1. Introduction

1.1 THE SUBJECT

This book explores the standards for the protection of competition in the innovation process in American antitrust law and European competition law, respectively. The development and current state of the relevant legal frameworks are described and analysed, and the results evaluated with regard to underlying economic rationale of the law. Suggestions for further development and clarification are presented and potential future applications discussed.

The single most notable doctrinal development in the area of protecting competition in the innovation process is the introduction of the ‘Innovation Market’ concept, developed in US antitrust policy in the 1990s. Consequently, the innovation market concept serves as a concrete point of departure for this work. Nonetheless, in order to analyse the boundaries of the innovation market approach and its relationship to other market definitions and other tools for analysing the innovation process, the scope of the investigation has gradually grown. Moreover, since the limits of the different legal concepts and doctrines are imprecise and the same transaction may have effects on multiple ‘relevant markets’, it is appropriate to highlight the interplay and limitations between product markets, technology markets and innovation markets.

1.2 THE ANTITRUST LAW CONCEPT OF INNOVATION MARKETS

The logic behind the concept of defining relevant markets as a basis for a competition law analysis is to identify the competitive restraints (in terms of competitors and competing products) that might reasonably discipline a firm by exerting competitive pressure. The innovation market concept can thus be seen as resulting from a concern that antitrust analysis had been limited to analysing competition in current markets where products and technologies are traded. The concept entails the delineation, for purposes of antitrust analysis, of an upstream market for innovation efforts (typically R&D programmes). The US 1995 Antitrust Guidelines for the Licensing of Intellectual Property provide the following description.
An innovation market consists of the research and development directed to particular new or improved goods or processes, and the close substitutes for that research and development. The close substitutes are research and development efforts, technologies, and goods that significantly constrain the exercise of market power with respect to the relevant research and development, for example by limiting the ability and incentive of a hypothetical monopolist to retard the pace of research and development. The Agencies will delineate an innovation market only when the capabilities to engage in the relevant research and development can be associated with specialized assets or characteristics of specific firms.

In other words, a market is defined for such research as aims either to improve currently existing products, or, more characteristically, to develop a completely new product for which no product market may yet exist. Consequently, such a market normally consists of the R&D for a specific product or process and relevant substitutes for this R&D (often in terms of competing R&D programmes).

In Europe, a less formalized methodology has been applied where the Commission analyses competition in R&D of certain products. Commenting on the European practices, John Temple Lang (at the time Director at DG Competition) asserted that, '[i]f there is a “market for R&D”, it is only if companies are selling the service of providing R&D to other companies. That is a present service, and it is not the same as the question of whether R&D activities for the researcher’s own use is a good measure of future market power.' He nevertheless maintained that the Commission may consider whether a merger or agreement is likely to ‘restrict substantially competition in R&D’ and that this is something different from the potential competition approach. Contrasting the US method of identifying competing R&D directed towards a particular good in situations where the innovation is associated with specialized assets or the characteristics of specific firms, he claimed that the European approach focuses on competition in R&D where competition between the relevant firms ‘is the leading research in the field, is directed specifically towards producing or improving the same product or process, and is associated with specialized R&D programmes of those firms’. He believed the American approach might be broader, but usually not significantly different.

Elsewhere the Commission has stated that, in the light of the uncertainties surrounding concentration and innovation, it does not apply competition

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1 The US 1995 Antitrust Guidelines for the Licensing of Intellectual Property, §3.2.3.
3 Ibid., pp. 760f.
4 Ibid.
policy to innovation markets directly. However, the Commission uses the innovation market concept to base its decision on likely effects for the market of the future products involved.\(^5\)

In *Ciba-Geigy/Sandoz* (EU 1996),\(^6\) some competitors had pointed out to the European Commission that there was a trend towards commissioning firms to carry out R&D. The Commission noted that ‘some do not see research and development as a separate market. This is evidently based essentially on the fact that research and development, at least by pharmaceutical undertakings engaging in research, is still carried out predominantly for in-house purposes.’\(^7\) The Commission did however assess relevant R&D ‘in terms of its importance for future markets’, that is, where no product has yet been introduced.\(^8\) In *GlaxoWellcome/SmithKline Beecham* (EU 2000) under the ‘future market’ heading, the Commission asserted it had to assess ‘the impact of the transaction on existing markets and on R&D markets’.\(^9\) Also in *Upjohn/Pharmacia* (EU 1995)\(^10\) the Commission repeatedly referred to R&D markets.

In the 2001 Guidelines on Horizontal Cooperation, the Commission briefly expanded on its approach to innovation competition (competing R&D efforts), thereby moving towards a formalization of its methodology.\(^11\) These guidelines label product markets and technology markets as ‘existing markets’. Rather than referring R&D competition analysis to ‘future markets’, the guidelines address ‘competition in innovation’ and ‘R&D efforts’. The guidelines also make reference to the ‘innovation market’, referring to the previously defined R&D efforts. The 2004 EU Technology Transfer Guidelines take the final step and formally include innovation markets as a third kind of relevant market, besides product and technology markets.\(^12\)

In spite of the ambiguous categorizations, the term ‘innovation market’ will here be used for both the EU and the US methodologies used to analyse the impact of transactions with reference to the structure and competitive conditions in R&D.

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7 Ibid., §43.
8 Ibid., §44.
Outside the US and EU guidelines’ definitions of innovation markets, innovation issues can still be central. Notably, diminished competition in innovation can be suspected even though the relevant market may be better defined by the characteristics of existing products (rather than by R&D projects directed toward future products). There is thus a large overlap between a doctrine for analysing potential competition in relation to existing markets, and what would be expressed as innovation market competition. As will be seen, doctrinal labelling does not necessarily change the underlying analysis. In order to find an appreciable reduction in potential competition, the analysis would often have to include the same parameters as an innovation market analysis – and thus share many of the same difficulties.

Moreover, innovation-related cases frequently turn on conduct involving intellectual property rights. Various IPR practices, such as creation of patent pools or amalgamation of important patent portfolios, are particularly likely to affect innovation and markets in a context that is larger than a particular future product by influencing a number of future product developments and markets. Since in all these cases some analysis must be conducted regarding the terms and conditions for innovation, their inclusion in the analysis allows for a general grasp of antitrust policy in this field, with a view to providing an adequate systemization and evaluation of the subject area.

1.3 BACKGROUND

In order to put the legal standards and developments in this field in a broader context, it is appropriate to consider first why competition policy might be concerned with innovation at all and should even think of acting to protect competition in the innovation process.

The central position of innovation and dynamic efficiency in achieving continuous economic growth and welfare in society has been acknowledged, not only by economists, but also, to an increasing extent, by public policy makers. A desire to foster competition and support a market environment that spurs entrepreneurial and innovative activities naturally has implications for antitrust enforcement. By recognizing the dynamics of technological development as both a source of competition and as a means to compete and by assessing market transactions with a view to the dynamics of market processes, antitrust authorities can affect competition and consumer welfare in the long run. Apart from other dynamic aspects of technological development, in many modern markets today’s conditions for R&D and innovation will be a determinant for tomorrow’s product market competition. This relationship must thus also be addressed when assessing the competitive nature and effects of market transactions and corporate behaviour.
Usually, competition fosters efficiency at all levels: product development, production and distribution. There may be no real way of distinguishing between competition in innovation and competition in resale. Nevertheless, the primary means for a market actor to attract business – to compete – may differ from case to case, the obstacles to competition may be of various origins, and the primary effect of lessened competition may vary. In order to analyse the effects of a transaction or business behaviour in a way which correctly reflects the consumer welfare aspects at stake, account must be taken of the underlying conditions for competition and the possible consequences of the market practice in question.

When the ability to compete rests largely on the ability to bring attractive products and services to the market, itself dependent on successful product development, there may be little to stop market entry. With a high pace of technological development and current technologies soon becoming obsolete, innovation generally opens up opportunities for new competitors and products. It thus constitutes a primary means of both competition between current market participants and entry, imposing a serious threat on incumbent firms. Where technological development is difficult to control, there is little possibility for actors to maintain current market positions with less than efficient performance. If a particular firm is dominant at any time, this is presumably the product of superior efficiency and it will be continuously contested by others who strive to become the market leader through successful innovation. In such a case, the role of competition law is diminished as the market forces single out inefficient actors and strategies.

However, high-tech markets, although R&D intense, frequently display substantial barriers to entry, as a consequence of which incumbent firms may have considerable advantages. These barriers to entry, relating to R&D or to access to markets for the resulting products, often have some relationship to intellectual property rights, yet the mechanisms by which entry is impeded vary considerably between industries.

In some markets, patents effectively foreclose competition even in the medium or long term. The availability of technological alternatives in a specific market may be limited and a patent or a patent portfolio, for example, covering a chemical compound or a gene sequence, may confer substantial market power on the owner of this key asset.

Other barriers such as very high fixed costs and large commercial risks serve to make entry less attractive. This is even more apparent in industries like the pharmaceutical industry with long R&D cycles where product development is contingent on authority approval. Although heavily R&D intense and equipped with sophisticated underlying technologies, new actors and products emerge rather slowly.

In some industries innovation is closely connected to production and
marketing, with tight feedback mechanisms and information flow going between the level of R&D, the actual manufacturing of products and interaction with the customers. Combined with large economies of scale in production and other entry barriers at the level of the finished products, innovation is restricted to a small number of actors.

In other industries, technology is more heterogeneous and the capabilities for technological development are more readily available. But, even here, dominance in one product generation may nevertheless give exclusive access and control over crucial inputs to the next generation, allowing dominance and market power to be maintained. For example, market power due to control of a technology that has become a standard may be very hard to dislodge. Customers may have invested heavily in current technology standards and would face considerable switching costs, creating lock-in effects. Moreover, network effects are a common phenomenon in many high-tech markets; here a particular customer cannot readily switch to an alternative product if this is not compatible with the current standard. Innovation aspects arise at both the 'architectural' (standard) level and the ‘modular’ level (the various parts or sub-systems which a standard comprises), and raises questions, *inter alia*, about standard setting and access to set standards.

These diverse entry barriers may enable market participants successfully to affect their competitive environment through strategic action and to exercise market power to the detriment of consumer welfare. A currently dominant market actor may have incentives to reduce the output of the R&D process, in terms of new or improved products, in order to extract more profits from the current product generation. This could, for example, be achieved by acquiring competing products under development, artificially reducing consumer choice. Another example would be the creation of bottlenecks operated to create or perpetuate dominance. Such a bottleneck could be created through the joint formation of a patent portfolio as a result of which potential actors in a market would be dependent on a licence in order to pursue R&D effectively, in the end resulting in restricted choice and more expensive products. Similarly, an established standard to which an entrant would need access could effectively foreclose more efficient competitors.

Some of these actions, such as horizontal mergers on a concentrated market, will be of a kind familiar to antitrust analysis. Others may be more novel, for example certain exclusionary practices in relation to intellectual property rights or standards, with the potential of driving more efficient firms out of the market. In any event, since innovation remains a primary means and force of competition, key issues in competition analysis, not least the analysis of entry conditions, clearly relate to the innovation process. Although the legal framework is flexible and its commitment to economic rationality probably makes the law in principle able to cope with new issues in new settings, it is
crucial for courts and antitrust authorities to frame the analyses in a way that reflects the competitive nature of the market and correctly identifies and then remedies unjustifiable practices and consequences.

This is all the more important bearing in mind the fact that mergers and joint ventures often generate substantial efficiencies. Likewise, the creation of an intellectual property right ('IPR') portfolio or the acquisition of a potential entrant may be beneficial to society. The coordination of complementary resources and know-how, sharing of risks, minimization of spending, reduction of transaction costs and so on typically enhance the chances of efficient technological progress, to the benefit of consumers. By the same token, standards usually confer considerable benefits on consumers, achieving compatibility between a great variety of components and systems.

Traditionally, however, antitrust policy has been concerned with competition in markets for existing products and services. Admittedly, antitrust analysis often incorporates the conditions for entry onto the market of new products and actors, but the economic foundations for antitrust law can be traced to microeconomic perceptions where price is the main variable of competition and where the ideal market presumes homogeneous products and commonly known and available technology. The incumbent market actors' relative shares of the production and distribution of goods are still the general basis for deciding whether a market practice will lead to a restriction of competition. Moreover, anti-competitive effects are typically expressed as the ability to exercise market power by charging prices that exceed those a competitive market would support.

A competition policy focusing too narrowly on market shares and pricing strategies may protect consumer welfare less effectively, getting the trade-off skewed between short- and long-run benefits. The incentives for investment and risk, not least in the development of new and improved products and services, as well as the strategies for lowering risks and making R&D efforts more efficient, must be acknowledged if markets and competition are to evolve dynamically. This is especially the case for areas where antitrust enforcement interacts with the realm of intellectual property rights; what may seem intuitively attractive in the short run may in reality not further consumer welfare in the long run. Moreover, current market shares, prices and profit levels may say little about the true level of competition. Particularly in high-tech markets, dominance and high profits are not necessarily signs of ineffective competition. Rather, such conditions are generally the result of an efficiently and successfully conducted enterprise.

Even if a dynamic perspective is taken and competition policy intends to assess and protect competition in the innovation process, it may still have a variety of objectives. Since future product market conditions are frequently determined by the current conditions for R&D, the objective of maintaining
alternative R&D sources could merely be the protection of competition for (the resulting) future products. However, competition policy could also take an independent interest in competition in R&D, if this is considered necessary in order for participants to have incentives to invest in and, as energetically as possible, pursue R&D, thereby enhancing the potential for fast and innovative product and technology introductions. At the same time, an objective could be to allow integration or cooperation that increase efficiency in the innovation process. By the achieving of scale efficiencies, synergetic effects, avoiding wasteful duplication and so on, consumers would then benefit through an increased pace of innovation and low R&D expenditure.

These aims are not necessarily in conflict – at least to some extent, they are likely to be achieved simultaneously. But, depending on the closer objectives, the demands on policy makers, competition authorities and courts will be changed, in terms of the required level of information, their analytical skills and their forecasting abilities. Questions thus arise regarding the manner in which antitrust law can incorporate dynamic considerations in its analyses. Particularly when one considers the murky theoretical and empirical evidence regarding the links between market structures, R&D competition and innovation efficiencies, the boundaries of public intervention may therefore deserve scrutiny.

1.4 ECONOMICS AND LAW

Since this is a book on competition law, the extensive use of economic sources and reasoning may deserve some further comment. Economic analysis of law is a discipline that has been growing during the last decades and which today includes studies of many aspects of law. Economics may, among other things, help to structure and explain the underlying problems that regulatory frameworks aim to manage. A better understanding of the stakes involved, such as conflicting interests, incentive structures and information asymmetries, is essential for comprehending legal structure and function. Moreover, legal rules typically provide incentives or disincentives for the subjects to act in different ways. Since microeconomics is about choices, and these choices are affected by changes in the relative attractiveness of the available options, economic analysis may predict the response of actors. The consequences of different rules or policies can thereby be assessed, in terms both of effectiveness in fulfilling its purposes and of the risk and magnitude of unintended effects. Account may also be taken of the costs sustained in connection with the enforcement of, and compliance with, the policy in question.

In few other areas of law are economic considerations so central to legal analysis as in antitrust law. Not only can economics provide insights regard-
ing the various problems in the functioning of markets which give rise to antitrust law, but enforcement of the legal provisions also necessitates economic analysis at some level.

The basic legal provisions in this field are typically short, but far-reaching, leaving a large margin for interpretation. From a quick glance it is clear that economic analysis is necessary in order to determine their scope. Legal prerequisites such as ‘distortion of competition’, ‘restraint of trade’, ‘limit or control markets’ or ‘substantially lessen competition’ indicate that economic considerations are part of the legal framework. While such considerations are considered in court precedents, competition authorities’ implementing guidelines and so on, economic analysis is also mandated in assessing the legality of specific transactions or business practices. Taken together, this is why former Commissioner Mario Monti can explain the convergence in the authorities’ legal analysis of cases, by the use of the same microeconomic analytical tools.\footnote{Monti claims that, despite differences in both the language and the practical enforcement of the laws, the European and US standards are nowadays largely consistent. It is moreover emphasized that the key reasons for overcoming formal and practical differences is agreement on the ultimate purpose of competition policy – ensuring consumer welfare – and the fact that the agencies have ‘in spite of the different legal instruments at our disposal, been using the same micro-economic analytical tools’.}

Considering the purpose of the law, it is clear that in both the EU and the US the underlying aim is to protect consumer welfare. Although the scope and exclusivity of the welfare goal is the object of some discussion, it is a well-recognized fact that American antitrust enforcement, especially after the ‘Chicago revolution’, has narrowed and tightened its objectives to become more efficiency-oriented. The former Assistant Attorney General for the Antitrust Division, Joel I. Klein, asserts that the Chicago School’s basic focus on consumer welfare is the key to sound antitrust analysis.\footnote{Klein, Joel I., \textit{A Stepwise Approach to Antitrust Review of Horizontal Agreements}, address before the American Bar Association, Washington, DC, 7 November 1996, available at http://www.usdoj.gov/atr/public/speeches/0979.htm (last visited 3 March 2005).} It is further stated that, ‘[e]ssentially, these laws prohibit business practices that unreasonably deprive consumers of the benefits of competition, resulting in higher prices for inferior products and services’.\footnote{U.S. Department of Justice, \textit{Antitrust Enforcement and the Consumer}, available at www.usdoj.gov/atr/public/div_stats/1638.htm (last visited 3 March 2005).} Klein’s successor in that position, R. Hewitt Pate, explained certain developments in antitrust case law by referring to the...
US Supreme Court as being ‘[d]isciplined by a concern for economic efficiency’. He noted that ‘[t]he lesson is that legal systems that permit evolution through the development of precedent in case law, as both the US and EU systems do, can transform their competition policy to reflect sound economic understanding as such understanding develops’.16

In the European context, the Community is founded on objectives declared in the EC Treaty. These objectives include ‘sustainable and non-inflationary growth, a high degree of competitiveness’ and ‘the raising of the standard of living and quality of life’ to be achieved through ‘an open market economy with free competition, favouring an efficient allocation of resources’.17 Commissioner Monti summarized the Treaty as acknowledging ‘the fundamental role of the market and of competition in guaranteeing consumer welfare, in encouraging the optimal allocation of resources, and in granting to economic agents the appropriate incentives to pursue productive efficiency, quality, and innovation’.18 The European Commission and the US agencies ‘share a common fundamental vision of the role and limitations of public intervention. We both agree that the ultimate purpose of our respective intervention in the marketplace should be to ensure that consumer welfare is not harmed’.19 According to recently issued Commission guidelines, ‘[t]he objective of Article 81 is to protect competition on the market as a means of enhancing consumer welfare and of ensuring an efficient allocation of resources’.20

Now, another overriding aim of the EC Treaty is the integration of the European common market. Although tensions may arise, especially in the short term, between a welfare-oriented application of Articles 81 and 82 and the aim of integrating European markets, this conflict should not be over-

17 Articles 2, 4 and 98 of the EC Treaty.
estimated. 21 And there is much evidence to suggest that market integration nowadays is underplayed in comparison to efficiency considerations. 22 Moreover, since the core of this book does not concern market allocation issues, any such friction will not be of significance to the discussion.

Also at the international level, within the framework of the OECD, it is maintained that ‘[t]he promotion of efficiency is generally regarded as the most fundamental goal of competition law and policy. . . . [C]ompetition law and policy is generally used to promote the overall economic welfare of society by preventing harmful distortions of the process by which consumer demand is expressed and satisfied’. 23

The important role of economics in antitrust law does not, however, mean that the legal framework, or the outcome of the specific cases, should always correspond to the solutions preferred by a unanimous body of economists. First of all, competition law is more than a practical incarnation of economic theory. For example, complex principles relating to the rule of law in general apply to competition law like any other field of law. The legal framework must be predictable and just (regardless of the fact that predictability can easily be analysed in economic terms). Moreover, economic theory and subsequent...

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21 Successful and sustainable market integration must generally allow efficient business conduct. Efficient management is in turn spurred by international competition and opportunities to expand beyond national borders. Possible tensions may arise, particularly in the short run, for example in contractual restraints regarding product market sales (for example, territorial exclusivity, customer allocation, parallel trade and so on).

22 Potential tensions between efficiency and market integration could arise in the field of vertical restrictions, which typically are analysed with a view to potential market foreclosure, yet the European Commission’s Guidelines on Vertical Restraints, OJ C 291/1 (2000), include the following passage (§7): ‘The protection of competition is the primary objective of EC competition policy, as this enhances consumer welfare and creates an efficient allocation of resources. In applying the EC competition rules, the Commission will adopt an economic approach which is based on the effects on the market; vertical agreements have to be analysed in their legal and economic context. . . . Market integration is an additional goal of EC competition policy. Market integration enhances competition in the Community. Companies should not be allowed to recreate private barriers between Member States where State barriers have been successfully abolished.’

Moreover, in the words of the Guidelines on the application of Article 81(3) of the Treaty, supra, note 20, §13: ‘Competition and market integration serve these ends [consumer welfare and efficient allocation of resources] since the creation and preservation of an open single market promotes an efficient allocation of resources throughout the Community for the benefit of consumers.’

analyses are heterogeneous. Different theories and models focus on different problems, are built on diverging assumptions, emphasize different economic consequences and reach a variety of conclusions. Finally, for the effectiveness of the legal system, not all kinds of questions are open to case-by-case analysis of economic consequences at the margin. For example, authorities and courts can adopt standards for analysis (such as methods to define a relevant market), formulate presumption rules (such as high market shares being an indicator of market power) and even condemn certain practices as per se prohibited (normally if they would very seldom be justifiable on closer analysis). Even if the development of legal standards is largely influenced by experience and economic thinking, ‘[w]here economics leaves off, law and policy must take over, to craft workable rules or presumptions’, based on likely consequences.24

Court precedents, agency decisions, policy statements, doctrine and so on are thus important instruments for providing guidance as to the interpretation of the legal prerequisites: the analyses that have been performed and the arguments that have been recognized. A strong argument in antitrust cases will find support in various sources, including widely accepted economic theory, and needs a properly executed analysis, combining law and economics.

In the area of antitrust law, the interpretation of the US Sherman Act and Clayton Act and the EC Treaty has changed and developed significantly over the decades. Such changes can be the result of different influences, but three factors stand out when explaining historical policy changes.25 First, industries and markets continuously change, not least owing to technological development, changing the underlying structures and problems facing antitrust law. Second, a political system that is receptive to a new approach may arise, which will therefore be in line with overall social thought and values. Third, developments in economic thinking have improved the understanding of the economic consequences of different business practices and the flaws and merits of public intervention.

Taken together, this has all had an impact on the method used for the research behind this book. In order to comprehend and describe the development and state of relevant legal frameworks it has been helpful to consider both theoretical and empirical findings concerning innovation as a force in the economic system and as a determinant for competition (and dominance) on various levels. This contemporary economic discussion is summarized in Chapter 2, which also

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24 Pate, supra, note 16.
includes economic growth issues and different efficiency concepts in order to understand what is decisive for consumer welfare. Moreover, various sources of technological development are depicted and individual actors’ incentives and abilities discussed to provide more relevant background. The characteristics of the market and competition processes represent the context in which the legal frameworks operate and must be understood. On this basis different analytical approaches are presented and relevant implications for the execution of antitrust policy are highlighted.

The economic background discussion is necessary for the subsequent analysis of the legal standards, which incorporates considerations of economic origin. The analysis of statutes, policy documents and case law is joined by economic insights and the results are evaluated with regard to the economic rationale of the law. The inclusion of economic considerations is useful for structuring the analysis and for evaluating the legal material, possibly providing arguments for or against certain policy options.

1.5 PREVIOUS WORKS

At a general level there is a whole range of research and literature relevant to this area of study, such as the importance of innovation to economic growth, theory and empirical findings regarding the innovation process, public policy and innovation, competition law objectives and developments, case law commentaries and so on. A wide range of books and articles in the fields of law and economics has therefore been reviewed. Since innovation-related issues, not least the intersection between intellectual property rights and antitrust law, are an area of research that occupies an impressive group of authors (mostly of articles), a major problem has been one of selection and digestion.

Although the intersection between intellectual property and antitrust law, and the plentiful issues that arise in this field, have been widely analysed from many different angles, the innovation market approach is seldom commented on more than briefly. However, the development of the concept in the US, and its application in early practice, was followed by a rather short but intense discussion in the mid-1990s which has been helpful in framing important questions. This debate will be summarized in Chapter 3, together with some more recent commentaries.

Apart from the above-mentioned early policy discussion, the innovation market concept is often commented upon from similar economic standpoints, often without much analysis of actual legal implementation. As for case law commentaries, on the other hand, these seldom analyse the legal practices with a view to locating the underlying doctrinal issues. One exception is Lawrence
B. Landman, who made valuable contributions in analysing legal practices in Europe and the US in the 1990s.26 John Temple Lang, in a comprehensive article, has also combined case law analysis with broader policy discussions in this field.27 Other works of particular importance are Alan S. Gutterman’s comparative study of US and EU policy for licensing and R&D collaboration and two articles by former FTC officials concerning innovation issues and American antitrust law.28

Taking advantage of the existing doctrinal discussions, the contribution of this book is to update the field of research in light of new developments and to broaden and deepen the categorization and analysis of the innovation market area. A better understanding and increased coherency should thereby be achieved with regard to recent legal developments, economic insights and to antitrust policy at large. The analysis presented will thus both provide systematization of the subject area and make suggestions for limiting principles to make the legal implementation more predictable and transparent.

1.6 OUTLINE

In Chapter 2, current economic thinking is examined. The overriding purpose is to learn more about efficiency concepts and consumer welfare, to explore factual characteristics of market and competition processes and contrast different analytical approaches, and, finally, to present some policy implications regarding competition in the innovation process.

In Chapter 3, the policy development in the EU and the US regarding innovation-related competition concerns is examined, primarily through early case law and more recent policy statements. Through legislative acts and other

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27 Temple Lang, supra, note 2.
policy documents, analytical frameworks have evolved in which innovation is a central element for the antitrust analysis. The chapter also summarizes important commentaries on central issues in these frameworks.

This leads up to Chapter 4, which is an examination of case law, an extensive study which puts into practice the methodological frameworks previously elaborated. The purpose of the case law investigation is to structure and present cases where EU and US competition authorities have addressed and assessed potential negative effects from lessened competition in the innovation process. The relevant case law largely covers mergers, but it also considers some joint ventures, agreements relating to intellectual property (such as acquisition and pooling of patents) and cases concerning abuse of dominance. With the current practices categorized on the basis of factual background, relevant questions regarding market definitions, subsequent competition analysis, remedy choices and so on are handled.

The analysis of the previous chapters is brought together into a synthesis in Chapters 5 and 6. These chapters aim both at a critical analysis of what the law is and to say something about the consequences of this. Suggestions for modifications of and clarifications in legal policy are presented. Based on this analysis, Chapter 7 presents central elements of a policy for innovation competition, which should be coherent but also nuanced and properly limited in its scope. Finally, the presentation is completed by some concluding remarks in Chapter 8.