

1 Introduction

Article 102 TFEU (ex Article 82 EC) prohibits the abuse of dominance. Basically, this implies that firms with market power shall not abuse their strength to impede competition or to leverage their market power to another market. In contrast, intellectual property rights allow their right holders to exclude competitors from the usage of the protected item. If exercised by a dominant firm, conflicts with Article 102 TFEU may occur. In refusal to license cases, for instance, the intellectual property right of the dominant firm protects a good or service which is deemed necessary for competition on a related market. Thus, although the intellectual property right entitles the right holder to exclude others, a refusal to license by a dominant firm may hamper or even prohibit competition on a related market and may enable the dominant firm to leverage its market power to this market. That is to say, a refusal to license intellectual property rights can constitute an abuse of dominance according to Article 102 TFEU. In this context competition authorities such as the European Commission have to solve the question whether such a refusal to license is just a legal exploitation of intellectual property rights or an attempt to extend the own market strength with anti-competitive means.¹

One of the most discussed cases in the last decade is the 2004 European *Microsoft* case. Subject to Article 102 TFEU, the European Commission scrutinized whether Microsoft's refusal to disclose interface information to competitors constituted an abuse of dominance. While Microsoft justified its conduct with the possession of intellectual property rights, the Commission rejected this argument and undertook inter alia an assessment of the effects on dynamic efficiency evoked by the refusal, the so-called Incentives Balance Test. In detail, the Commission analysed the impact of the refusal to license on the overall innovation incentives, that is, the incentives of both Microsoft and its competitors, and compared the result with the supposed innovation incentives in a hypothetical situation in which Microsoft did license the interface information. The Commission concluded that if Microsoft licensed the interface information, more innovation incentives would result than otherwise. Hence, the Commission took this result as further proof that Microsoft's conduct was anti-competitive. This proceeding can also be used to explain the term "dynamic efficiency." In economic terms, dynamic efficiency comprises the steady necessity of development processes, that is, the development of new products and services, quality improvement, process optimization, and so on. By considering in which situation more innovation incentives would occur, the Commission asked under what conditions dynamic efficiency could be better improved.

In the *Microsoft* case, the Commission entered uncharted waters. According to my knowledge, in no other refusal to license intellectual property rights case has the focus been so clearly on the effects on innovation. However, focusing on

dynamic efficiency is a convincing approach as the promotion of innovation is at the centre of competition law and intellectual property law as well. Nonetheless, the Commission did not only earn credit for its decision – it has also been heavily criticized. Critics argue that the Commission did not act in accordance with previous caselaw and did not use solid economic criteria. In fact, it seems as if the Commission based its decision that the refusal to license would be detrimental to innovation mainly on the assumption that low firm concentration spurs innovation more than a concentrated market structure. That is to say, it did not base its decision on traceable economic theories. Despite these criticisms, the Commission incorporated the criteria applied in the *Microsoft* case in the new guidance paper to Article 102 TFEU. As such, these criteria are likely to be used for prospective cases of refusal to license intellectual property rights – although an economic foundation for such a proceeding is missing at present.

Against this background and considering the importance of intellectual property rights for the protection of innovation, it is necessary to further consider this issue, that is, the interference of competition policy with intellectual property rights in refusal to license cases. In order to maintain innovation incentives in the long run, it is essential to analyse in-depth whether such interference undermines dynamic efficiency or whether, on the contrary, interference is desirable since it spurs dynamic efficiency. At this point, the Commission does not provide a satisfying approach; instead, the *Microsoft* case and the criteria in the guidance paper leave more questions open than they answer. It appears as though a clear approach for all kind of cases is not possible. Instead, it has to be differentiated under which conditions an intervention would be welfare-enhancing in that it promotes innovation and under which conditions competition policy should abstain from intervention.

Consequently, this thesis pursues five main goals. First, it analyses which criteria were applied before the *Microsoft* case to assess refusals to license intellectual property rights. This allows an analysis of whether these criteria employed economic theories and in what respects the Commission departs from these “old” criteria. Second, against the background that intellectual property rights indeed entitle the right holder to exclude others from the usage, the relationship between competition policy and intellectual property law is scrutinized from an economic perspective. The leading question is whether competition law is authorized to restrict intellectual property rights or whether an intervention can be interpreted as a fundamental attack on intellectual property law. Third, provided that competition law may interfere in certain cases, what are the general economic criteria that can be applied to analyse the exercise of intellectual property rights (and their effectiveness)? Related to this question is the fourth research topic that analyses whether instruments exist that can take over the function of intellectual property rights, defined as the protection of innovation for the generation of profits. Finally, the fifth goal is the development of a test –

incorporating all the results yielded in the course of this thesis – that is capable of striking the balance between maintaining competition and upholding sufficient innovation incentives for (dominant) firms. Thus, it is the overall goal of this thesis to develop an economic-founded test that can be used for the prospective assessment of refusal to license intellectual property rights cases.

For this purpose, the thesis is structured as followed: Chapter 2 gives an overview on cases concerning refusal to license intellectual property rights in Europe and the U.S. This survey analyses whether competition authorities and courts have specified criteria they apply in the examination of anticompetitive behaviour. Special attention is paid to the European *Microsoft* case, as in this case the Commission balances the effects of a refusal to license on innovation against the effects of a license on innovation. This proceeding is known as the Incentives Balance Test. The chapter concludes with a brief introduction of the Commission's guidance paper to exclusionary behaviour in regards to refusal to deal cases. This step is important, as it clarifies how the Commission intends to proceed in future cases. Throughout this thesis, I analyse whether both the criteria of previous caselaw and the criteria laid out in the guidance paper are based on sound economic principles or whether we should aim for new criteria.

Having described cases in which dominant firms abused or were accused of abusing their intellectual property rights, the next chapter clarifies whether competition law is entitled to interfere with intellectual property rights at all. Specifically, Chapter 3 analyses the relationship between competition law and intellectual property law. Based on these results, I provide an economic explanation under which circumstances competition policy ought to interfere with intellectual property rights. The chapter concludes with an economic interpretation of the Incentives Balance Test that shall serve as a starting point for the further analysis.

Chapter 4 focuses on the question of which theories can be used to assess whether a refusal to supply curtails dynamic efficiency. In detail, the focus switches to the question of how an optimal, that is, welfare-enhancing intellectual property right should be designed and what influences such optimal design. Further, broader innovation economics, in particular evolutionary economic theories and theories from the resourced-based view of the firm, are reviewed in order to analyse whether these theories provide us with insights regarding a firm's possibility to innovate and to appropriate the resulting returns *without* intellectual property rights. Eventually, the chapter examines how markets with network effects can influence innovation and competition.

Finally, the findings of the previous chapters are framed together. After discussing the requirements for abusive conduct, the *Innovation Effects and Appropriability Test* is developed that counters anti-competitive conduct but also maintains the goal of promoting innovation. In detail, the test analyses the availability of alternative appropriability mechanisms besides intellectual property

rights. The refusal to license is only anti-competitive when it can be shown that the dominant firm does not depend on intellectual property rights to protect its innovation. While the Incentives Balance Test of the Commission seems to be rather random and lacks an economic foundation, the Innovation Effects and Appropriability Test closes this gap and refers to the economic theories outlined in the course of this thesis. At the same time, the new test aims at the maintenance of the initial idea behind the Incentives Balance Test, that is, the promotion of innovation and, thereby, dynamic efficiency. In general, the Innovation Effects and Appropriability Test is advantageous in that, first, it is based on sound economic theories and, second, firms can predict the outcome of any analysis by competition authorities. The thesis concludes with a brief summary and an outlook for further research.