Market power, profit persistence, market concentration, competition, corporate finance



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# 1. Introduction and literature survey

A large number of studies have bared that market concentration have been on the rise over the last decades, notably in the US, but also globally<sup>1</sup>. The question was then raised as to whether this trend escalated from enhanced market power among dominant firms. Market power is a complex concept, which includes a large set of uncompetitive behaviors and strategies at the disposal of firms to increase their profits in a sustainable manner, or in other words, to earn “excess” or “surplus” profits, which will turn, should they persist over time, into economic rents.

Market power is often, at least in a first instance, perceived through the lens of “pricing/monopoly power”, which refers to the ability of a company to manipulate the price of an item in the marketplace. This first approach of market power is not as simple as it sounds: it may refer to a myriad of strategies depending on which economic price theories are used as a reference framework. Nevertheless, market power can also grow on “monopsony power”, in which firms make surplus profits not so through manipulating the consumer price of their products but rather by squeezing the price of their inputs, including raw materials, services as well as wages. Last, market power can emanate from the exploitation of loopholes in the financial sector, tax and subsidy systems and the like.

The objective of this paper is not to discuss the roots or the boundaries of market power but to measure the magnitude thereof through surplus profits<sup>2</sup>. There has not been so far any attempt, in our knowledge, to gauge and discuss the evolution of surplus profits since the late 1990s, which mark the beginning of the rise in both concentration indices and markups. The paper also aims at bringing evidence supporting the view that the documented rise in market concentration feeds into a general rise in market power.

It first presents an original methodology to assess the magnitude of surplus profits, which takes into account the particularities of data from firms’ balance sheets. Secondly, using a database of microdata on publicly listed firms covering 56 developed and developing countries from 1995 to 2015, it provides an estimation of recent trends, at the global level and across all sectors.

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<sup>1</sup> See references in section 1.1

<sup>2</sup> Surplus/abnormal profits are quite a consensual and universal concept in economic theory. The notion is found and defined similarly at both ends of the economic thought spectrum, although the respective paths of reflection leading to the existence and emergence of surplus profits is somewhat different. In classical economics, surplus profits are defined in contrast to “natural” or “normal” profits, which are profits under natural prices. Surplus profits emerge when market prices rise above natural prices. Smith (1776) wrote: “The monopolists, by keeping the market constantly understocked [...] sell their commodities much above the natural price, and raise their emoluments, whether they consist in wages or profits, greatly above their natural rate”. In the absence of monopoly, surplus profits are temporary, as market prices always tend toward natural prices in a process that Smith described as somewhat similar to gravitational attraction.

K. Marx (1894) highlights, in *Capital, Volume III*, the process of equalization of the general rate of profit through competition (chapter 10). However, he brings out several situations where a firm can secure above-average profits, which he calls surplus profits or extra-surplus value (“*extra-Mehrwert*”). First, surplus profits can arise from technological gaps: technology advanced firms, produce cheaper than their competitors, but sell at market price, thereby making profits above the average. Foreign trade can also yield a higher rate of profits, as firms can sell their products at a higher value in countries with inferior production facilities. Last, K. Marx mentions the case in which a firm has a monopoly on key inputs such as natural resources, technologies, or labour — what actually refers to a situation of monopsony. Just as in the classical perspective, surplus profits should normally have a temporary, sporadic character, because, for instance, as the productive forces develop, technological innovations and inventions expand to many enterprises. Surplus profits decline at one firm and emerge at another, where new, more advanced machines are put into operation.

## 1.1 Market concentration indices – recent findings/developments

Market concentration and market power are two closely interlinked concepts, so much so that market concentration indices have been traditionally used as proxy measures for market power. Market concentration indices track the evolution of corporations' market shares over time. They include for instance concentration ratios or Herfindahl-Hirschman indices, commonly released by various statistical agencies, and with which most economists and social scientists are familiar.

The recent rise in market concentration indices was first documented in the US economy, with a paper by Furman and Orszag (2015). The paper analyzed the sales shares of the 50 largest companies in the Census Bureau data and found that about three quarters of the economic sectors saw an increase in concentration between 1997 and 2007.

These preliminary findings were then confirmed by other quantitative studies on the US economy using various sources of data, such as those by Guterriez and Philippon (2017), Autor et al. (2017b), and Grullon et al. (2018). Grullon et al. (2018) calculate Herfindahl-Hirschman indices (HHI) for all US industries between 1972 and 2014 based on the Compustat database. From the late 1990s, the HHI rises steadily until the end of the sample period. Since 1997 the series has surged almost 70%. Another important finding of the study is that the increase in concentration is widespread across industries.

In the Trade and Development Report 2017, UNCTAD (2017) carried out a broader analysis of market concentration at the global level, including non-financial companies in 56 developed and developing countries. The report breaks down the analysis of market concentration by looking at different aspects of company performance, such as revenues, physical assets, other assets and employment. It highlights a sharp increase of concentration through revenues, physical assets and other assets between the late 1990's and the mid-2010's, which suggests that the rise in market concentration is not restricted to the US but affects the world economy.

Another interesting finding is that while market concentration also rose in terms of employment, this increase was much less pronounced, flattening considerably following the dotcom bubble of the early 2000s. This widening gap between indicators of market concentration in terms of revenues and assets, on the one hand, and employment on the other, highlights the wider distributional impacts of market concentration.

Concentration indices are not a flawless measure though. They do include some limitations. They may be biased in the presence of non-competing products within the same classification group. Another important limitation is that they require data on the universe of all competitive firms, which can be challenging especially from a longitudinal perspective.

However, the consistency of the results across studies as well as the magnitude of the revealed increases since the late 1990's are such that there is little doubt that markets have tended to get more concentrated ever since, with the emergence of super champions reaping higher profits. Against this background, the question arises as to why it took so long to acknowledge rising market concentration and to address its potential disruptive effects on competition, even though indicators have been sounding alarms since the late 1990s.

There are first some factors that had a minor influence, such as specific data challenges in the recent era of hyperglobalisation<sup>3</sup>, which severely undermine the scope of conventional concentration indices. The interpretation of those indices is straightforward in closed economies but becomes more difficult in open ones.

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<sup>3</sup> Hyperglobalisation is characterized by an extensive deregulation of markets – particularly financial and currency ones – in developed and developing countries alike, the attrition of the public realm, and the extension of profit-making opportunities to ever-widening spheres of not only economic, but also social, cultural and political life. The associated withdrawal of public oversight and management of the economy included the curtailment, and sometimes even the elimination, of policy measures previously used by States to manage their integration into the global economy. This was based on the belief that the unregulated forces of supply and demand were best suited to this task.

The spread of Global Value Chains (GVCs) and the emergence of more sophisticated ownership structures over the last decades has challenged their reliability, by clearly denting the ability to determine firms' real market shares. This is worsened by the blatant lack of appropriate micro-data at the global level. National databases are in general limited in term of geographic coverage whereas currently available international databases exclude smaller firms and/or do not clearly reflect ownerships structures between corporations and their affiliates, subsidiaries or parent companies.

Second, the signals sent by market concentration indices were not taken seriously, in part because of an over-reliance on the theory of "contestable markets" (Baumol, 1982). According to this approach, rising market concentration is not critical as long as incumbent firms with the highest shares are still threatened by potential entrants. It is true that statistics on market concentration per se do not give a full picture of market power: they do not say whether firms are pricing over marginal costs or whether they make excess profits. Yet, there has not been any empirical evidence on the contestable nature of global markets either. It has simply been assumed that the world economy is intrinsically able to ensure that.

A third possible reason is that powerful multinationals have embraced new faces, rendering them less "visible" to conventional antitrust screening and the general public alike, as in they emerged in an environment of fast innovation, where customers perceive an improvement of services as opposed to classic cases of monopolies characterized by poor quality of services and deterioration of customer services. They do not tend to exert their market power by raising consumer prices, which is the red flag for antitrust authorities, but rather by squeezing suppliers' earnings and suppressing employees' wages. In other words, recent times have been ones of monopsony rather than monopoly power.

While rising market concentration is now on its way to be fully acknowledged, opinions still diverge as to whether it has an adverse effect on the economy. There are two mutually exclusive stances.

The first sees in the rise in market concentration a "winner-take-all" story (Traina, 2018; Van Renneen, 2018) with no change in market power whatsoever. In this narrative, markets become more concentrated because of technologies that enable the most productive firms to capture market share from the least productive ones. But unlike dominant firms with heightened market power, "winners" are seen to undergo continual pressure to innovate, invest and keep prices down fearing they be overtaken by a more efficient entrant. The effects of winner-takes-all strategies seem thereby benign, or even positive, resulting in increased competition eventually benefiting the economy through innovation, productivity and efficiency. In other words, signals of rising market concentration are, in this framework, mostly perceived through a Schumpeterian perspective with temporary innovation rents and a virtuous productivity cycle positively affecting the macroeconomy.

Conversely, the second perspective deems the trends in market concentration as resulting from rising market power, reflecting a decline in the competitive nature of markets and the flourishing of rent-seeking behaviours. The monopolistic structure of markets, which may be initially triggered by irreversible gaps in access to technology, thrives as it fuels the market power of dominant firms, which in turn reinforce their position of monopolies by tapping into a series of benefits and privileges not available to regular incumbent firms. By further polarizing income distribution, the rise in market power is held responsible for exacerbating inequality and having adverse effects on growth and the overall well-being.

## 1.2 Measuring market power: firm-level strategies and alternative approaches

A first approach to market power refers to the ability of firms to charge prices that exceed their marginal cost of production. Under this definition, a firm's market power can be measured through its markup, defined as the ratio of price to marginal cost.

De Loecker and Eeckhout (2017) find that markups of publicly listed firms in the US have largely increased over the last thirty years, reaching an average of 67 % above marginal cost in 2014. They also highlight that

the surge is not induced by any particular industry, such as the IT sector, but rather occurs across industries, and that it mostly results from an increase in the mark-ups of top firms rather than a general increase in the mark-up of all firms. These two results echo the recent patterns in market concentration and are consistent with similar findings by Diez et al. (2018) who estimate mark-ups for 27 countries over the period 2000-2015 along the same methodology.

The recent literature on market power has largely focused on markups<sup>4</sup>, but there is a second possible approach to market power, which focuses on the ability of firms to obtain “surplus” profits in a sustainable manner.

While the concepts of natural rate of return and abnormal/surplus profits have been around from the very beginning of modern economic science<sup>5</sup>, econometric interest in the incidence and persistence of abnormal profits re-emerged in the contemporary era, mostly from research in industrial organization (Bain, 1956, 1968) and, later, in strategic management (Porter, 1980; Barney, 1991). While Mueller (1986, 1990) pioneered the study of persistence in abnormal profits, the literature has since grown considerably following on from his contributions. Abnormal profits, also known as surplus profits or super-profits refer to profits in excess of a competitive norm. We will mostly employ the term “surplus profits”, as “abnormal profits” are conventionally used to point to a gap in terms of return rates in Mueller (1986, 1990) and related literature. In addition, while firms and stakeholders are primarily interested in the drivers of persisting abnormal profits as a basis for entrepreneurial success, the degree of persistence in abnormal firm profits can be used by competition authorities, as an index for assessing the need of anti-trust measures in specific sectors.

The paper is divided into four sections. The first section presents the database resulting from the compilation of consolidated financial statements issued by non-financial corporations. Then, we develop the methodology underpinning the calculation of surplus profits and profit persistence in the specific context of accounting data. The third section puts forward the empirical results. The paper ends with a discussion about the implications of the results as to market power.

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<sup>4</sup> See also Gutiérrez and Philippon (2017), Baqaee & Farh (2017), Traina (2018) and Weche & Wambach (2018)

<sup>5</sup> See footnote 3.

## 2. Data

Data is compiled from consolidated financial statements of publicly listed companies, extracted from Thomson Reuters Worldscope Database. These variables take into consideration a variety of accounting conventions and are designed to facilitate comparisons between companies and industries within and across national boundaries.

Specifically, the database provides annual time-series data from income statements, balance sheets and cash-flow statements over the period 1995-2015. It includes non-financial companies listed in 56 developed, transition, or developing countries<sup>6</sup>. The total size of the database ranges from 5,600 in 1995 to 30,100 in 2015, as a growing number of companies decides to go public, reflecting the global trend of increased use of stock markets for corporate financing. The data was originally extracted in nominal US dollars and then deflated to 2010 US dollars, using the US Consumer Price Index (CPI).

A key indicator used in this study is firms' returns on capital, calculated as the ratio of accounting profits to total assets. Figure 1 shows that the median value of the rate of return to assets (ROA) remains quite stable over the study period, ranging from around 8% to 12%. The median ROA is, however, affected by two macroeconomic shocks: the burst of the dot-com bubble in 2000 and the global financial crisis in 2008. While the median ROA recovers quite quickly from the former, the latter seems to have had a more lasting impact. In order to reflect these changes of the median ROA, the results for the evolution of surplus profits are presented for three sub-periods of the overall period of observation: 1995 to 2000, 2001 to 2008 and 2009 to 2015.

In accordance with Mueller (1986), a firm's return on capital is assessed against the average return on capital for all firms in the same sector. Sectors are defined according to the Thomson Reuters Business Classification (TRBC). The latter allows for the comparison of companies through multiple hierarchical levels of industry classification. The retained classification results from regrouping subcategories at the second level ("Business Sector") and comprises 15 sectors<sup>7</sup>. Retailers are classified into "Food and Tobacco" if they sell food-related products and into "Household Goods and Services" otherwise. This way, the resulting classification meets the three following criteria. First, the categories are coherent in categories in terms of nature of activities and implied competition, grouping firms that compete and operate in the same markets. Second, the size of the clusters is large enough to allow for descriptive and inferential statistics. Lastly, the calculation of surplus profits is robust to minor changes in the sectoral classification.

To measure capital held by the firms, we use data referring to total assets in the balance sheet, which are mostly composed of physical assets, including property, plant and equipment (machinery, software, etc.) and other assets, including intangible assets such as patents, copyrights and goodwill in addition to other financial assets. Financial statements do not allow for systematically distinguishing tangible from intangible assets or singling out redundant assets. Total assets therefore remain the most comprehensive variable in the balance sheet to measure the capital employed by firms, despite not necessarily reflecting variations in the nature of the capital.

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<sup>6</sup> Developed Countries: 30

Australia, Austria, Belgium, Bulgaria, Canada, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Latvia, Lithuania, Luxembourg, Netherlands, New Zealand, Norway, Poland, Portugal, Spain, Sweden, Switzerland, United Kingdom and United States

Developing and transition countries: 26

Argentina, Bahrain, Brazil, Chile, China, Colombia, Hong Kong (China), India, Indonesia, Jordan, Kuwait, Lebanon, Malaysia, Mexico, Oman, Philippines, Qatar, Russian Federation, Singapore, South Africa, South Korea, Taiwan (Province of China), Thailand, Turkey, UAE and Vietnam

<sup>7</sup> Including "Automobile", "Chemicals and other materials", "Construction", "Energy and commodities", "Food and Tobacco" (including beverages), "Hotels, Restaurant and Entertainment", "Household Goods and Services" (goods and services for final consumption, excluding food, beverages, tobacco and textiles), "Industrial Goods and Services" (goods and services for intermediate consumption), "Media and Publishing", "Pharmaceuticals and Healthcare", "Software and IT services", "Technology Equipment", "Textile" (excluding retailers), "Transportation" and "Utilities and Telecom"

Profits, in this paper, refer to firm's operating profits (profits before interest and taxes) as recorded in the cash-flow statement. We opt to use net income from the cash-flow statement rather than from the income statement. In the latter case, comparability across firms and across years may be hampered by the recording of non-cash expenses such as depreciation, amortization and share-based compensation while such costs are not included in the former. Moreover, the use of profits from the cash-flow statement is more consistent with measuring capital by total assets as both take into account changes to current assets and liabilities.

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