

## Four economic questions concerning European competition policy

Marc Lebourges<sup>1</sup>, Orange

This note addresses four economic questions regarding European competition policy: general economic doctrine underlying European competition policy, impact of mergers on investment and innovation, price measurement methodology used in the context competition policy enforcement and digital platform regulation.

### A) Economic doctrine underlying European competition policy ignores modern theory of growth

The economic doctrine underlying EU competition policy is not consistent with modern theory of endogenous growth developed by Romer<sup>2</sup>. According to EU competition policy economic doctrine, the closer markets are to effective competition<sup>3</sup>, the higher the social welfare and the consumer surplus. Classic market failures (resulting from economies of scale, externality and information asymmetry) are treated by regulation in order to erase their effects and to recover the supposedly optimal performance of effective competition.

However, according to economic theory, **the optimality of perfect competition is only true in the absence of technical progress or when technical progress is exogenous to the action of market players**. The modern theory of endogenous growth has shown that technical progress is the only driver of sustainable growth, and that it is the investment of market players to incorporate innovation into the production system that produces such technical progress. Without investment to incorporate innovation, there can be no effective technical progress and no sustainable growth. Market players make such investments only if in the one hand they can derive from it a competitive advantage, in other words if they have the perspective to exercise market power to make a profit from their investment and in the other hand, if absent investment, they would be subject to hard competition and earn no profit. Contestability by actual or potential competitors is one necessary ingredient of investment incentive, but the perspective of effective exercise of market power, is a no less important ingredient of the set up leading to actual investment. US antitrust policy understands this well: the perspective to exercise market power provides an essential incentive for firms to incorporate innovation through investment into their production system. It is therefore essential for economic growth and technological leadership<sup>4</sup>.

---

<sup>1</sup> Marc Lebourges has been head of European Regulation and Economic Studies until April 18<sup>th</sup> 2019. This note represents the authors' personal views and may not correspond to Orange position.

<sup>2</sup> Paul M. Romer (Nobel Prize of Economy 2018) « The Origins of Endogenous Growth » - Journal of Economic Perspectives – Volume 1 – Winter 1994 Pages 3-22. In the conclusion of this paper, P. Romer explicitly questions the benchmark of perfect competition as a universal efficiency benchmark.

<sup>3</sup> Competition is supposed not to be effective on a firm when that firm may operate to a significant degree independently of competitors, of customers and ultimately of consumers. In other words effective competition can be considered as synonymous of absence of market power.

<sup>4</sup> "The mere possession of monopoly power, and the concomitant charging of monopoly prices, is not only not unlawful; it is an important element of the free-market system." US Supreme Court, Verizon vs. Trinko, January 13, 2004

By contrast and notably for historical reasons<sup>5</sup>, **the economic doctrine underlying EU competition policy considers that the exercise of market power inherently generates inefficiencies and must be prevented or repressed.** EU competition officials concede that dominant position is not abusive per se, but tend to consider that market power is being abused as soon as it is exercised. No reference in the corpus of EU competition law acknowledges the positive role that imperfect competition and the exercise of market power may have on economic growth.

Intellectual property law is the only exception in this paradigm: but it should be notice that it does not belong to competition law, which hardly tolerates it and regularly questions it. However, intellectual property law does not fill the gap with the US approach, because investment in innovation is very far from being limited to patents, notably in the digital economy. The economic doctrine underlying EU competition law is made explicit by the constant reference to the “effective competitive benchmark” against which markets conditions in competitive sectors are assessed or non-competitive sectors are regulated. Retaining effective competition (that is to say situations where no market power may be exercised) as a benchmark of efficiency, as EU competition policy does, is incompatible with an endogenous growth of the economy, driven by incentives of firms to invest in the incorporation of innovation in their production system.

EU competition policy assumes that this function of elaboration and dissemination of technical progress is ensured by public support for R&D and by public infrastructure deployments, or where appropriate by the protection of patents. But a strategy based on public intervention and on patents is ill-suited in the digital economy. Moreover, neither the EU nor the Member States have developed any large scale public plan for the development of digital technologies and infrastructures as has been done in China.

Practical translations of the difference in vision between European and US competition policy can be found in difference in their respective case law, for instance:

- In Europe, the dominant players have a special responsibility to maintain a competitive market structure, limiting the possibility of freely using their efficiency. Until the recent Intel judgement by the European Court of Justice, this responsibility was widely understood as an obligation for a dominant player to let less efficient players compete. Whether or not Intel decision should be interpreted as reversing this obligation and allowing dominant player to operate at their efficiency frontier is still controversial and will only be clarified once the next steps of the case are completed. US competition law does not impose such responsibility on dominant players.

- The objective of European competition policy is not to maximize social surplus, therefore growth and overall wealth, but to protect each segment of consumers. This is apparent in the E.U. Merger Guidelines which notably state that “efficiencies that only offset the harm suffered by consumer groups that are adversely affected by the restrictive agreement will be credited.”. On the contrary, since the Chicago School revolution, US antitrust benchmark is based on a “consumer welfare standard” globally taking into account all effects on all consumers.

In this respect, it should be recalled that when EU competition policy takes a decision on a criterion other than the European social surplus, the consequence is that the European social surplus, that is

---

<sup>5</sup> European competition policy had the priority to open to effective competition national markets initially dominated or monopolized by public or private firms owned or protected by national authorities.

to say the global wealth and the growth in Europe, is not maximized. In other words, such decision leads EU to lose growth and wealth. It is obvious but rarely underlined.

As an additional consideration, it should be reminded that **many concepts of EU competition policy were invented by academics in the United States, exported to Europe where they have flourished and have been adopted by EU institutions, while their implementation by the public authorities has been abandoned across in the US.** To illustrate this process, we can mention the following examples:

- The theory of essential facilities, has been introduced in US case law in the “United States v. Terminal Railroad Association” case, but has ultimately been rejected in Trinko: “To the extent respondent’s “essential facilities” argument is distinct from its general §2 argument, we reject it.” (*Here general §2 argument refers to §2 of the Sherman Act*). By contrast, the theory of essential facility is alive and well in the EU.
- The qualification of “margin squeeze” as per se abuse has first appeared in the “Aspen case” in the US, but has finally been discarded by the Supreme Court in the Trinko and linkLine cases. In EU, the ECJ has several times confirmed “margin squeeze” as a per se abuse.

In the telecommunications markets:

- The unbundling of the copper local loop started with the 1996 Communication Act in the US but disappeared when the FCC requalified broadband access as information services in 2004. However, the unbundling of the copper and of the fiber local loop is at the core of EU access regulation since 2000.
- Net neutrality regulation derives from an academic debate started in the US around year 2003 and was followed by light touch provisions taken by the FCC in 2005 (the “four internet freedom”). After a long and complex legal, regulatory and political story, hard sector specific net neutrality law has been abandoned in the US in 2018. Meanwhile, the concept crossed the Atlantic. A hard law has been adopted at EU level in 2015 and is there to last.

The next candidate US theory which will probably to be considered in practice the EU but not in the US, is the “common ownership” issue. More generally, the “antitrust under enforcement” debate which has emerged and grown in the last two years in the United States is likely to influence European academics and authorities sooner than American Courts.

References:

“The role of market power in economic growth: an analysis of the differences between EU and US competition policy theory, practice and outcomes” Stephane Ciriani, Marc Lebourges, Orange, European Journal of Government and Economics Volume 5, Number 1 (June 2016) ISSN: 2254-7088. *This article exhibits the economic doctrine that is reflected in DG Competition guidelines and decisions and its contradictions with the modern theory of growth.*

“Competition, technological change and Productivity gains: a sectoral analysis” Stephane Ciriani, Francois Jeanjean Orange, January, 2019. *This empirical article shows by an analysis of the French economy from 1978 to 2015 that optimal margins for productivity growth are higher in sectors with strong technical progress. It also shows that the suboptimal “adjustment” of the intensity of*

*competition in different sectors of the economy has generated in average a loss of 0.4 point of growth of the productivity per year in France.*

“Impact of Technical Progress on the Relationship between Competition and Investment” F. Jeanjean February 20<sup>th</sup> 2019. A previous version of this article was presented at the congress of the French Association of Economic Sciences in 2018. *This theoretical article shows that the intensity of competition which maximizes investment, social surplus and consumer surplus depends on the rate of technical progress: It is smaller in sectors where technical progress is high.*

## B) impact of mergers on innovation and investment, in general and in telecommunications

### *Impact of merger control on entry incentives*

A forgotten effect of merger control is that it increases entry barriers. Indeed, the more exit from a market by ways of a merger is difficult the more entry in the same market is risky. A paper formally analyzes this effect and concludes that taking into account this interaction between entry and merge should lead to allowing mergers that would have been banned otherwise: “Entry and Merger Policy” Laure Jaunaux Orange, Yassine Lefouili TSE, Wilfried Sand-Zantman TSE, published in Economic Letters 2017.

**This effect is essential in the digital industries, where value chains constantly change.**

### *Impact of mergers on innovation and investment in general*

Criticisms addressed to DG Competition for not taking into account dynamic effects in merger control has pushed the two last chief economists of DG Competition to formalize theoretical models essentially aimed to prove that all mergers reduce investment and innovation, except in case of synergies.

The first mechanism described by Motta and Tarantino leading to this conclusion is that a merger should lead (all things equal) to higher prices, and therefore lower volumes, which reduces the interest of innovations that drive down costs since they apply to lower volumes<sup>6</sup>. The second mechanism elaborated by Frederico, Langus and Valetti is that a merger with a competitor leads the merged company to internalize the cost for one party to the merger of innovations of the other party, thereby reducing the value and therefore the incentive to innovate.

A first remark that could be mentioned may be that merger lead to competition concerns only to the extend barriers prevent entry to solve competition concerns which may result from a merger. To reflect this condition, it would have been logical for the self-consistency of the reasoning that the models meant to prove the existence of consumer harm resulting from mergers would also exhibit the barriers which would prevent entry after the merger. It is not the case of the models above: therefore, adding endogenous entry to these models may reverse the conclusions<sup>7</sup>.

---

<sup>6</sup> This is the main message stressed in the abstract, the introduction and the conclusion of these papers even though more nuanced statements may be found in the paper itself.

<sup>7</sup> Adding ad hoc arbitrary sunk cost to fill this gap would appear more discretionary than convincing.

A second remark is that the conclusions of the model are critically dependent of the hypothesis of symmetry in the characteristics of the firms and in the strategic management of the two components of the merged entity. In "Duplicative Research, Mergers and Innovation", Denicolo and Polo, Economics Letters 2018 show that if the merged entity decides to concentrate rather than duplicate its innovation effort, then the result of Frederic, Langus and Valetti may be reversed. Motta and Tarantino's conclusions may also be reversed for specific range of parameters if asymmetries are introduced in the model: asymmetries in the characteristics of the firms or asymmetries in the strategic allocation of investment resources by the management of the merged entity. The intuition for this is that asymmetries introduce opportunities for different forms of efficiency gains which may result from the merger and which cannot exist in symmetrical cases.

In "Horizontal Mergers and Innovation" TSE Working Paper 18-892 of May 2018, B. Jullien and Y. Lefouilli of TSE demonstrate that those models developed by DG Competition chief economists correspond to particular cases, which can be written in a more general framework for **which mergers (even in the absence of synergies) can, in some cases, increase investment and innovation and in others reduce it.** Jullien and Lefouilli's paper specifies under what circumstances positive or negative effects can be expected. In particular, when innovation main effect is to increase volumes of sales rather than prices, the effect of a merger is positive for investment. It is also the case when the innovations produced by the merging firms are complementary rather than substitutable. Last but not least, Jullien and Lefouilli remind that if technological spillover effects between firms are strong, they should be central in the analysis of mergers on innovation, and if they are positive (negative) then mergers have a positive (negative) effect on innovation. Whether spillovers effects are strong and positive or negative is an empirical question which has recently found a clear answer. In "Identifying Technology Spillovers and Product Market Rivalry", Econometrica (2013), Bloom, Schankerman and van Reenen empirically prove that technological spillovers between firms are very strong and that positive effects are generally twice as large as negative effects. This result tends to support a rather positive view on the impact of mergers on innovation, at least as far as spillover effects are concerned.

#### *Impact of mergers on telecom investment*

A brief article published in May 2017 in "Agenda", the online journal of Oxera consulting, summarizes the state of literature concerning mobile mergers at that time: "The European mobile mergers controversy" by Marc Lebourges.

The article "What level of competition maximizes investment in the wireless industry?" published in Telecommunications Policy (2016) by Hounghonon, GV, & Jeanjean, F. shows the existence of an inverted-U relationship, with a maximum of 37%, between mobile investment per customer and the Ebitda margin rate of firms in the market. In other words, mobile investment per customer would be maximized if the mobile industry experienced an average EBITDA margin of 37% for mobile operators, above current values.

Jeanjean F & Hounghonon GV's article "Market Structure and Investment in the Mobile Industry" published in Information Economics and Policy in 2017, proves, using structural econometrics, that compared to the current situation of mobile markets in Europe, a decrease (increase) of the number of operators would have a positive (negative) long-term effect on the investment per customer.

C) Assessment of impact of mergers on consumers depends on method used to analyze prices

In "Investment and Market Power in Mobile Mergers" by F. Jeanjean and G-V. Houngebbon published in 2019 in Journal of Industrial and Business Economics, it is shown that 3-operators market structures maximize consumer surplus, despite an Arpu (Average Revenue per user) slightly higher than with 4-operators market structures, because they lead to significantly higher traffic volumes. This notably shows that price per unit of volume provides a better measure of consumer surplus than Arpu.

In "What causes the megabyte price in the mobile industry?" published in the Journal of Industrial and Business Economics in 2015, F. Jeanjean demonstrates the almost exclusive role of investment as a source of lowering the price of mobile data Gbyte.

The article "Impact of Competition, Investment, and Regulation on Mobile Services: Evidence from France" by A. Nicolle, L. Grzybowski and C. Zulehner, published in 2018 in Economic Inquiry, uses the hedonic price method rather than the classic basket method, and shows that the fall in prices in France between 2011 and 2014 results for more than half of the introduction of 4G technology and for less than a quarter of the entry of Free. The article also shows that by contrast the classical method of baskets of telecom consumption used by authorities to measure prices is blind to the effect of 4G on prices.

Also using the hedonic price method, GV Houngebbon demonstrated in his doctoral dissertation that the 4-3 merger in Austria had accentuated the fall in prices of data services, but raised voice prices, while the entry of Free into France, on the other hand, had accelerated the fall in voice prices, but slowed down the decrease of price of data.

Finally, a work in progress by J. Liang and F. Jeanjean, articulating a theoretical approach and an empirical approach, shows that mergers 4-3 lead to higher unit voice prices but to lower unit data prices.

These different works use unit prices (total expenses / total volumes) or hedonic prices (implicit prices of the components of the offers<sup>8</sup>) to avoid the defects of the basket method as a proxy to measure merger impact on consumer welfare, in particular when price structures are non-linear. The basket method used by the competition and regulatory authorities in their analyses derives from the techniques used to measure inflation. It assesses the evolution of prices for constant volumes, an approach which is necessary to measure inflation, in order to distinguish inflation from growth, which measure evolution of volumes at constant prices. But using price evolution based on constant volumes as a proxy of consumer surplus is wrong, because **the impact of a merger on consumer surplus depends not only on the price of each transaction but also on the impact of this merger on the volumes of transactions**. When prices are linear, proportional to volumes, lower (higher) prices lead to higher (lower) volumes: therefore, the two effects on price and on volumes go in the same direction regarding consumer surplus. The basket approach to measure price is then a relevant proxy of consumer surplus. But when tariffs are non-linear as it is the case in telecoms, the offers for which the fixed part of the price is higher generally have a lower variable part and induce higher volumes of consumption. In this case, a higher total expenditure is associated with a lower average unit price,

---

<sup>8</sup> What you have for the price : Quality but also quantity

leading to an ambiguous effect on consumer surplus. The basket method cannot take this into account and therefore other methodologies must be used to measure price.

The difficulty of traditional methods of measuring inflation to reflect the decline in unit prices in telecoms was the subject of a detailed analysis of the British Office of National Statistics early 2018: "A Comparison of Approaches to Deflating Telecoms Output Services, "Richard Heys Deputy Chief Economist UK Office for National Statistics. The general conclusion is that the traditional approach overwhelmingly underestimates the effect of technological change to lower unit prices in telecommunications.

The more general question of taking into account technological developments in price measurement has been the subject of recent work by P. Aghion et al. "Missing Growth from Creative Destruction" Federal Reserve Bank of San Francisco Working Paper 2017-04. This paper shows that the methods used to measure prices do not satisfactorily take into account technical progress. As a result, they overestimate inflation and underestimate growth.

**Competition authorities must therefore revise their techniques of price measurement when they assess the impact of a merger on consumer surplus, so that they become able to reflect the effects of technical progress on consumer surplus.** Otherwise, basing their analysis of price effects on methodologies plagued with systematic errors that are unfavorable to innovation, they will take decisions which will hinder innovation.

More specifically, these observations call for the following proposals for the purpose of assessing the price effects of mergers, in industries where typical price structures are non-linear,

- Ex post empirical analysis of past mergers on prices, which strongly influence the presumption of merger control authorities, should not use the basket approach to measure price evolutions, but hedonic or average unit price approaches which are more relevant to capture the impact of price structure evolutions on volumes of consumption.
- Ex ante analysis of price effects of merger project should differentiate the potential impact of the merger on the different components of price structures: the same merger may generate both upward pricing effects on access prices and downward pricing effects on usage prices with a global impact on social and consumer welfare which is critically dependent of the respective price elasticities for access and for usage.

D) Digital economy require authorities to review their views on competition in order to foster the emergence of EU competitive alternatives

As digitalization is pervasive, digital platform regulation should be grounded on a vigorous adaptation of common law in all its dimensions to digitalization, taking notably account of the growing role of data, but not on an attempt to create ex nihilo a specific law applying only to digital activities.

In particular, the framework which regulates vertical restrictions in EU competition law should much more systematically be used to address issues related to platform economy. Indeed, for producers, intermediation platforms represent an alternative option to reach consumers compared to classical retailers. Hence relations between producers and intermediation platforms and relations between

producers and retailers are subject to similar concerns which could be addressed in a common framework even though the detailed assessment of each behavior could differentiate platforms from retailers.

In parallel, the ability of European companies to succeed in a digitized globalized world, where the very functioning of markets is based on continuous dynamics of innovation and differentiation, and where competition is often “for the market” rather than “in the market”, would benefit from a significant change in the perception of the role of “market power” in the economy. As pointed out in paragraph A) of this note, European competition policy considers the exercise of market power as a factor of inefficiency that must be prevented or repressed. In the United States, the authorities see the prospect of exercising market power as an essential engine of innovation and a source of economic growth. Clearly, US views are much more adapted to the digital age of the industry than EU views. There may be a sign of transatlantic rapprochement in the European Court of Justice's decision in the Intel case to take into account the economic arguments of the dominant players in support of its behavior.

This change would support the initiatives of European firms with the ambition to become global leaders. And among the European companies that can catalyze such a dynamic, telecommunications operators, Europe's last major representatives in the digital ecosystem, are in first place.

For this, national and European authorities must change their perception of the sector, currently limited to a market of connectivity services in which the main concern is to find the right setting of competition between peers. However, all major operators, through various strategies, combine massive investments in their networks with selective but significant developments in services and verticals, for instance as value-added distributors on the television market, as partners of large companies involved in cybersecurity and IoT projects, or as new players in digital banks.

To make profitable the investments engaged in the fixed and mobile networks but also to open the game in the digital transition vis-a-vis the domination of the GAFAs, the telecommunications operators must be able:

- To rely on a regulatory and fiscal “level playing field” with major digital platforms so as not to hinder telcos' multiservice strategies;
- To cooperate with each other and with all actors in the Internet value chain in a framework validated by the competition authorities.

More generally, competition authorities should support new forms of industrial organization which could:

- In the one hand, allow appropriate forms of cooperation between firms, by which each firm would be able to internalize global network effects,
- In the other hand, ensure competition on other dimensions of the activities in order that the efficiency of global network effects are transferred to end-users to the maximum extent compatible with incentives to invest in innovation.