

# Competition *policy brief*

## Industry concentration and competition policy

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### Introduction

Competition policy generally focuses on the creation or exercise of market power. The cases that structure competition enforcement typically examine one company and the markets in which it is active, as well as the history and competitive dynamics of those markets. The increasingly important role of large companies in our economies has further elevated the interest in their longer term historical evolution and their impacts on markets. Recent studies that collected evidence from the US and Europe<sup>1</sup> have thus suggested the prevalence of increasing levels of concentration and profits/mark-ups in the recent decades,<sup>2</sup> and detected slowing business dynamism.<sup>3</sup>

To contribute to the accumulation of evidence, the European Commission's DG Competition collected data on industrial concentration (via Euromonitor International) in the five largest European countries,<sup>4</sup> as well as data on aggregate profitability.

The results show moderately increasing average industry concentration in the last two decades, though the pattern is widespread across all industries. The share of high concentration industries, which are more likely in the focus of competition investigations, have increased substantially. Finally, aggregate profitability estimates also show an increasing trend, similarly to the US figures.

The intense policy and academic debate on concentration and increasing markups/profits is seemingly antagonistic. On the one hand, some argue that the increasing concentration and large

<sup>1</sup> Bajgar et al. (2019), Cavalleri et al. (2019), De Loecker and Eeckhout (2018), Weche and Wambach (2018).

<sup>2</sup> De Loecker et al. (2020), Díez et al. (2019).

<sup>3</sup> Council of Economic Advisers (2016), Grullon et al. (2020).

<sup>4</sup> France, Germany, Italy, Spain, and the United Kingdom.

firms' disproportionately high levels of profitability might reflect positive technological developments and globalisation. Digitisation, automation, stronger international division of labour, and market integration might have favoured larger firms to spread fixed costs and reap the benefits of new technologies.<sup>5</sup>

On the other hand, some observers are of the view that decreased competition, less stringent competition enforcement (the debate of which is particularly prominent in the US), and consequently anti-competitive large-firm conduct pushed markets towards concentration and monopolisation.<sup>6,7</sup>

While the debate is far from settled, it is also important to point out that these alternative explanations are not necessarily contradicting each other as both types of developments can be at play at the same time.<sup>8</sup>

<sup>5</sup> Autor et al. (2020), Bessen (2020).

<sup>6</sup> Gutiérrez and Philippon (2020), Grullon et al. (2020), Philippon (2019), Shapiro (2018).

<sup>7</sup> Perhaps most characteristically, a recent IMF report provides evidence of rising market power and slowing business dynamism in advanced economies. It further gives policy recommendations, such as, strong merger enforcement, agency investigations, digital sector expertise, and labour market power assessment. See Akcigit et al. (2021).

### In a nutshell

Data on the five largest European countries' last two decades show increasing average industry concentration, and an increasing share of high concentration industries. Aggregate profitability estimates also show an increasing trend.

While imperfect market power proxies, the data overall are not inconsistent with increased market power.

An intensive debate formed opposing views on potential causes. On the one hand, technological efficiency might favour larger firms and concentrating industries. On the other hand, some argue that anti-competitive behaviour and more lax competition enforcement could also be among the factors in play (on this, the debate is especially strong in the US).

The evidence presented here does not answer such historical causal questions. However, the patterns do suggest that European competition enforcement has to stay vigilant, especially in the current post-crisis recovery when competition rules and strong enforcement have an essential role to play to support recovery and benefit the European economy.

The evidence presented in this Brief does not aim to settle the question on the cause of concentration and profit trends.<sup>9</sup> Neither can one use it to evaluate whether there has been under- or over-enforcement of merger control rules in the period investigated. It seeks, however, to inform the broader economic context of competition policy. The evidence thus contributes to answering the question whether competition enforcement should be more or less lax. This Brief then concludes that **increasing concentration and profit trends suggest that competition enforcement should remain vigorous in the current situation.**<sup>10</sup>

The debate is particularly important in the current context of post-crisis recovery. In times of crisis, experience shows that competition rules and strong enforcement have an essential role to play.<sup>11</sup> EU competition policy helps to create the conditions for growth, promotes efficiency and encourages innovation to the overall benefit of the European economy. Moreover, competition is of key importance to keep low prices for consumers, thus contributing to fairness. Competition rules are therefore even more important than usual in times of crisis, because consumers have less money to spend and businesses have less capital to invest and innovate. Therefore keeping markets competitive and efficient is crucial for a strong and sustainable recovery.

## Concentration trends from a competition policy perspective

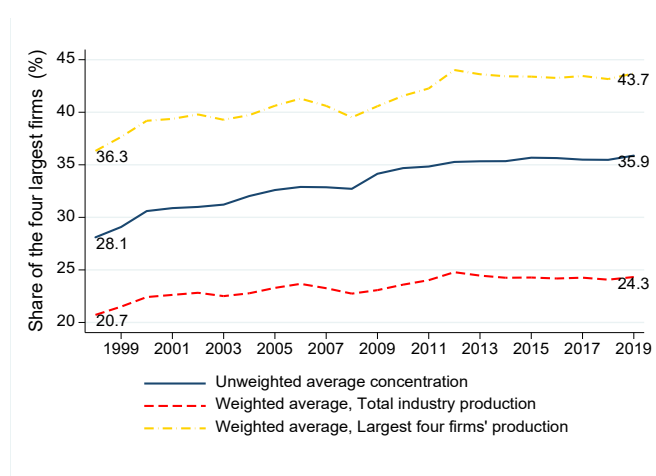
The collected industry level data contain information on the five largest European economies, France, Germany, Italy, Spain, and the UK for the period 1998-2019. For each country-year pair, in each of the more than 150 industries, the four largest firms' turnover share is observed – see the box Data and Methodologies below. For each country/year/industry triplet, the sum of the largest four firms' share (C4) is used as a measure of concentration.

It is important to emphasize that this data covers concentration in *industries* as defined by standard statistical nomenclature. Even the most disaggregated industry definitions are typically larger than the relevant *antitrust markets* that competition decisions may identify in particular cases.<sup>12</sup> This aggregation can therefore lead to a different evolution of concentration compared to antitrust markets.<sup>13</sup> However, for an overall, economy-wide

view of concentration trends this industry-level data is the main source of information.

The evidence, similarly to other studies, shows moderately increasing average concentration over the last two decades. The share of the four largest firms increased by about 4-7% on average.<sup>14</sup> The increase in concentration was widespread – the share of the four largest firms increased in 498 out of the 685 industry/country pairs – but the change was typically small.

### Average industry concentration in the EU4+UK, 1998-2019



Source: Commission's calculations based on Euromonitor International's Passport Industrial database. Countries: DE, ES, FR, IT, UK.

However, from the point of view of competition policy, concentration trends in the highly concentrated industries are more interesting than the average economy-wide concentration. High concentration industries are more likely to be identified with market power and, hence, are more likely to be the focus of competition investigations.

The share of high concentration industries increased substantially in the last two decades. The proportion of industries where the largest four firms account for at least 50% of the industry total doubled, from about 16% to near 37%. Even when weighted by industry size, the evidence shows a similar 60% increase, from 12% to 18%.

<sup>8</sup> See also Shapiro (2019).

<sup>9</sup> Berry et al. (2019) highlights the economic complexity of market power, as well as the various factors needed in its assessment.

<sup>10</sup> See also Valletti and Zenger (2019) and Werden and Froeb (2018b).

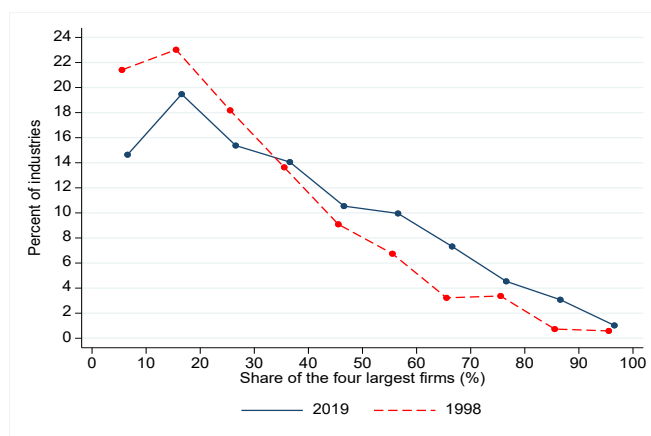
<sup>11</sup> See the evidence reviewed by, e.g., OECD (2020) and Shapiro (2009).

<sup>12</sup> An "antitrust market" corresponds to the "relevant market," i.e., the definition of the boundaries within which companies compete as defined in the Commission's decisions (see, e.g., the Commission's 1997 Relevant Market Notice). For an antitrust market level data and analysis based on merger cases of the Commission, see Affeldt et al. (2018 and 2021).

<sup>13</sup> See also Werden and Froeb (2018a).

<sup>14</sup> The OECD (Bajgar et al., 2019) reports an about 3% average increase of the C8 for Europe's 19 countries, and a 7% increase for North America. The IMF (Díez et al., 2019) reports that on average the ratio of the sales of top four to top 20 firms increased from about 60.5% to 62% between 2000 and 2015 in Europe, Japan, Korea, and the US.

### Share distributions of the largest firms, EU4+UK, 1998 vs. 2019

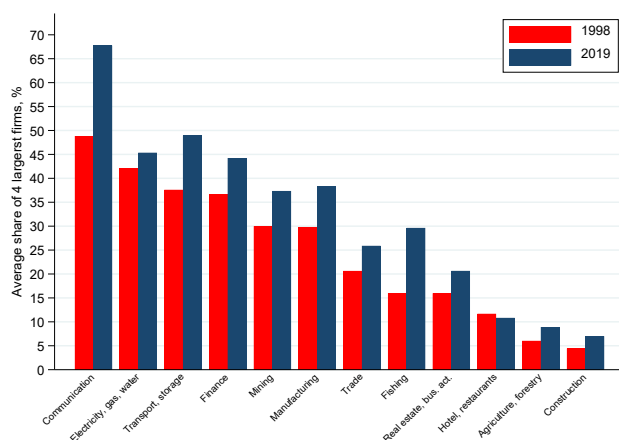


Source: Commission's calculations based on Euromonitor International's Passport Industrial database. Countries: DE, ES, FR, IT, UK.

### Differences across industries

Looking at the difference across large industry groups shows that the most concentrated groups are communication, energy, transport, and finance.<sup>15</sup> Moreover, with the exception of energy, these groups also experienced above average increase in concentration.

### Average industry concentration by industry groups, 1998 vs. 2019

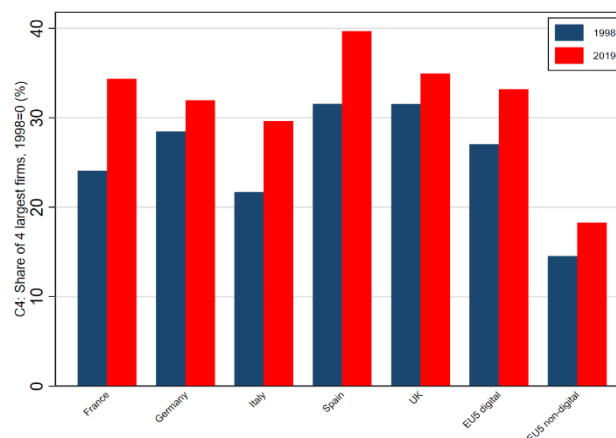


Source: Commission's calculations based on Euromonitor International's Passport Industrial database. Countries: DE, ES, FR, IT, UK.

Digitally intensive industries merit some additional discussion. Selecting industries with "medium" or "high" digital intensity (e.g., medium: trade, high: IT services, or finance), some patterns emerge.<sup>16</sup> In particular, digitally intensive industries were already

more concentrated in 1998 than others. Further, these industries concentrated more since then, although both the levels and overall changes are still moderate (33% in 2019, and 6%, respectively). These findings are also consistent with those of the OECD. Moreover, other studies show that markups are higher and increased more in digitally sensitive industries,<sup>17</sup> and might be associated with higher fixed sunk costs.<sup>18</sup> Overall, this data support the hypothesis that technology contributes to inducing market structure change.

### Concentration in digitally intensive industries, 1998 vs. 2019



Source: Commission's calculations based on Euromonitor International's Passport Industrial database. Countries: DE, ES, FR, IT, UK.

### Aggregate profitability

In addition to concentration, other variables can also be helpful in describing or detecting market power. In particular, the evolution of prices, markups (the wedge between price and marginal cost), or profits is often investigated. Estimating markups or profits is not trivial, and the data limitations are serious. Estimates based on company level data show that, similarly to the US, average European markups tended to increase in the recent decades, indicating rising market power.<sup>19</sup>

Similarly to the industry concentration data, the aggregate profitability figures are not directly derived from company level data measuring the more precise pricing power at disaggregated market level. In other words, the presented industry proxy variables for market power do not substitute the detailed, case-specific market power evidence the typical competition assessments should uncover.

<sup>15</sup> The 156 ISIC industries of the data can be aggregated into a fewer larger groups according to standard nomenclature. Such groups are, e.g., manufacturing, transport and storage, communication, finance, etc. See "Data and methodology" box, and the figure above.

<sup>16</sup> Calvino et al. (2018) in a recent OECD study define digitally intensive industries based on their exposure to ITC technologies, such as ITC

investment and purchase of intermediates, robot use, ICT specialists, as well as the importance of online sales.

<sup>17</sup> Calligaris et al. (2018).

<sup>18</sup> Bessen (2020).

<sup>19</sup> De Loecker and Eeckhout (2018), Weche and Wambach (2018).

## Data and methodology

The Commission gathered, via Euromonitor International, industry concentration data on the five largest European economies (France, Germany, Italy, Spain and the UK) for 156 ISIC industry categories, from 1998 to 2019.<sup>20</sup> For each country-year-industry observation, the data contain the four largest firms' turnover value, as well as the total industry turnover. Based on this information the share of the four largest firms (C4) is calculated for each country-year-industry observation. C4 is then interpreted as a measure of industry concentration.

The two main sources of information are (i) the Orbis firm level database of Bureau van Dijk (completed with other publicly available company information, such as annual reports, websites, etc.), and (ii) national accounts for industry totals. To put simply, (i) is used to calculate the numerator of the company shares, and (ii) is used for the denominator. These steps involve several methodological challenges, most prominently that of turnover allocation.

Finally, for the aggregate profit calculations, the component variables came from the Commission's AMECO database.<sup>21</sup> AMECO is collecting and reporting consistently country level national account data from European as well as from several other countries.

\* Tender COMP/2018/002, contracted by Euromonitor International. ISIC: International Standard Industrial Classification, see United Nations (2002).

\*\* [https://ec.europa.eu/info/business-economy-euro/indicators-statistics/economic-databases/macro-economic-database-ameco/ameco-database\\_en](https://ec.europa.eu/info/business-economy-euro/indicators-statistics/economic-databases/macro-economic-database-ameco/ameco-database_en)

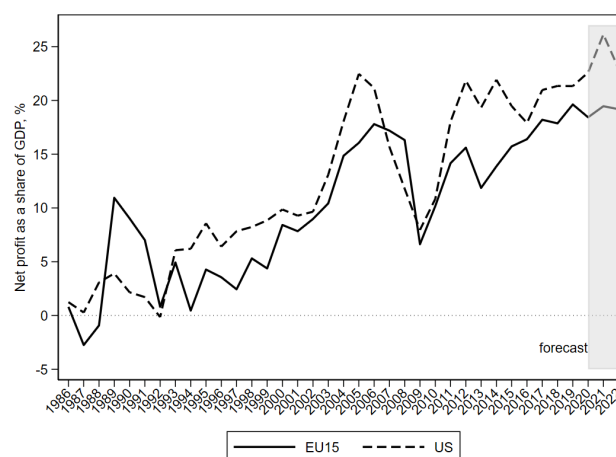
The aggregate methodology for European data shows a profit share evolving along a similar trend as its US counterpart.<sup>20</sup> The profit, as a share of GDP, grew from about 5% to 15% in the past thirty years. The figure also reveals that while the 2008-9 financial crisis had a negative impact on profits, there was a quick recovery, especially in the US. During the 2010s, Europe's profitability gradually closed its gap with the US, and passed the pre-crisis levels.

Overall, the profitability evidence is consistent with rising market power, although it is important to stress that these estimates are not direct evidence on the ability to set prices independently from competitive constraints.<sup>21</sup>

<sup>20</sup> Because of some incompleteness of the available European data, the implemented methodology is only an approximation of Barkai's formulae. In particular, no industry breakdown, or capital asset differentiation has been used.

<sup>21</sup> See also Basu (2019) for an overview of markup and profit estimations, as well as their limitations.

## Net profit as a share of GDP, Europe and US, 1986-2022



Source: European Commission (AMECO). EU14+UK: AT, BE, DE, DK, ES, FI, FR, GR, IE, IT, LU, NL, PT, SE, UK. Net profit = net operating surplus - capital costs. Capital cost = lagged net real capital stock times Moody's AAA bond yield minus expected capital good inflation plus depreciation. Forecasts (2021-22) are from AMECO (May 2021 update), the Moody's bond yield is assumed to be fixed at the May 2021 value for subsequent periods. Estimated aggregate profits can turn negative, e. g., when in high inflation/interest-rate periods the estimated capital costs are above the net operating surplus.

## Conclusions

Summing up the evidence, one sees an increasing share of high concentration industries and increasing aggregate profit, with some industries - communication, finance and transportation, as well as digitally intensive industries - particularly affected. This suggests that competition enforcement is operating in an increasingly complex environment, where difficult mergers are likely to become more frequent. However, such crude aggregate proxies are not intended, and are indeed unable to determine, whether there is increasing market power in specific antitrust markets. That is a task for the case-by-case assessments of competition investigations.

The data nevertheless indicates that, in the current context, the pandemic induced crisis should not be used as a pretext to approve mergers that would hurt consumers and lead to further increases in concentration or relent on antitrust enforcement to tackle anticompetitive conduct. Pressure on competition policy and calls to suspend or relax competition rules are always high during economic downturns. However, **economic recovery relies even more on efficiently working markets than boom periods do**. The more competitive markets remain, the better investment will flow where it is truly needed. The result of strong enforcement will be a quicker, stronger and more sustainable recovery. As such, if anything, **regulators should increase their vigilance because mergers, in particular, bring about structural and lasting changes in markets**, with tangible effects even after the crisis is over.

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