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Summary of Discussion of the hearing on Market Concentration

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This document prepared by the OECD Secretariat is a detailed summary of the discussion held during the 129th meeting of the Competition Committee on 7 June 2018

More documents related to this discussion can be found at www.oecd.org/daf/competition/market-concentration.htm

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Summary of Discussion of the Hearing on Market Concentration

By the Secretariat

The **Chair** opened the afternoon hearing by remarking that it would focus exclusively on market concentration, a topic that over the last few years has stirred much debate in the academic and competition policy community. The hearing, the Chair explained, would revolve around a number of important questions that emerged, and would be divided into two parts. The first part would seek to determine whether there is indeed a trend towards more concentrated markets, and would look at the methodologies that are being used to measure concentration, their reliability, and the extent to which they are corroborated by other indicators. The second part, on the other hand, would focus on the driving forces behind increasing concentration and the question of what competition authorities should do about it.

The Chair warmly welcomed distinguished expert panellists, who would contribute to the hearing: Professor Hiroyuki Odagiri from Hitotsubashi University, Professor Jason Furman from the Harvard Kennedy School, Dr Chiara Criscuolo from the STI Directorate of the OECD, Professor Josh Wright from George Mason University, and Professor Jonathan Baker from the American University of Washington.

The Chair next asked the OECD Secretariat to set the scene for the hearing. **The Secretariat** recalled that market concentration can sometimes be useful as a tool for considering the potential effects of a specific conduct or a merger or the intensity of competition, and hence also the effectiveness of competition policy as such. Measuring concentration, however, is by no means easy; it raises a number of practical issues concerning, for example, units in which concentration should be measured, and the entities of which concentration should be measured. While these issues can be rather easily addressed within a given case, they pose serious practical challenges when considering concentration at the level of an industry or a whole economy.

Moreover, the Secretariat explained that relationship between the concentration or structure of the market and intensity of competition is ambiguous: for instance, greater concentration might indicate a decline in competition, but might also demonstrate that competition is working and that firms that are more efficient are able to gain market share. The Secretariat explained that its paper is focused on the debate over changes in the intensity of competition across broader entities, such as an economy or an industry, where the problem of aggregation comes up. Its underlying message is that taken in isolation, concentration tell us little about whether competitive intensity has changed or not. Therefore, in addition to concentration, it is advisable to consider a range of other indicators before reaching any conclusion on whether there has been any change in the intensity of competition.

The **Chair** thanked the Secretariat and asked Professor Odagiri to discuss the evidence on concentration in Japan.

Professor Odagiri pointed out that in Japan there are two statistics on concentration ratio. The first one is the JFTC data, which has been collected and published since 1975 in order to determine whether a given industry is in a "monopolistic situation", as defined by the Japanese Anti-Monopoly Act. According to the Act, the JFTC can take necessary measures, including divestiture, if it finds a firm in a monopolistic situation. The Act lays down

several conditions that need to be considered when deciding whether a monopolistic situation exists. As for the concentration, it requires that the share of the top firm (CR1) must exceed 50 per cent or that the combined share of two top firms (CR2) must exceed 75 per cent. This is a necessary, but not a sufficient condition. In fact, since 1977, when the provision on the monopolistic situation was included in the law, the JFTC has not imposed any divestiture, even in industries, which have satisfied the concentration criteria. Professor Odagiri acknowledged that data collected by the JFTC is biased towards high concentration industries, and that its market coverage is incomplete. The second type of data on concentration ratios is census data, which the Ministry of Economy, Industry and Trade has been collecting for more than 100 years. However, this data has been published only for 2008 and 2010.

Professor Odagiri remarked that in his view there are three problems with data or statistics on concentration ratios. The first concerns market definition, which may not always be an adequate market for the competition policy: data tends to be confined to the national level, whereas in the competition policy context relevant industries may be regional or international in scope. Also, the relevant market may vary over time, rendering the measuring of dominance more difficult. Second, the coverage of data is particularly weak for the non-manufacturing industries, such as services. Third, the definition of a firm can also raise important issues. In particular, partial and common ownership, which are becoming increasingly popular, can blur the boundaries of the firm, and in consequence the unit which is used to calculate the concentration ratio.

Professor Odagiri then moved to discuss the changes in the concentration ratio in Japan, which has increased, but very gradually. His study of CR3, the concentration ratio of top three firms, in approximately 2000 industries between 2008 and 2010 revealed that concentration has increased in about 1000 industries, stayed the same in around 80 industries, while it decreased in about 700 industries. However, since the study covered a very short period of time, it was impossible to identify a long-term trend. Professor Odagiri next referred to a study of the CR3 evolution by Doi, Honjo and Kudo, which covered the period from 1991 to 2010. The study shows that there has been a gradual change in concentration: first, CR3 declined between 1991 and 2000, and then it slightly increased between 2000 and 2010. Although this study examined the data on concentration over a 20-year period, it covered only 109 markets. Hence, again it was impossible to tell whether the same trend was present across the whole Japanese economy.

Professor Odagiri pointed out that irrespectively of whether CR3 has increased or not, there is a question of whether the top three firms have remained the same or whether there have been changes among them. To examine this issue, the JFTC's research centre, CPRC, carried out a joint study together with academics and economists at the JFTC on the mobility (or instability) of ranking and market share. The study, which examined ten indices on mobility, found that in nine out of these ten , the mobility increased more in the 2001-2010 period than in the 1991-2000 period. Although the number of markets covered by the study was limited, the study shows that even if the concentration ratio itself has been increasing, after 2000, the mobility of ranking has also increased. In the next study, which had expanded the sample, Doi, Honjo and Kudo found that the probability that the top firm would change from one year to the next was 0.121, that at least one of the top two firms would change was 0.263, and that at least one of the top three firms would change was 0.395. This means that the top firm has changed in approximately 12 per cent of the cases, the top two firms in 26 per cent, and the top three in 40 per cent of cases. The study also revealed that the mobility of market leaders is U-shaped as regards industry growth, which

means that it is higher in growing and in declining industries than in stable or stagnant industries. It also tends to be higher in R&D-intensive industries.

Professor Odagiri contended that horizontal mergers are one of the drivers of increasing concentration. Drawing upon his study of six industries, he mentioned as an example CR3 in the cement industry, which increased from 44.4 in 1993 to 79.6 post- merger in 1999 after five major mergers. A relevant question is whether such increase is permanent. Professor Odagiri reported that from the year when the mergers examined in the study took place to 2014, which is the most recent year for which the JFTC data is available, CR3 decreased. He also noted that the inclusion of imports led to the decrease of CR3 by more than five per cent, suggesting the importance of imports as a source of competitive pressure.

As for whether mergers and increasing concentration are necessarily bad, Professor Odagiri argued that they are in the case of markets with homogenous goods and no entry. Otherwise, the effects may be ambiguous, and may differ significantly between declining industries with excess capacity, on the one hand, and growing industries on the other. In declining industries, mergers can help reduce costs and increase social surplus, even if consumer surplus is reduced, by allowing firms to eliminate excess capacity. It can thus make a difference whether consumer surplus or social surplus is considered. Also, in declining industries concentration may increase even without a merger as failing firms will exit the market, while the entry of new firms will be unlikely. Hence, the negative effects of mergers in declining industries may be more complex. In contrast, in growing industries entry is likely to occur and it needs to be promoted to ensure that markets remain contestable. The behaviour of the incumbent firm to deter entry in such markets must be scrutinised. In particular, it is important to understand how to evaluate the acquisition of new firms by the incumbents. Such acquisitions are problematic for competition authorities because new firms are likely to be too small and the corresponding increase in HHI may be insufficient to trigger mandatory notification. Moreover, in data and platform markets, firms often come up with different business models, which may render it difficult to determine whether a given transaction amounts to a horizontal merger or not. This, in turn, raises the question of whether the conventional market definition exercise remains useful in such industries.

Professor Odagiri mentioned that after 2000, the entry rate in Japan has been declining, and this has been a cause of worry for many reasons. Entry has been taking place, but in more conventional service industries (such as construction, accommodation, or eating and drinking), while it has not been so high in many of the manufacturing industries.

Professor Odagiri concluded by stressing the importance of promoting the creation and entry of new firms on the one hand, and careful and individual examination of acquisition of new firms by the incumbent on the other. While such acquisitions may promote the creation of new firms as they may be profitable for those that start the firm, they may also limit future competition.

The **Chair** thanked Professor Odagiri and asked Professor Furman whether in his view the US has a problem with monopolies.

Professor Furman first remarked that he studied market concentration not as an antitrust expert, but in relation to his work on the slowdown of productivity growth and the increase in inequality. Before moving to his presentation, which would revolve around five selected issues, Professor Furman wished to make some preliminary observations. First, he pointed out that the open question is whether antitrust needs brand new tools or whether the existing tools need simply to be used more vigorously and effectively. He then noted that the US antitrust law has not changed in more than half a century, while the practices it governs

have evolved a lot. As his final preliminary observation, Professor Furman suggested that while rising concentration may be driven by mergers and acquisitions, it can also be explained by barriers to entry, which may be preventing competition and which may exist in other policy areas.

Professor Furman moved to the core part of his presentation and explained that he would not spend much time on the first question, which is whether market concentration has increased, as in his view the evidence supporting such claim is rather overwhelming. Various studies carried out both at a high level of aggregation and a more disaggregated level indicate a consistent pattern of increase in concentration. The question thus is rather whether increased market concentration results in market power or not. This leads to the second issue Professor Furman wished to raise, namely that the macroeconomic data in large part supports the claim that increased concentration is associated with greater market power. More firms have higher returns, which is one indicator of market power. Whereas before relatively few firms enjoyed returns to equity of 20-30 per cent, now the number of such firms across S&P500 has grown. Measures of the return on capital have also become more skewed. While the rate of return on safe assets has fallen, the rate of return on overall capital has been stable or even slightly rising. This is consistent with the interpretation that observed economic developments reflect increased market power. It has been also observed that firms' fixed investments has declined as a share of GDP. Industries that have seen a greater decline in investment are actually the same industries that have seen a great increase in concentration.

The third point concerns reduced dynamism of the economy, and in particular slower productivity growth and higher inequality, which may be caused by decline in competition and the commensurate increase in rents. According to Professor Furman, it is plausible that increasing concentration has led to market power by creating barriers to entry. While exit rate has been steady, new firms account for an increasingly smaller share of the total number of firms. This is problematic as a lot of innovation in the economy comes from smaller firms or from larger firms, which innovate driven by the threat coming from the smaller firms. In consequence, when smaller firms are acquired at an early stage of their existence, some of the future competition is lost. Reduced dynamism can also be observed with respect to employment and labour market. Rates of job creation and job destruction have decreased, and so has migration within counties and the US states. While frontier firms have continued to be successful in innovation, the transmission of that innovation to other firms has slowed down. All of these indicate that increased concentration leads to both less investment, which means lower productivity, and to misallocation of capital.

Concerning the impact of concentration on inequality, Professor Furman explained that increased concentration can increase the bargaining power of firms and leverage by employers who reduce wages and raise profits. It can also increase wage inequality, i.e. inequality between managers and line employees.

Fourth, Professor Furman stressed that the important question is whether the concentration that we observe has occurred naturally due to developments and efficiencies in the economy or whether it has been artificial and policy-driven? Certainly, there have been efficiency improvements, which can, for example, be observed in the retail sector. However, it is also true that antitrust enforcement has become less vigorous. For example, the FTC's scrutiny of mergers bringing the number of competitors down to 5, 6 or 7 has largely stopped, while enforcement actions on other mergers have also been reduced. Professor Furman mentioned also that there are other policy developments that hamper competition and dynamism in the economy. Increased land restrictions in the US, which

have led to a disconnect between the construction costs of housing and the prices at which houses are sold, the expansion of occupational licensing, or the increased importance of intellectual property protection are just some of them.

Fifth, Professor Furman asserted that a market-based pro-competition strategy should include both increased antitrust enforcement as well as a broader pro-competition agenda. He stressed that when concentration occurs due to improvements in efficiency, there is no market failure. However, when concentration increases as a result of a given policy, such policy should be changed. Naturally, there will be instances when concentration will increase due to both efficiency as well as a given policy choice. In such instances, a wrong response would eliminate some of the enormous benefits in the sector, while the right response could generate even more benefits. It would be thus an important task for the Secretariat to help understand what the right responses are.

The **Chair** thanked Professor Furman and asked the US whether competition law enforcement and competition policy in the US need to be tilted towards a more aggressive stand vis-à-vis concentrations.

The **US** delegation first remarked that academics and media have recently been reporting increases in concentration throughout the US economy. These increases had been observed mainly in census sectors. However, concentration in itself cannot provide a complete story about competition, while the census data is not capable of demonstrating increasing concentration in a sense that would be meaningful for competition analysis.

The US next moved to discuss census data and some of the problems it raises. It first explained that as a result of the North American Free Trade Agreement, the US census started publishing data using the North American Industry Classification System (NAICS). NAICS divides the economy into 24 two-digit sectors, which are further divided into 99 three-digit sub-sectors, and 1057 six-digit industries, the latter being the finest level of aggregation. It replaced the Standard Industrial Classification (SIC) system with four-digit manufacturing industries, which was developed in the 1930s. Many SIC industries previously believed to comport very well with respect to relevant markets were found to be much broader. For example, two studies conducted in the late 1980s compared the breadth of SIC industries to the scope of relevant markets in the US DOJ merger complaints and to the scope of collusion in the Department's cartel indictments. The comparison was done by computing a commerce quotient, i.e. the commerce of the relevant market divided by the market reported by the census for the SIC industry. Many of the commerce quotients were less than one per cent, indicating that the SIC industry was over 100 times the size of the relevant market. Therefore, the SIC four-digit industries were not useful in assessing the degree of competition. The same problem arises with respect to the NAICS data. For example, Gregory Werden and Luke Froeb compared the volume of commerce in the relevant markets identified in merger complaints filed by the DoJ during fiscal years 2013-2015 to corresponding NAICS 6-digit industries. They found that in 32 of 44 relevant markets covered by the study, the NAICS industry was more than a hundred times broader. Commerce quotients have been found to be even smaller than the ones in the 1980s research. The US explained that the situation for years 2013-2015 is worse because the earlier data was available only for the manufacturing sector, whereas the new study looks at all of the merger complaints, many of which took place outside of the manufacturing sector, where there is a higher incidence of local markets.

The US explained that the main shortcoming of the NAICS data is its excessive aggregation, which not only introduces noise or bias in the concentration measures, but more importantly it masks actual trends in market concentration. To illustrate the problem,

the US referred to three progressively more complex scenarios, in which concentration for hypothetical NAICS three-digit subsectors compared the situation in 1998 to 2018. Each subsector consisted of ten distinct markets. The three examples differ as to driving forces behind observed concentration. In the first example, changes were driven by mergers, in the second by market growth, in the third by market growth and entry. The first example shows that excessive aggregation causes many non-horizontal mergers to produce the same observable effects on concentration as horizontal mergers, and that observations may indicate nothing about changes in market concentration. The point of the second examples was that increasing concentration can be observed at the level of subsectors absent any change in the market concentration and any merger activity, while the last example showed that excessive aggregation makes it possible to observe increasing concentration when market concentration has declined in every market in the economy.

To conclude, the US stated that with reliable data available for very few industries, namely for airline and banking, it is impossible to determine whether market concentration increased substantially in any parts of the US economy. It also pointed out that data on entry refers only to employers, which is problematic since 90.8 percent of US business start-ups from 1997 to 2010 were not considered as such due to their small size. This means that these new start-ups are not accounted for in the data discussed by Professor Furman, despite their enormous importance for the US economy.[1]

In response to the United States' contribution, **Professor Furman** clarified that no one would use the census data to bring an antitrust case. As for the increased concentration, Professor Furman acknowledged that it can be observed even if census data does not show it, and the opposite; census data may point to increased concentration when in reality such increase does not exist. He then argued, however, that there are more industry case studies that demonstrate increased concentration rather than the opposite. Also, the industry case studies are the better way of looking at the changes in concentration than the aggregated census data. Professor Furman also said that one can approve or disapprove of the changes concerning antitrust policy and enforcement practices, but it is hard to deny that there has been no change at all.

The **US** reacted stating that there is increased concentration, but that it is not market concentration. It also disagreed with the claim put forward by some that conglomerate mergers are causing major problems in the economy. Were such mergers to cause a problem, according to the US it would not be a competition problem. The US also agreed that there are studies on increased concentration, which are correct. However, it pointed out that data is often national, whereas some mergers are examined mostly on the local level. This is the case with banks where concentration on the local level has not increased at all. As for the question whether there are more mergers now than there were in the past, the US said that the number in itself is irrelevant. Still, in its view there are less significant horizontal mergers than there were in the past.

The **Chair** remarked that he found it striking that the argument seems to revolve much around the definition of relevant market, and the question whether this concept as well as the current view of the scope of competition are too narrow, in particular in the context of a more dynamic economy of today.

[1] In 2015, the US had 24.3 millions of start-ups and they sales volume totaled $ 1.148 billion, which is comparable to the GDP of Mexico.

The EU first explained that when it comes to data its time series are shorter than in the US, and there is not much data preceding the financial crisis. It next pointed out that if one does not have data directly, but has to collect it and work with data providers, some additional important technical problems may arise. Next, The EU moved to discuss its data, which it had collected for the EU five largest countries that together account for more than 50 per cent of the EU GDP: Germany, Italy, Spain, France and the UK. The EU calculated concentration in the international SIC level in 177 industries and observed the CR4 measure both separately for the countries and then for these five countries taken together. It also calculated the HHI corresponding to these substitute groups. It found that since 2010, concentration in Europe has not changed much on the SIC-industry level, although some differences can be observed across examined countries. For example, in France there has been some increase in concentration, while in the UK there has been a decrease. Italy, on the other hand, has remained stable. The EU also noted that it is typically not the highly concentrated industries that showed further increase in concentration, but rather the more concentrated industries tended to become less concentrated.

The EU agreed with the United States' comment concerning methodological problems when measuring concentration. However, as was mentioned earlier during the hearing, there are other measures of market competition or market performance that can be considered. Profitability is one of them. The EU referred to the influential paper by Barkai who calculated profitability for the US using national accounts data, and explained that it could not replicate Barkai's methodology for the EU due to lack of some data. However, to the extent it was possible it calculated the profit share of the company as a share of the GDP using national accounts data and applied this both for the EU and the US. Unsurprisingly, the crisis decreased profitability. However, while the US was quicker to recover, the EU remained at a lower level of profitability post-crisis. This view is also corroborated by the research done by the economists from the German Monopolies Commission on company level margins. According to the EU, the most interesting measure from a competition policy perspective is an econometric estimate of mark-ups. Similarly to the US, the EU observed a decrease of these mark-ups after the crisis, and then an increase starting from 2014-2015. Mark-ups are interesting because they do not include the fixed cost. What is observed is that it is not just the mark-ups that increase and are counteracted by changing fixed costs, but rather that there is an overall increase in profitability.

Concerning business dynamism, again there is a shorter time series for the EU. Tendencies across five countries covered by the study vary. Entry and exit both decrease in France, whereas in the UK there is an increasing entry rate. Meanwhile, other countries seem to be more stable. As for income inequality, according to the OECD study, inequality is increasing across the board, although the US is more unequal than Europe, especially continental Europe. Data on income inequality in the EU-27, which is available for the period starting from 2007 shows that the situation is by and large stable, albeit some increase can be observed if data is narrowed down to EU-15 or EU-5. The EU noted that although its data is less consistent and the time period for which it is available is shorter than the US, it is still possible to highlight some trends. Overall, Europe seems to have a more stable concentration pattern. Margins and profitability increased in Europe, but less quickly than in the US, while income inequality despite its increase, remains more stable.

The EU wished to conclude by discussing implications of the observed trends for merger policy, which can be seen from two different points. First, the ex post perspective is very much focused on the question of what has caused the increase of market power, and in particular whether lax antitrust enforcement can be blamed or whether there are other

plausible explanations, such as globalisation and/or digitisation that favoured the emergence of digital 'superstars'. Although there are many ex post studies showing that mergers lead to price increases, but not cost efficiencies, the issues is still very much under discussion, and the debate about the causes of increased market concentration is far from being closed. Second, from the ex ante perspective, the question that is raised concerns the implications of considerably increased margins of large firms for competition policy. Under a very schematic merger analysis, one would typically look at such determinants as concentration (market shares), closeness of competition (diversion ratios), and market power (high profit margins). The higher the merging parties' margins are in a given case, the more likely traditional market share thresholds will underestimate the competitive effects of the transaction. In this sense, the observed increase in concentration, and in particular in mark-ups calls for more vigilance and caution when assessing mergers. One could argue, of course, that if margins are higher, then competition authorities should put more emphasis on investigating the factors that could have contributed to these high margins. The same reasoning applies to antitrust investigations.

To conclude, the EU stressed that merger control should be seen as an important tool of preventing future market power and also of increasing further concentration. This means that potential competition might also need to receive more careful analysis in actual cases, as it is important to pay more attention to all the factors affecting market competition in more concentrated markets.

The **Chair** thanked the EU for its presentation and noted that the result it reported is somewhat inconclusive: there seems to be no increase in concentration, yet a fairly high increase in margins. The Chair recalled that it is assumed that there is a direct causality link between the increase in concentration and the increase in profit margins. Yet, the EU data seems to suggest that this link may not be so direct and that there may be some other explanation.

The UK pointed out that there is a perception that competition law is under-enforced and that excessive profits exists in a number of areas. In terms of the utility of broad concentration measures, it agreed that there is indeed a problem of a mismatch between the level of aggregation of the data and what competition authorities focus on. Namely, competition authorities focus on relevant markets. It said that when the markets are properly defined, there is often a relationship between concentration and market power. There are exceptions where higher market share would not amount to market power, however these would be precisely exceptions to the rule. The UK agreed that aggregated data at the industry level may include many possible antitrust markets. However, such data simply presents industries through descriptive numbers and do not seek to provide any meaning to them. Rather, it can serve as a useful indicator of where the competition authorities should look more deeply.

In terms of concentration, the UK reported that it did not observe any major changes in the last ten years. As for the margins and profitability, the UK shared the view previously expressed by the EU that these measures are interesting, but difficult to measure. It is thus not surprising that measuring profitability always stirs massive discussions about methodology. UK also admitted that it is very interested in trying to understand the trends in rising profits, which have been picked up by various studies. As for the entry and exit rates, although the data is very aggregated, it is still very clear that entry decreased significantly after the financial crisis, and since the crisis it has increased just a little bit. Exit has slowly decreased as cheap credit has been injected into the economy post-crisis, allowing firms that would have otherwise exited the market to stay. The UK said that it

looked at the concentration and exit over the 2010-2014 period and observed a positive correlation, although not a particularly strong one. One could argue that where concentration is higher, profitability should be higher, and this should drive entry. However, one could also make counterarguments about causality in that regard.

The UK next moved to discuss policy implications of the trends it has previously mentioned. First, when it comes to the division of tasks, the UK stated that in its view academia should take the lead as many of the issues that arise concern methodology and require extensive work with data. Second, the debate concerning under-enforcement in the area of merger requires further reflection. The UK reported that it is working extensively on the ex post evaluation of its mergers. This exercise, which focuses on remedies, led the UK to identify two areas of concern. First, it wished to understand whether the remedies imposed in mergers, and in particular whether ambitious, behavioural or other complex remedies, involving for example carving out of assets, have actually delivered what was expected of them. In other words, whether merger decisions taken years ago were the rights ones.

Second, the UK wanted to examine whether its approach to estimating the potential for entry and expansion of rivals in the context of horizontal mergers was correct. To that avail, the CMA selected eight mergers it had approved over the last ten years on the assumption that entry and expansion of rivals would occur. It looked at key factors that drove its clearance decisions, and looked back and the public and private data to assess whether there had been a post-merger entry and expansion or not. The ex post analysis revealed that in four out of the eight mergers the CMA probably took the wrong decision, which suggested a tendency towards inflated optimism about the likelihood of entry and expansion.

Another area whether the CMA has received a lot of comments is that of acquisitions of start-ups by digital platforms. Such transactions are very interesting and they are not necessarily about having the same relevant market. Then, there are other acquisitions such as *Facebook/Instagram*, *Google/Waze* or *Booking.com/Kayak,* which have revealed ex post that the markets are quite concentrated and that these new companies have an important market position. The difficulties with such transactions are very much linked to the fact that it is difficult to identify the counterfactual. For example, Facebook applied a lot of its own technology, insight, and personnel into Instagram, which made it difficult to decide what a stand-alone Instagram would have looked like. It is thus an area of great interest, an area where there is very limited enforcement and which raises the question whether the current approach is the right one or whether it should be recalibrated. Another area where enforcement is limited and where the same question about the aptness of the current approach arises is that of vertical mergers.

To conclude, the UK mentioned the OECD's recent paper; Inequality: The Hidden Effects of Market Power, and noted that it relates to some of the concerns mentioned during the present hearing. It next raised the question of whether competition authorities should look at the average consumer or whether there are issues about vulnerable consumers which are linked to the market definition, and which hence should be taken into account. Finally, the UK said that it is very much interested in the issues raised by common ownership, a trend which has emerged over the last two or three years.

The **Chair** thanked the UK and asked Dr Criscuolo to shed some light on the drivers behind the increase in concentration or the increase in margins.

Dr Chiara Criscuolo started by explaining that the findings she would discuss are still very much a work in progress and form part of a larger research which the OECD does on

the productivity and business dynamics. This research seeks to answer various questions, but in particular whether the digital transformation can explain some of the observed trends, whether there are significant differences between manufacturing and services that could explain the role of globalization in all of this, and the extent to which observed trends can be explained by changes in productivity and innovation at the firm level. Most of the results come from the EU and other OECD countries, but not from the US. Some of the findings, Dr Criscuolo stressed, are different from what the EU had previously shown.

Dr Criscuolo informed that the data in the project goes back to 2010, and in some cases back to 2005. Results cover 11 countries, which in addition to EU countries include Japan and Australia. The research revealed that the changes in the share held by the largest top 10 percentile of firms in terms of size and gross output had been increasing steadily across the 2000s, and this finding holds true whether one looks at gross output, value added or employment. The positive news is that firms with the largest gross output are also the most productive. Second, the data on mark-ups, which comes from the ORBIS Commercial Database and covers 26 countries shows that there has been a steady growth in mark-ups, which comes mainly from the firms with the highest mark-ups. Dr Criscuolo added that the data she was reporting comes from the countries for which the OECD considers it to be representative. For example, an increase of 10 percent was observed in Belgium, Denmark, Germany and Spain. A much smaller increase, on the other hand, occurred in Finland (0.4 percent), Sweden (0.2 percent) or the UK (0.5 percent). While this data clearly reveals heterogeneity across the analysed countries in the increase, the overall trend is that mark-ups are increasing everywhere.

Dr Criscuolo next moved to discuss whether the same patterns had been observed in digital sectors. She explained that in order to define a given sector as digital intensive, one may take into account many facets of digital transformation, such as ICT capital investment, ICT skills, robot use, and online sales. Based on a group of key indicators, the OECD classifies sectors as either digital-intensive or less digital-intensive. The comparison of relative to less digital intensive sector, revealed that there is a digital gap in mark-ups. This gap existed already in the early 2000s, when the difference between the digital intensive and less intensive sectors was about 10 percent, while it was about 30 percent between for the top digital intensive sectors. The comparison of mark-ups in 2013-2014 to the early 2000s revealed that they increased slightly for digital intensive sectors, and substantially for the top digital intensive sectors. It was also found that the biggest increase was in the digital services, and not in digital manufacturing.

Given that high mark-ups do not necessarily imply market power, the economic analysis focused on the question whether these mark-ups could be explained by changes in productivity and innovation. The results could be seen as either positive or negative, depending on the point of view. The positive view would focus on the fact that firms that are at the productivity frontiers, and especially those in the ICT service sector, had seen the most significant productivity gains in comparison to other firms in the market. This divergence and increased gap in productivity between different years is much higher in ICT services and non-ICT services. Another positive results is that firms with the highest productivity have also the highest mark-ups, and they also the ones that produced the highest increase in mark-ups. On the negative side, the comparison of firms according to their level of mark-ups revealed that in terms pf productivity the difference was much smaller, and has not increased much over time.

Dr Criscuolo explained that to explore the gap in mark-ups, the research examined different facets of digital transformation, such as ICT employment intensity, purchase of ICT

services, online sales, and ICT investment. A positive digital gap was found to exist for all examined facets, except for online sales, where pro-competitive pressure to keep mark-ups low may be greater. She then added that productivity and intangibles (i.e. patent stock of firms) account just for some of the mark-up gap, but not for all of it.

Next, Dr Criscuolo referred to the data for the late 1990s and early 2000s on business dynamism, which revealed that it had been declining in a set of countries, and this decline had been stronger in digital sectors. Also, as the UK delegation mentioned earlier, there had been a strong growth in mergers and acquisitions in digital sectors, in particular if one considers minority shares. In terms of the nature of acquiring and target firms, digital firms acquire both high digital intensity targets as well as less digital targets. Moreover, the OECD found that non-digital firms are increasingly acquiring digital firms. This trend, which is relevant for the assessment of vertical mergers, can have important implications for productivity, diffusion, and innovation. Last but not least, the OECD research revealed that corporate venture capital played increasingly more important role in digital mergers.

The **Chair** thanked Dr Criscuolo and stated that while digitalization seems to have some impact on high margins, it does not fully explain the increase which had been observed.

Germany first explained that its Monopolies Commission is an independent expert committee that advises the German government and legislature in the areas of competition policy and regulation. Since 1976, the Commission has been preparing every two years a report on company concentration. The report is handed to the government and is also publicly available. The latest report contains analysis of three topics related to company concentration: the largest 100 companies of the German economy, the development of cross-sectoral company concentration and mark-ups since the economic crisis, and the role of indirect company links vis-a-vis institutional investors. The Monopolies Commission has been identifying the largest 100 companies since the beginning of the reporting to evaluate the state of macro-economic concentration. For the purpose, the Commission uses several indicators. One of them is the contribution made by these 100 companies to the value added by all the companies in Germany. In 2016, this share has decreased to less than 15 per cent. In addition to this downward trend, which has been observed since the beginning of the reporting, the impression of a decreasing aggregate concentration is supported by other indicators, which measure the presence of cross-shareholding and personnel links between these 100 largest companies. To analyse the development of company concentration across industries, the Commission calculated the HHI for German industries and did not find an increase between 2011 and 2016. It found, however, that a high concentration in an industry more often goes hand in hand with the economic weight of that industry rather than with the stable development of the average industry concentration.

Germany added that from a competition policy perspective it is concerned about the developments in mark-ups, as the average market of German firms had been found to be increasing in the aftermath of the crisis, and exceeded the pre-crisis level in 2015. Although the Monopolies Commission has not found a growing trend of the overall company concentration, the increasing average mark-ups run counter to the impression of a constant development of competition in Germany.

The Chair thanked Germany and noted that when it comes to instruments that are currently used by the competition authorities, the view seems to be that they should not be changed radically. He also pointed out that both the UK and the EU are questioning themselves whether in the context of the merger control there has been too much optimism about the ability of new entrants and competitors to develop and keep in check the market power of

the merged firms, and second whether there should be a renewed interest in the assessment of vertical mergers.

Next, **Professor Wright** took the floor and first explained that he fully agrees with Professor Werden's view on the usefulness of aggregate concentration measures for the purpose of informing policy. This is not to say that the studies on aggregate concentration measures are not useful contributions to our understanding of what is happening in the broader sectors. However, when it comes designing antitrust policy the strength of antitrust comes from its analytical foundations, which are well-rooted in microeconomics. Professor Wright argued that competition analysis should decline an invitation to shift its central focus from markets to something else, as such a shift would imply losing much of the analytical rigour that has characterized antitrust institutions for the last 20-30 years.

Next, Professor Wright noted that in the ongoing debate on the increasing corporate concentration, a number of claims have been made, and argued that these claims should be separated. First, it is claimed that increasing concentration has caused an increase in market power, and hence also reduced competition. The second claim is that it is possible to draw inferences about poor economic performance and what happens in the markets from the changes in aggregate concentration levels. Finally, it is asserted that lax antitrust enforcement can be blamed for both increasing concentration and the reduction in economic performance. Since all of the above are serious claims, it is necessary to verify first their accuracy before deciding how to respond. In other words, the remedy at this moment is that competition authorities should learn more, and not do more without an in-depth understanding of the issues that are at stake.

Professor Wright next mentioned that numerous studies using various measures of aggregated concentration have demonstrated at least some increase in those measures. Of course, increase in concentration can result in all sorts of effects on welfare: it can mean more or less competition. A lot of work has been done on trying to look at what might happen as a result of these changes, including the studies on mark-ups, which had been cited during the hearing.

With respect to lax antitrust enforcement and investigations carried out by the US antitrust authorities, one can see that over time the focus of the activity has shifted from less concentrated to more concentrated markets. For example, there is not much scrutiny in the markets with the HHI under 1800. While it cannot be excluded that lax antitrust enforcement has contributed to the changes in concentration and some of the negative outcomes, like higher mark-ups, Professor Wright stressed that it is important to examine available evidence to verify whether these propositions survive scrutiny. As in his view they do not, he wished to explain what one can and cannot infer from the existing data. First, Professor Wright said that that the mismatch between aggregate concentration measures and the relevant product markets is not just a theoretical, but actually a very practical issue. Even if one was to accept that aggregate concentration has increased meaningfully, the question that is relevant for the competition analysis is whether intensity of competition has changed over time. Aggregate concentration measures do not provide an answer to this question, but unfortunately they have been used too often to suggest that observed changes might be meaningful from a policy perspective. For example, at the aggregated industries level, it was observed that CR-50 was 30 percent higher in 2007 than it was in 1997. Yet, the average market share of firm would be just 0.6 percent. Hence, Professor Wright argued, aggregation obscures market-level information as broad measures do not measure competitive dynamics between firms, and moreover, product and geographic markets are often local and small.

Professor Wright explained that though the narrow focus of antitrust markets may miss the big picture, it allows antitrust institutions to harness the strength of microeconomics to develop insights and to calibrate policy properly. Stepping back or zooming out away from markets has its risks in terms of maintaining the intellectual coherence of competition policy. The focus on markets leaves antitrust institutions enough leeway to ask big questions, but keeps competition analysis well rooted in industrial organization. This, in turn, allows competition authorities to connect those bigger questions to microeconomics.

Next, Professor Wright referred to various economic studies. He noted that studies that are based on aggregate measures of concentration are often plagued with endogeneity and lack of identification. They also did not take causal inference seriously, and often pointed policy in the wrong direction. Hence, Professor Wright called for caution in relying on such studies to generate inferences about intensity of competition or desirability of changes in competition policy.

At this point, Professor Wright mentioned that Kwoka's study is often cited to support the claim that concentration has increased and has led to some negative results. While the study itself is of inestimable value, it suffers from various limitations, which have been discussed by two FTC economists, Vita and Osinski. As these authors point out, two-third of sample in the study comes only from three industries, namely petroleum, airline, and journal publishing. Also, since 2000, only 7 mergers were analysed, of which only one raised a reasonable dispute about an error of forbearance by the competition authority (hence, a potential type II error). However, as standards errors for estimated average price increase were not reported, it is difficult to evaluate whether those effects are statistically different from zero.

Professor Wright suggested that while studies such as that by Kwoka are interesting for the purpose of analyzing individual mergers, and contribute to our overall economic knowledge in important ways, they do not offer evidence that is needed to address policy questions. This led Professor Wright to claim that we still do not have policy-relevant answers to the question whether merger policy should be tightened, relaxed or left unchanged. He explained that there are two sources of information for assessing the effectiveness of merger policy that offer systematic data: aggregate-level studies and merger retrospectives. Having previously explained that aggregated studies suffer from serious limitations concerning measurement, endogeneity, and identification, Professor Wright wished to discuss merger retrospectives.

Merger retrospectives provide information about the competitive dynamics in a specific market and outcome of a particular case. However, he suggested that evaluations of individual cases are of limited value for market-wide application and as demonstrated by Dennis Carlton in his study, they offer poor guidance for evaluating merger policy. Still, the methodology of merger retrospective can be improved and calibrated, so that it would provide us with policy-relevant information, and not just with information on pre- and post-merger situation. While such information is a necessary input for merger retrospectives that would be capable of evaluating policy what is also needed is an assessment of competition authorities' predictions. Competition authorities, however, may be reluctant to share and publish internal predictions about mergers they evaluate and admit potential error in these predictions, or to work externally with academics. Still, Professor Wright argued, we need to expand our notion of what a well-designed ex post evaluation is, and start evaluating policy rather than individual case outcomes.

Professor Baker started by highlighting what in his view is the central paradox of the US competition policy today, namely the surprising conjunction of the exercise of market

power with well-established and extensive antitrust norms and institutions. He then informed the audience that he would explain why the recent economic trends should be understood as reflecting growing market power in the US, and not as merely reflecting increasing economies of scale. Hence, the focus of the presentation would be market power, and not market concentration *per se*. According to Professor Baker, there are nine reasons that explain the growth of market power in the US over the last quarter of a century. None of them individually is substantially decisive, yet together they seem to paint a compelling picture.

The first three concern insufficient deterrence of coordinated conduct, anticompetitive mergers between rivals, and anticompetitive exclusion. He noted that the US DOJ keeps detecting cartels on a regular basis, year after year, and the penalties imposed seem to be too low to effectively deter collusion. As several empirical studies have shown, too many harmful horizontal mergers are proposed, while changes made by the US Supreme Court's decisions since the 1970s, brought extensive relaxation, conferring in some cases de facto legality to potentially exclusionary conduct. A different but related issue is that of under-deterrence of vertical restraints. He noted that some argue that the economic evidence on the competitive effects of vertical agreements counsels against enforcement. However, he explained that most of these studies are not informative for antitrust policy because they do not consider such agreements within oligopoly markets, in which antitrust enforcement is concentrated. Moreover, evidence has actually also shown that such agreements often support collusion.

The fourth reason identified by Professor Baker is the durability of market power: markets are not invariably self-correcting, and the evidence shows that cartels and monopolies often last a long time. Fifth, increasingly common equity ownership of rival firms by diversified financial investors also seems to be a source of market power throughout the US industry. Sixth, governmental restraints on competition have increased over the past decade in the US. For example, the patent scope was broadened substantially, and as a result, too many patents were granted after an inadequate review. Other example include more extensive occupational licensing or lobbying and other political rent-seeking activity by firms, which seek to limit competition and increase their supra-competitive profits.

Seventh, there has been a rise of dominant information technology platforms, which have achieved their position through a combination of various factors, and which are probably insulated from competition in some of their major markets. Eighth, oligopolies are now common, and concertation is increasing in many industries. The best evidence that increasing concentration allows firms to exercise more market power comes in particular from the following US industries: airlines brewing, and hospitals. Professor Baker said that in his view, the economy wide evidence on concentration, which suggests only modest increases, is less reliable than industry-specific studies. This is because economy-wide studies often use broad (national) product markets when it would be better to examine competitive problems in narrower (regional or local) markets. Some of the evidence involving broad national aggregates is consistent with an overall rise in concentration, but it could also reflect increased multimarket context, which in itself could raise concerns about coordination. Also, according to recent evidence concentration is growing in many US labour markets. This potentially allows businesses to depress wages, which constitutes another form of exercising market power.

Last but not least, there is a problem of decline in dynamism of the US economy. Growing market power is the leading plausible explanation for various long-term trends, such as a slow down in business investment, rising profits as a share of US GDP, a slowed rate at

which firms expand when they become more productive, the declining rate of start-ups, and a growing gap in accounting profitability between the most and least profitable firms.

Professor Baker explained that he interpreted the available evidence as reflecting market power. Such an interpretation, in his view, is more convincing than the most plausible benign alternative. The benign explanation would be that there are increased economies of scale and temporary returns to the first firms to adopt information technologies in competitive markets. This explanation has an initial plausibility because the efficient size of firms has likely grown over time in many industries; partly because of high fixed costs in investment in information technology, network effects, the increased scope of geographic markets, and reduced barriers to international trade. This means that firms could grow larger, that concentration could rise and cost margins could increase even if markets are competitive. Also, the first firms that have invested in new information technologies could earn substantial rents. However, these rents should be temporary if dynamic competition exists, i.e. if the rivals follow suit with investment on their own.

However, Professor Baker suggested that this explanation is not convincing. In particular, six of the nine reasons mentioned earlier for concern about market power cannot be reconciled with the benign alternative. These are: undeterred anticompetitive coordination, mergers, and exclusion; durability of market power; increased common equity ownership of rivals, which softens competition; and growing governmental restraints on competition.

Professor Baker noted that some of the evidence for the loss of economic dynamism could be consistent with the benign alternative as well as with the increasing market power. However, there are other aspects of the decline in dynamism that cannot be reconciled with the benign alternative because this alternative assumes that profits rise because markets are increasingly dynamic, with higher rates of entry and investment and business failure. In fact, the evidence shows the reverse: a slowing rate of entry, declining rate of expansion and slowdown of business investment. Also, the combination of high stock market valuations and low rates on corporate bonds suggests that the financial markets view corporate profit streams as less risky than in the past, whereas they should be viewed as more risky in increasingly dynamic markets.

In his conclusions, Professor Baker repeated that market power has been growing in the US economy, and market concentration in various industries supports this view. He then warned that the economy-wide evidence on concentration is not sufficiently reliable to ground conclusions about concentration on market power overall. To address the problem of growing market power, the US has to strengthen the antitrust rules, institutions and enforcement. Professor Baker added that for some competitive problems, especially in mergers, structural remedies would be best as they would reduce concentration or stop it from increasing. Last but not least, stronger economic enforcement would also reduce the possibility of non-economic harms, which Professor Baker did not discuss, but which are also important.

The Chair asked Professor Baker whether he supported the types of proposals put forward by Shapiro, Hovenkamp and Salop to increase the role of presumptions in merger control.

Professor Baker confirmed that yes, he did. He then added that in his view antitrust rules should be strengthened also in other areas, but this would require further discussion that goes beyond the current hearing.

The Chair asked BIAC about its perception of the debate that had taken place so far.

BIAC first expressed its concern that the debate about market concentration was based on a fallacy in terminology, which concerned market definition. It noted that the discussion had focused on market concentration, with little focus on a relevant product market that competition authorities would insist on defining in an antitrust case. Market concentration implies market definition. Without this first step, competition analysis will not say much about market concentration or market power. BIAC next argued that the tools and techniques that had been developed for identifying relevant product markets had been sharpened very well over the past couple of decades in economics, laws and guidelines, and that in their view recent literature does not call them into question.

BIAC said that on a properly defined product markets, the use of presumptions is perfectly appropriate as it helps to sort out those cases that are highly unlikely to raise anticompetitive effects from those may raise them. Of course, presumptions are just the starting point. Those cases that may cause anticompetitive effects still require further evaluation and careful analysis of the evidence because presumptions are dangerous.

BIAC stressed that the most troubling aspect of the debate that took place was the suggestion that a causal link exits between the increase in economic or market concentrations and the failure in competition law enforcement. First, the attempts to identify failures have been very case-specific. Second, it is possible to find markets with increased concentration, which cannot be easily explained. BIAC noted that during the hearing various studies on increased concentration in the hospital sector, where the HHI is over 3200, were mentioned. It then pointed out that this HHI refers to the national level, whereas hospitals are notoriously found to constitute a local market. BIAC then referred to the FTC's enforcement record with respect to hospital mergers. In its view, it would be difficult to blame the FTC for the lack of aggressive enforcement as over the last twenty years the FTC had challenged virtually every hospital merger in the same State. Although it has not always won, it has challenged the hospital mergers. This, according to BIAC, is quite telling as the increase in concentration is caused by the fact that there are national healthcare plans that drive up nationwide market concentration. This, however, does not say much about the competitive dynamics in any given local market.

BIAC concluded by agreeing that there are troubling signs concerning economic vitality and income distribution. However, in its view it is not fair to infer the existence of a causal connection between these trends and the failure in antitrust enforcement. It then recommended that competition authorities should continue defining relevant product markets and using structural presumptions. When they find something that is presumptively illegal, they should test their hypotheses with evidence.

The Chair thanked BIAC for its vigorous presentation and noted that BIAC did not mention one thing that competition authorities should do, and which was proposed earlier during the hearing, namely going back to the process of prediction that was used in past mergers to learn whether predictions were correct or whether there is anything that should be improved. Hence, ex post evaluation would be advisable. The Chair found the debate very interesting and thanked all the experts.