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How to deal with resale price maintenance: What can we learn from empirical results?

How to deal with resale price maintenance: What can we learn from empirical results?

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Abstract: The US Supreme Court's overruling of the pre-existing per se illegality of resale price maintenance and the recommendation of a rule of reason approach in the *Leegin* decision (2007), raise the question whether other jurisdictions should follow this approach and what future assessments of resale price maintenance cases should look like. Policy decisions have to rely on the importance of various theories concerning welfare effects of resale price maintenance practises, which must be supported by empirical studies. Unfortunately, not much attention has been paid to this topic by researchers. Nevertheless, the few existing empirical studies allow for the analysis and discussion of existing assessment proposals. Furthermore, the paper derives a new recommended assessment procedure for resale price maintenance from a special point of view by combining empirical results with the decision-theoretic approach of optimal sequential investigation rules.

JEL-Classification: K21, K40, L42, D81

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1.   Introduction

The US Supreme Court's overruling of the pre-existing per se illegality of resale price maintenance (RPM) and recommendation of a rule of reason approach in the *Leegin* decision (2007)[1], raise the question, whether other jurisdictions should follow this approach and what future assessments of RPM cases should look like. The discussion on what a more differentiated rule for RPM in the US antitrust law should look like is still in the beginning stage. A similar discussion is about to emerge in the EU, where the Commission's position *de facto* prohibits RPM (Kneepkens 2007: 664; Jones 2008: 907-908; Russo et al. 2010: 247). The question of the right proceeding has long been discussed in the theoretical literature and in the literature on policy, thus allowing drawing on a number of existing approaches regarding the assessment procedures of RPM.

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[1] *Leegin* Creative Leather Products, Inc. v. PSKS, Inc., 551 U.S. (2007), Sup Ct (USA), No. 06-480.

Based on the idea of reducing legal uncertainties and minimizing welfare costs, moving towards a complete rule of reason seems to be an overreaching approach towards RPM investigations, since every fact of every single case would have to be addressed. Therefore, most authors prefer addressing certain categories of RPM with a kind of "quick look" approach, such as truncated rule of reason or 'rebuttable presumptions' with approved offsetting exemptions (Areeda/Hovenkamp 1989: 378-392; Comanor/Scherer 2007: 8-9; Ghosh 2010: 229-230; Harbour/Price 2010: 236-239; Kirkwood 2010: 424-426; Lambert 2009: 1969-1970). Such an approach does require the identification of screening criteria, which allow for the distinction between pro- and anticompetitive cases of RPM. It also does require the determination of how likely different welfare effects in a particular setting actually are. These are crucial determining factors for any decision, when we consider which rules should govern the assessment of business practices in general and RPM in particular. (Breyer 2009: 130). However, the economic literature focuses far less on these questions than on the analysis of how competition is affected (Lambert 2009: 1960).

After identifying different possible assessment criteria, the next question that arises is how different hypotheses about the effects of RPM might be supported through different assessment criteria. Due to the theoretical ambiguity of RPM regarding welfare effects, policy decisions should be guided by empirical evidence (Cooper et al. 2005b: 639). Unfortunately, only very few empirical studies about the welfare effects of RPM (Overstreet 1983; Gilligan 1986; Ippolito 1991; Hersch 1994; Ippolito/Overstreet 1996) exist. The lack of simple ex ante tests and screening criteria for identifying welfare-reducing RPM use (Overstreet 1983: 173; Ippolito/Overstreet 1996: 286) as well as rare consensus about the relative frequency of various RPM uses (Ippolito 1991: 264; Ippolito/Overstreet 1996: 286; Comanor/Scherer 2007: 3), make it hard to collect data and supply courts and/or competition authorities with precise and optimal advice. Such a derivation of what the best assessment rules would be, requires the consideration of the theoretic parameters on which a decision might be based such as associated welfare losses of erroneous decisions, investigation and regulation costs, or the relative frequency of pro- and anticompetitive effects (Katsoulacos/Ulph 2009: 432). Their determination will always be based on widely accepted empirical studies; their absence in the case of RPM complicates the derivation of an assessment rule.

This paper makes no claim to find specific or correct values of the parameters. Based on the mainly qualitative results of the existing empirical literature, this paper focuses to a large extent on propositions and suggestions regarding the ability of different assessment criteria to differentiate between RPM with pro- and anticompetitive welfare effects. Focusing on empirically backed theoretical arguments weakens the significance of some theoretical arguments and even excludes others from consideration. Being aware of taking a special focus, we should not ignore that some theoretical arguments cannot be included because they have not been tested by empirical studies. However, the paper takes on a new research focus in trying to answer the question of "What does existing empirical research tell us about the correct assessment procedure for RPM?". First, this encompasses the analysis and discussion of various existing proposals for assessing RPM with this special empirical focus. Second, the

research question is integrated into the decision-theoretic framework of optimal sequential investigation rules of Kerber et al. (2008). A sequential investigation process of different assessment criteria allows for distinctions and sorts cases of RPM into ever smaller subclasses of RPM with pro- and anticompetitive welfare effects. The empirical results may suffice to approximate an optimal solution for RPM. This approach leads to a very specific solution, which complements existing competition policy proposals by a new recommended assessment procedure for RPM; thereby being the first solely based on empirical results.

The paper is structured as follows. Section 2 contains theoretical and empirical insights concerning RPM. Thereby, section 2.1 gives a short overview of the possible effects RPM produces on competition in different circumstances from a theoretical point of view. Section 2.2 focuses on the ability of specific assessment criteria mentioned by literature, to sort different cases of RPM into pro- and anticompetitive ones. This is followed by a survey of the existing empirical studies (section 2.3) and an introduction to the framework of a sequential investigation approach (section 2.4). Section 3 analyzes and discusses various existing assessment proposals for RPM. In section 4 we develop a recommendable assessment procedure based solely on the results of the empirical studies. Finally, conclusions will be drawn in section 5.

2.   Resale price maintenance: Theoretical and empirical insights

2.1   Theoretical analysis

The theoretical literature offers a variety of explanations for the effect of RPM.[2] Even though, theories about the two possible welfare effects ('procompetitive' in the form of solving efficiency problems and 'anticompetitive' mainly due to collusive explanations) have already been summarized in a number of articles and textbooks,[3] we want to give a short overview in the following section.

Focusing first on anticompetitive effects, RPM may be used to facilitate and maintain collusion. When applied on the manufacturer level, profitable price-fixing depends very much on barriers of entry, which prevent new manufacturers from entering the market and restoring interbrand competition. Although dealer collusion may still leave non-price competition through different sales-enhancing strategies unaffected, it is insufficient to restore price competition.[4] Furthermore, collusion among dealers of one manufacturer may create a barrier

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[2] The analysis focuses entirely on *minimum* resale price maintenance, where (contractual) obligations disallow the undercutting of a certain retail price level.

[3] See, e.g., Bishop/Walker (2007), Carlton/Perloff (2005), Cavanagh (2008), Elzinga/Mills (2008), Gilligan (1986), Hersch (1994), Ghosh (2010), Kerber/Schwalbe (2008), Kneepkens (2007), Lambert (2009), Marvel/McCafferty (1985), Mathewson/Winter (1998), Motta (2004), Overstreet (1983), Rey/Vergé (2007) or Scherer/Ross (1990).

[4] Following, e.g., Elzinga/Mills (2008: 1845), firms which are horizontally arranged anywhere downstream from the manufacturer are named 'dealer'; other agents of the distribution channel, who are located between the manufacturer and consumers (like wholesalers), are omitted because this would not change the analysis.

of entry for new dealers. RPM may also help manufacturers with market power to overcome the commitment problem towards their dealers (resulting in supra-competitive prices). In addition, (dominant) manufacturers may use exclusionary RPM as a way to foreclose the market when the profit margins convince their dealers to not supply the rivals' products. This may also prevent the innovation and adoption of new distribution practices.

The procompetitive hypothesis about the effects of RPM focuses on solving efficiency problems. RPM may increase sales services; it becomes impossible to free ride on other dealers' supplied services by lowering prices.[5] The same holds for the free riding-problem in regard to quality certification, as particular sellers may be known for carrying quality products or quality brands. Furthermore, warranted profit margins for dealers may not only enhance interbrand competition in general, but ease and facilitate market entry for new products as promotional efforts are not subject to free riding and thus worth undertaking. Furthermore, RPM might protect a product's reputation by preventing it from being a loss leader and thus securing future investments in its quality. In the case of uncertain demand, RPM may ensure adequate inventories of all dealer types, which improves welfare of some fraction of consumers when demand is high. In addition, RPM may provide for an efficient spatial distribution of dealers, solve information and incentive problems between manufacturers and dealers, and reduce inefficiencies resulting from double marginalization. However, RPM is not the only way of achieving these efficiencies and other methods (for example, contractual solutions, territorial restrictions or buy-back schemes) may function just as well.

The presented "diversity of effects" (Comanor/Scherer 2007: 3) is crucial and immanent when examining the welfare effects of RPM, depending very much on "structural characteristics of firms and industries that use RPM" (Gilligan 1986: 544).[6] Therefore, it is important to have specific assessment criteria, which are able to account for crucial characteristics and circumstances allowing for the differentiation of pro- and anticompetitive instances of RPM. This is the objective of the next section.

2.2   Assessment criteria

The theories or hypotheses about RPM uses are often linked to very specific and necessary characteristics of industries and companies. Competition policy's concern, however, is to find out those circumstances under which certain hypotheses can be accepted or rejected. This can be accomplished by the investigation of particular criteria, which allow for the assessment of possible hypotheses. In the following list, various criteria (taken from the theoretical literature

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[5] The associated price increase due to the imposition of RPM harms consumers willing to buy the product irrespective of the offered sales services (so-called infra-marginal consumers). On the other hand, consumers first deciding to buy the product because of the supplied sales services (so-called marginal consumers) benefit from enhancing these sales services. The net welfare impact thus depends on the distribution of marginal and infra-marginal consumers.

[6] Using RPM as part of a price discrimination-strategy by preventing arbitrage through dealers is associated with ambiguous welfare effects, depending on the shape of the demand curves of the different groups.

and to some extent applied by the various assessment proposals of section 3) are examined, concerning the respective potential and shortcomings of assessing pro- and anticompetitive instances of RPM.

Initiation: This criterion is also mentioned in the *Leegin* decision (2007: 18) as a possible screen to filter out anticompetitive uses of RPM. According to it, manufacturer-initiation might signal the introduction of a sales- and service-enhancing selling strategy, whereas dealer-initiation might suggest the securing of cartel profits (Comanor 1990: 113-116; Posner 2001: 177; Comanor/Scherer 2007: 7-8). However, the basic motivation of adopting RPM may not automatically be revealed by the instigating party's identity (Lambert 2009: 1978). A broad and early application of this criterion may therefore result in too many erroneous decisions. Attaching anticompetitive intention to dealer-initiation may require a link between the intention and the adoption-rate of RPM or particular dealers' market power (Tor/Rinner 2009: 60). Furthermore, manufacturers' imposition of exclusionary RPM may secure high profit margins and prevent competition among manufacturers (Paldor 2010: 343-345).

Adoption-rate, alternative selling strategies and types of dealers: The existence of alternative selling strategies, explained by sales coverage, may correlate negatively with the danger of implementing or maintaining (manufacturer as well as dealer) collusion (Bork 1978: 292-294; Overstreet 1983: 174-175; Areeda/Hovenkamp 1989: 379; Ippolito/Overstreet 1996: 300). Uniformity or wide-spread use of RPM eases the monitoring problem of a cartel, whereas the use of different selling strategies by different manufacturers may be understood as revealing a highly competitive industry (Easterbrook 1984: 161-163; Tor/Rinner 2009: 58-59). This also holds true for different types of dealers, which may face different demand and cost conditions, as well as for changing dealer compositions over time, which may indicate low entry barriers (Ippolito/Overstreet 1996: 299-300). Furthermore, scattered use of RPM by manufacturers offers consumers the choice for alternatively distributed and lower priced substitutes (*Leegin* decision 2007: 17). In the absence of applied alternative strategies, it sometimes may be a tough task to identify effective substitutes for RPM (unless applied by competitors) to demonstrate its anticompetitive effect. Wide-spread use of RPM can also be seen as exclusionary in effect: linking the commitment of profit margins with refusals to distribute competing products forecloses a large share of available outlets or new manufacturers from competition and may require them to substitute to less favorable alternatives (Elzinga/Mills 2008: 1847-1848; Lambert 2009: 1949-1950).

Territorial limits and number of dealers: Limiting the number of dealers and/or restricting the territory of allowed sales activities may alleviate the free rider-problem and, therefore, enhance sales services and distribution activities of dealers (Ippolito 1991: 289-290). However, a low number of dealers facilitate collusive activities, opposed to market structures of numerous and differently typed dealers (Ippolito/Overstreet 1996: 298-300). Therefore, this

criterion's informative value may depend on assessing the adoption-rate and available alternatives for RPM in a market.

Duration of RPM use and products' life cycle: The controversial effect of a long duration of RPM use is its suggestion of successful collusion, while a long duration would require maintaining control over cartel members over a long period of time – perhaps with changing cartel members (Easterbrook 1984: 164-165; Ippolito/Overstreet 1996: 299). Long-run duration of RPM may, however, indicate its exclusionary use by which dealers' (high) profit-margins are maintained and competition among manufacturers is prevented (Paldor 2010: 346). On the other hand, RPM may be used to establish a distribution system for the introduction of new products, thereby possibly enabling market entry for new firms (Mathewson/Winter 1998). However, this entry-ease effect can be justified only for short or limited duration (Peeperkorn 2008: 211).

Development of manufacturer's and dealers' output: At first sight, an increase in sales may indicate a welfare-improving use of RPM. However, this does not answer the question whether other effective alternatives exist. Furthermore, the output-expansion will be detrimental to some consumers, because the associated price-increase (due to RPM) harms those consumers which would buy the product even without the improvement of sales services (Lambert 2009: 1963). These limitations characterize the increase in output as a necessary condition for RPM being procompetitive. However, output-increases of individual manufacturers are also possible in settings with market-wide output-decrease if the adoption-rate of RPM in a market is high (Grimes 2008: 494). Though Comanor (2010: 70-72) allows for the general conclusion of anticompetitive instances of RPM if output decreases, an output-decrease may also be due to other factors and developments in the market (Easterbrook 1984: 164). Therefore, output-based inquiries may only be integrated as a weak criterion for assessing pro- or anticompetitive welfare effects of RPM.

Market shares and market concentration: Many authors highlight the importance of existing market power in order for RPM to have anticompetitive effects (Easterbrook 1984: 159; Motta 2004: 377-378; Verras 2009: 40), i.e. both unilateral and joint exercise of market power are seen as a necessary condition (Ippolito/Overstreet 1996: 295). The exertion of market power is mainly tied to high market shares of the respective firms and/or high market concentration. Even though, the assessment should be performed in both markets (Verras 2009: 40), the justifications are different for dealers' and manufacturers' markets. If market power is lacking in the dealer market, manufacturers are more able to sell their products through rival dealers; if market power is lacking in the manufacturer market, it makes it difficult for manufacturers to secure dealers exclusively for one specific product (*Leegin* decision 2007: 18). Certainly, collusion is more likely in (highly) concentrated markets of both dealers and/or manufacturers (Gilligan 1986: 551; Hersch 1994: 211-212). The

anticompetitive use of RPM as an exclusionary practice may also fit well into more concentrated manufacturer markets (Paldor 2010: 346). On the other hand, high manufacturers' market shares may indicate RPM use for mitigating the incentive problem between dealers and manufacturers, which becomes more intense for large manufacturers (Gilligan 1986: 551-552).

Selective imposition: The selective imposition of RPM on some of a manufacturer's local markets may indicate its initiation by powerful dealers (Areeda/Hovenkamp 1989: 380) and its investigation can thus also be linked to the investigation of dealers' market power.

Complexity and homogeneity of products: Complex products may require accompanying sales services to a greater extent than less complex products, which also enables dealers to directly affect the products' quality (Ippolito 1991: 283-286). Furthermore, the above mentioned entry-ease effect of RPM may work better for complex products (Overstreet 1983: 175).[7] Comparing the products of different manufacturers, heterogeneous products may impede reaching agreements and thus the effective implementation and/or maintenance of collusion between manufacturers (Ippolito/Overstreet 1996: 301; Elzinga/Mills 2008: 1847). This also refers to industries with customized (instead of standardized) orders, which are hardly substitutable. Though deviations can be punished less effectively for differentiated products, these deviations are also less profitable; therefore, theory is ambiguous about the facilitating effect of more homogenous products (Motta 2004: 146). However, defending RPM on the grounds of allowing for additional sales services seems more difficult for homogenous products (Lambert 2009: 1981).

2.3   Empirical results

Unfortunately, there only exist very few empirical studies about the welfare effects of RPM: Overstreet (1983), Gilligan (1986), Ippolito (1991), Hersch (1994) and Ippolito/Overstreet (1996).[8] Due to per se illegality of RPM since the US Supreme Court decision of *Dr. Miles* in 1911,[9] trying to collect data directly through surveys or similar methods is not promising, whereas relying on private or government complaints and litigation processes remains the only available option (Ippolito 1991: 264).[10] Thus the studies either try to derive conclusions by means of (plausible) stock market effects of complaints, or by examinations of past

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[7] See also the new European Commission Guidelines on Vertical Restraints (2010: 25).

[8] Short table overviews summarizing the results of empirical studies are provided in Cooper et al. (2005b: 650-651) and Lafontaine/Slade (2007: 405-407); Lambert (2009: 1989-1992) summarizes the studies of Overstreet (1983) and Ippolito (1991). Furthermore, Kleit (1993) reviews the efficiency rationales brought before the court by manufacturers in early cases between 1889 and 1919.

[9] Dr. Miles Medical Co. v. John D. Park & Sons Co., 220 U.S. 373 (1911).

[10] In this respect, Verras (2009: 40) argues in favor of a notification system for vertical restraints to alleviate the problem of collecting necessary empirical evidence.

decisions (given by a sample of cases or single case decisions), which provide for a very heterogeneous sample of studies.

A summary of theoretical analyses about the welfare effects of RPM suggests that both pro- and anticompetitive effects are possible and that structural characteristics of industries and companies are the decisive factor. The few empirical studies also come to this conclusion. Depending on the structural characteristics of industries, firms and products various theories find support (Gilligan 1986: 554; Ippolito 1991: 291-292; Hersch 1994: 214). Thus, the attempt to explain all RPM with only one hypothesis seems to be doomed to failure and empirical evidence suggests both pro- and anticompetitive use of RPM (Overstreet 1983: 160, 163).

The review of empirical studies comprising (price) surveys and case studies by Overstreet (1983) must be mentioned first.[11] In cases where RPM has already been used, alternative and – from a competition policy point of view – less problematic selling and distribution strategies seem to be imperfect substitutes, for which decreased sales as well as failed compensation through other marketing assistance after RPM abandonment may be cited (ibid.: 167-168).[12] Even though, in the case of some products manufacturer collusion cannot be denied, it seems unwarranted for industries with applied diversities in distributional strategies and a lack of pervasiveness (ibid.: 167, 175).[13] Support of the dealer collusion theory is more problematic because in most cases RPM was defended by manufacturers and used temporarily involving many companies, additionally varying in type and size (Overstreet 1983: 166).

By estimating share price responses due to antitrust complaints (brought by the Federal Trade Commission, the Antitrust Division and the U.S. Department of Justice) against practices using RPM between 1962 and 1982, Gilligan (1986: 554) finds important significant results concerning alternative theories of RPM. Higher levels of concentration in distribution (dealer concentration) support the hypothesis that RPM facilitates dealer collusion due to increased detection probabilities of defecting strategies, as well as increased probabilities of reaching agreements. Similarly, higher levels of concentration in manufacturing (manufacturer concentration) support the hypothesis that RPM facilitates manufacturer collusion. On the other hand, RPM efficiently mitigates the incentive problem (between dealers and manufacturers) with increasing manufacturers' market shares if alternative distribution strategies are too expensive and thus imperfect substitutes. The reason is that the incentive problem becomes bigger for larger manufacturers.

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[11] Concerning the applied methodologies, Overstreet (1983: 160) stresses the ambiguity of executing price studies, because price increases are compatible with both pro- and anticompetitive theories of RPM use.

[12] This fits to the analysis of Grimes (2010) compassing six modern case decisions in the US and Germany. The author concludes that RPM was primarily used to expand profit-margins and impede the innovation of efficient retailing methods (ibid.: 144 et seqq.). However, the analysis does not comprise an examination of correlations between specific assessment criteria and competitive effects, which is crucial from our point of view here.

[13] This is supported by a non-representative analysis of specific cases in Japan, which is carried out by Flath (1989). Although no direct evidence exists, manufacturers of powdered milk seemed to agree upon a common retail price schedule, which is worth mentioning because essentially all manufacturers in this market adopted RPM (ibid.: 196).

Even though Hersch (1994: 214) also stresses the importance of industry characteristics, this stock market event study supports the hypotheses of dealer cartel and free-riding,[14] whereas the hypothesis of manufacturer cartel is rejected. First, the dealer cartel hypothesis is supported by low manufacturers' market shares, a low number of dealer outlets (and thus greater harm through low dealer competition), and a low coverage of sales by single-outlet stores (i.e. producers are less dominant). Second, the use of RPM to reduce free riding is more likely in cases of a large number of retail outlets and a high coverage of sales by single-outlet stores (and thus higher risk of free riding) as well as high manufacturers' market shares, which induces larger dealer networks (ibid.: 212).

Ippolito (1991) analyzed a large sample of private and government RPM cases between 1976 and 1982 in the US. The analysis of collusion among manufacturers and/or dealers (as primary anticompetitive theories) was carried out through controlling RPM allegations for simultaneous horizontal price-fixing allegations (ibid.: 281): low fractions of both collusion allegations may reject anticompetitive reasons as primary explanations for RPM use. Though not all cases of the sample can be explained, the special services and product-quality theories may be seen as a major explanation for RPM use (ibid.: 283-291).[15] Thereby, the RPM use for enhancing sales services and ensuring higher product quality appear to be (far) more relevant for complex products, because these enable dealers to influence the quality and the provision of sales services to consumers (ibid.: 282-289). Furthermore, sales enhancing efforts are supported by restrictions on the number of dealers and the introduction of territorial limits (ibid.: 290).

Ippolito/Overstreet (1996) provide further empirical evidence about efficient and inefficient RPM. The authors conduct a single case study during a major break in policy in the US, involving relatively simple products, making it more difficult to defend efficiency rationales for the use of RPM at first glance (ibid.: 286). In summary, the ex post analysis seems consistent with the efficiency rationale of principal-agent theories of RPM and inconsistent with anticompetitive concerns (ibid.: 325). This is supported by observed variations in sales and advertising in the observed industry after the FTC ordered to abandon the practice. One firm, which until then practiced RPM, lost sales after the decision on the case came down and increased advertising expenditures for alternative selling services, which was not an industry-wide phenomenon (ibid.: 301-310). Furthermore, stock market evidence seems to be inconsistent with both anticompetitive collusion theories: on the one hand, the company conducting RPM lost value after being forced to abandon RPM, which is inconsistent with the dealer collusion hypothesis; on the other hand, its competitors did not lose value, which is inconsistent with the manufacturer collusion hypothesis (ibid.: 310-322). Unfortunately, Ippolito/Overstreet (1996) did not finally delineate the relevant market to determine existing market power of the company conducting RPM. The authors provide two different market

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[14] In a sampling of a few case studies, Kelly (1988) also finds evidence for the existence of the free rider problem (even in product markets not expected to rely on a relevant amount of sales services).

[15] Examining the US distilled spirits case, Ornstein/Hanssens (1987) discover some evidence of output restriction through RPM uses, which is inconsistently related to the special services theory and other efficiency justifications.

delineations, whereby only in the narrow definition, market power is indicated by a market share of about 50 percent (ibid.: 295-298).

2.4   Sequential investigation approach

The replacement of a per se rule by a new assessment rule on RPM has long been discussed in the theoretical and policy literature. A number of approaches address the problem of the 'correct' assessment of the welfare effect of RPM practices. However, systematic analyses of the optimal assessment procedure for RPM are still rare.

When replacing a per se rule by a more differentiated rule, which tries to take into account differentiated welfare effects of RPM depending on specific circumstances, one must consider the costs and benefits of such a transition (Christiansen/Kerber 2006: 228). On the one hand, a differentiated rule is characterized by decisions (i.e. permission or prohibition) depending on specific conditions, lowering the costs of erroneous decisions (error costs). Even though, decisions are never perfect, error costs can be reduced on average due to lower probabilities of erroneous decisions, which are now more narrowly tailored to differing circumstances. On the other hand, taking into account differentiated welfare effects increases the costs of applying such a rule (investigation and regulation costs). Whether a differentiated rule improves welfare by lowering the sum of error and investigation costs (welfare costs) depends on the decision-theoretic parameters of the relative frequency of pro- and anticompetitive welfare effects, the quantitative welfare losses of erroneous decisions, investigation and regulation costs, the set of assessment criteria and their ability to discriminate between the possible welfare effects (Christiansen/Kerber 2006: 228-231; Katsoulacos/Ulph 2009: 432).[16]

Kerber et al. (2008) combine this decision-theoretic understanding of assessment procedures for business practices with the idea of sequentially investigating different assessment criteria. That allows for distinctions and sorts RPM cases into ever smaller subclasses of RPM with pro- and anticompetitive welfare effects. The available assessment criteria differ with respect to their (1) ability in discriminating between the possible welfare effects (i.e. the reduction in error costs) and (2) the actual amount of investigation and regulation costs. Starting with given prior probabilities about the possible welfare effects, investigating a criterion updates these priors according to the observation of specific characteristics of this criterion. The resulting (more than one) posterior probabilities are tailored more narrowly to the specifics of the underlying fractions of RPM uses. This reduces the costs of erroneous decisions. The process of sequentially investigating the set of assessment criteria is continued until the reduction in error costs is counterbalanced by the increase in investigation costs.

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[16] Important to mention is that it was Justice Breyer in his dissenting opinion in the Leegin decision who asked these questions concerning the transition towards a rule of reason approach. Specifically, Justice Breyer emphasized the probabilities of harms and benefits, the ability of existing assessment criteria in distinguishing between harmful and beneficial RPM uses as well as difficulties in their application by courts (Leegin decision dissenting opinion 2007: 8-10; Breyer 2009: 130).

The sequential investigation process defines different paths within an investigation tree according to the fulfillment of specific characteristics of the respective assessment criteria. The advantage of investigating another criterion depends on the history of investigated criteria and observed characteristics and the depth of investigation may, therefore, be different for different paths of investigation. Because changing the sequence of criteria changes the amount of error and investigation costs at every point of the investigation tree, the right sequence of assessment criteria must also be taken into account. Sometimes one sequence may indicate an early termination of the investigation process while another one may not and, therefore, the latter may be able to further reduce the sum of welfare costs. Furthermore, the ability of a criterion may differ according to previously investigated criteria and previously observed characteristics of those criteria; often one criterion provides a better analysis of different welfare effects when one characteristic of the previous criterion is observed, whereas it is a different one if the other characteristic is observed. Therefore, the optimal sequence normally differs between different paths of investigation and an optimal assessment procedure also has to consider this. Assessment procedures, which have been derived in this way, are called optimal sequential investigation rules (Kerber et al. 2008). Sequential investigations especially require knowledge of the probability and magnitude of pro- and anticompetitive welfare effects after specific features of certain criteria may have been observed (for example, the probability of procompetitive effects after observing low manufacturer market concentration and a high adoption-rate of RPM in the relevant market).

Regarding existing assessment approaches to RPM, only a small number can indeed be characterized as sequential investigation procedures. However, many approaches are characterized by the simultaneous assessment of different criteria, which may also be a plausible outcome of optimal sequential investigation rules. Therefore, the solutions offered so far can also be analyzed within this framework by applying the results of the empirical studies of section 2.3, which allows for analyzing suggested sets of assessment criteria as well as suggested sequences of the same.

3.   Analysis of proposals for assessing RPM

A number of different proposals that address the problem of the 'correct' assessment of the welfare effects of RPM practices already exist. Their specific implications will be examined with the help of the empirical results and by focusing on distinctive features regarding the particularly selected criteria. The empirical results find support only for some of the criteria mentioned in section 2.2, and for each on a different scale.

Per se prohibition

Julien/Rey (2007: 984) defend the pre-existing per se prohibition of RPM because collusion could be facilitated in a non-negligible manner.[17] Other defendants are Pitofsky (1983), the American Antitrust Institute in its *Amicus Curiae* (2007) in preparation of the Leegin decision as well as Justice Breyer in his dissenting opinion. The latter two have defended the per se rule with a special emphasis on resulting costs due to increased legal uncertainty, uncommon procompetitive uses and substantial harm of anticompetitive uses.[18] Although, Justice Breyer in particular asked the right questions from a decision-theoretic point of view (*Leegin* decision dissenting opinion 2007: 8-10; Breyer 2009: 130), the implication of defending the per se prohibition of RPM cannot be upheld in light of the existing empirical results. These studies actually assign more than negligible probability to substantive efficiency rationales and thus procompetitive welfare effects of RPM uses.

Per se legality

A similar argumentation holds for the most contrary policy recommendation claimed by Posner (1981: 22) and Bork (1968: 961). The authors argue in favor of per se legality, because existing horizontal cartel prohibition of antitrust law suffices to deal with the anticompetitive issues (dealer and manufacturer collusion) of RPM. Even though, shifting from per se illegality towards per se legality seems to be a too radical step, this recommendation also seems to disregard empirical findings of actually carried out substantive collusive activities as well as specific characteristics of vertical relationships, which differ from purely horizontal relationships. Both per se rules cannot be defended from an empirical point of view. The incapability of taking into account differentiated welfare effects of RPM uses due to specific circumstances, therefore, results in too many substantive erroneous decisions with high welfare costs.

More differentiated approaches can be separated by their presumption about the more likely welfare effect: either presumptive illegality allowing for procompetitive exemptions or presumptive legality with anticompetitive exemptions.

Presumptive legality

Starting with approaches presuming that RPM is primarily procompetitive and evidence has to be found for demonstrating anticompetitive use, we first mention primarily US-specific approaches, which deal especially with the right assignment of the burden of proof. The so-called 'Antitrust Law-Approach' of Areeda and Hovenkamp (Areeda/Hovenkamp 1989: 378-392; Lambert 2009: 1980-1985) demands a plaintiff to demonstrate that one of the following eight factors is fulfilled in the required intensity and sense (e.g., HHI of the manufacturer

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[17] In addition, Julien/Rey (2007) suggest taking a strict position also in regard to other (non-price) vertical restrictions.

[18] See also Vickers (2007: 10) for a summary of the American Antitrust Institute's position.

market is above 1200 or RPM was initiated by dealers): Concentration on the manufacturer's market, concentration on the dealer's market, adoption-rate, initiation, dominant manufacturer, dominant dealer, selective imposition by a manufacturer, and homogenous product.

The burden of proof then shifts to the defendant, who has the opportunity to rebut the raised concerns. The requirements differ according to the raised anticompetitive concerns brought before a court. Demonstration of only one factor may generally indicate anticompetitive concerns without proving it. The empirical studies, however, show that anticompetitive welfare effects are the result of the simultaneous fulfillment of more than just one factor. This should be included into the first-stage demonstration requirements; otherwise courts' decisions would result in too many erroneous prohibitions because of too many RPM cases with anticompetitive concerns brought before the courts. Other US-specific approaches are, for example, the "States' Proposed Approach" (Lambert 2009: 1968-1972), the approach of Grimes (2008: 492 et seqq.) and the "Alternative Approach" or "Decision-theoretic Approach" of Lambert (2009: 1985 et seqq.; 2010: 214 et seqq.), either requiring the defendant to offset presumptive illegality by showing procompetitive justifications or requiring the plaintiff to demonstrate evidence for anticompetitive use of RPM; both in the form of providing evidence for several factors simultaneously. These approaches partially capture the results of the empirical studies by including some of the confirmed criteria combinations.

Kirkwood (2010)

One such approach worth analyzing in a more detailed manner is the one of Kirkwood (2010: 463 et seqq.), which primarily aims at the US litigation process but also entails elements of a more general investigation procedure. Starting point is the recommended presumption of illegality due to the possibility of anticompetitive effects in a significant number of cases (ibid.: 428-442), which can be rebutted by showing the existence of one of two possible safe harbors:

1. Established manufacturers simultaneously must fulfill the three criteria of non-existing manufacturer's market power, non-existing dealer's market power and low adoption-rate of RPM in the respective market;

2. new companies are allowed to use RPM as their distribution strategy to enter the market.

The first safe harbor partially refers to empirically confirmed results. Especially manufacturer collusion can be captured by the first and third criterion. However, using the criteria in the specified way to filter out procompetitive RPM cases imposes a burden that is too high, because procompetitive cases also can be found in a non-negligible number if market power exists in either the manufacturer's or dealer's market. These cases cannot be captured by the existing safe harbor and require more differentiated filters with additional criteria. Kirkwood

(2010: 469-470) offers an advanced justification, which exempts less restrictive alternatives to RPM; however, these alternatives are only seen as imperfect substitutes in the empirical literature (Overstreet 1983: 167-168).

The second safe harbor refers to RPM as market entry strategies for new firms.[19] Theoretical literature provides no indication of potential danger for entrants using this distribution strategy, which is often coupled with further requirements of limited time-duration and products' characteristics.[20] However, empirical studies generally do not provide evidence for this constellation, maybe due to limited access to corresponding cases.

Easterbrook (1984)

In Easterbrook's filter-approach (Easterbrook 1984: 159-168), RPM is presumed being primarily efficiency enhancing and is required to pass only one of the following five filters (or stated the other way around, RPM should only be deemed unlawful after the simultaneous fulfillment of several factors):[21]

1. Lack of market power of the employing firm;

2. different distributional strategies are used in the relevant market, i.e. the adoption-rate of RPM is low;

3. the practice has led to an output-increase; (but, "[u]nless the practice failed one of the other filters, further inquiry would be in order" (p. 164))

4. the duration of applying the practice amounts to more than five years; or

5. an increase in profits must depend on the reduction in competition.

Easterbrook states the strength of both the first and second filter in screening out procompetitive practices (ibid.: 162-163). This is true for denying successful manufacturer collusion due to applied diversity in distributional strategies (Overstreet 1983: 166-175; Flath 1989: 196). However, the cases of dealer collusion are not addressed properly, because the fulfillment of the first criterion combined with high dealer concentration functions like a necessary precondition (due to the lack of opposed manufacturers' market power). Applying the fourth filter in this one-sided way would disregard the controversial effect of long-term applied RPM, which also may indicate successful collusive behavior. Furthermore, the output-filter is a weak criterion, because output-decreases may be caused by other market factors and developments (ibid.: 163-164). These examinations coincide with the above stated empirical results and must be included somehow in an optimal sequential investigation scheme.

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[19] Pitofsky (1983: 1495) also mentions this as one possible exception for RPM uses (the other accepts the demonstration of remarkable free riding problems), though otherwise preferring a per se prohibition.

[20] The new European Commission Guidelines on Vertical Restraints (2010: 25) contain such exemption possibilities.

[21]

Single screen-approaches

Other filter-approaches rest on a single screen (e.g., market shares) to separate pro- and anticompetitive RPM uses (see, for example, Overstreet 1983: 175 and Verras 2009: 40). Due to the fact that also practices lacking market power on one of the two markets (i.e. manufacturers and dealers) may have anticompetitive effects, a single filter may be insufficient and may result in too many erroneous decisions (for example, dealer collusion is also supported by low manufacturers' market shares indicating low countervailing market power). The opinion paper of members of the Economic Advisory Group on Competition Policy at the Directorate General for Competition of the European Commission prior to the modification of the European Commission Guidelines in 2010 (Motta et al. 2009) also contains a single market share screen as a recommended rule, although the authors highlight the relevance of pervasiveness and interlocking relationships (ibid.: 3-4).

Presumptive illegality

In contrast, there are approaches taking the position that RPM is primarily anticompetitive, but allowing for procompetitive exemptions. The "rebuttable presumption of illegality" of Comanor/Scherer (2006: 9) is one example of such policy recommendations.[22] The approach of Overstreet (1983: 174-175) contains three possible exemptions for RPM to be characterized as procompetitive – although this approach does not entail a predetermined sequential procedure:

1. Market power is unlikely for manufacturers with small market shares and the latter should function as a kind of safe harbor (against unilaterally employing anticompetitive RPM), unless the market's adoption-rate of RPM is sufficiently high to allow for the inference of collusion among manufacturers;

2. the same holds true for low concentrated manufacturer markets, unless a high adoption-rate as well as small diversity in selling and distribution strategies call for the inference of anticompetitive motivation; and

3. the use of RPM by new firms or to introduce new products is presumed to enhance sales and competition (efficiency motivated), which is more likely for complex (new) products and for markets with established distribution systems.

Especially the requirement of simultaneous fulfillments of several criteria to infer collusive or efficiency-enhancing activities is consistent with the empirical results. Overstreet (1983: 174) further mentions that evidence on dealer collusion or monopsonistic imposition by dealers disables the criteria's application. However, the author does not make clear how dealer collusion can be detected, which is also typically connected to the examination of several

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[22] Another example is the European Commission's approach by which RPM is presumed to be anticompetitive and listed under the hardcore restrictions, which excludes the application of block exemption regulations; however, the presumption can be rebutted by demonstrating procompetitive effects in individual cases, which then requires the Commission to assess the likely anticompetitive effects (Buttigieg 2010: 401-404; European Commission 2010: 11-12; Giovannetti/Stallibrass 2009: 652).

criteria (apart from being revealed by explicit evidence). Furthermore, the second incompatibility with RPM exemptions overstates the imposition by dealers, which is not demonstrated by empirical evidence. The overstatement of the relevance of dealer-initiation also characterizes the approach of Giovannetti/Stallibrass (2009: 653), who combine the first exemption for RPM with the initiation-criterion, whereas dealer-initiation of RPM would demonstrate the danger of dealer collusion or dealer market foreclosure.

Federal Trade Commission-Approach

Another approach, the so-called FTC-Approach (Lambert 2009: 1973-1976), adopts the so-called '*Leegin* factors', which are mentioned in the *Leegin* decision (2007: 17-18) as possible assessment criteria for designing a future rule of reason inquiry. After assessing practices as minimum RPM, procompetitive use can only be defended if the following three criteria are fulfilled:

1. The adoption-rate of using RPM does not comprise a significant share of the manufacturers' market;

2. the practice is not dealer-initiated; and

3. significant market power of a manufacturer or dealer is lacking.

Even though this approach has robust aspects in regard to collusive activities, the third criterion disregards the efficiency enhancing adoption of RPM by high market share-manufacturers to overcome the incentive problem vis-à-vis its dealers. Furthermore, the empirical evidence cannot support the relevance of dealer-initiation emphasized in the theoretical literature. Instead, considering the complexity of the respective products would include important RPM uses defended by efficiency rationales (Ippolito 1991: 282-289).

Doty (2008)

Doty (2008: 675 et seqq.) proposes a nearly sequential investigation procedure for a rule of reason inquiry, whereas RPM cases can be acquitted at three stages consisting of several criteria. The inquiry starts with the investigation of manufacturers' market power. The existence of market power as well as the combination of RPM with exclusive dealing arrangements (in case of absence of market power) creates a rebuttable presumption of illegality; the latter may result in supra-competitive prices and renders more favorable terms of sale impossible if a substantial proportion of dealers are bound by this practice (ibid.: 676-677). Permission is given to the further scrutinized cases if output has not decreased or other general efficiencies can be shown. Otherwise, the inquiry precedes to the last stage at which the initiation and adoption-rate of RPM are investigated. These are seen as indicators of collusion, either of dealer (in case of dealer-initiation) or manufacturer (in case of a high adoption-rate) collusion (ibid.: 678).

The investigation procedure starts with the assessment of existing market power on the manufacturer market because courts and competition authorities have experience with this task from other application fields of antitrust and competition law (Doty 2008: 676). If true, this argument indeed indicates a strong candidate for the first investigation stage that discriminates well between pro- and anticompetitive instances. However, the determination of market power should also encompass the dealer market (not only because of existing synergies in market delineation) because dealer collusion concerns are raised by characteristics such as dealer concentration, existing types of dealers and countervailing market power. Besides existing theoretical objections, empirical studies do not provide results concerning the importance of the initiation-criterion with respect to dealer collusion. Although, manufacturer collusion concerns are covered by the adoption-rate, manufacturers' market power primarily refers to jointly exercised market power in this respect, measured by manufacturer concentration. The criteria of output-decrease and general efficiencies are somewhat uncertain. First, output-decreases may be due to other factors and developments in the market (Easterbrook 1984: 164). Secondly, output-increases of individual manufacturers are also possible in settings with market-wide output-decrease if adoption-rate of RPM is high (Grimes 2008: 494). Thirdly, if firms are able to explicitly show the existence of general efficiencies, this would obviate previous investigation. However, the possibility of a direct showing can be questioned in practice. That is why procedures containing the assessment of investigation criteria are formulated.

Comanor/Scherer (2007)

The "quick look approach" of Comanor/Scherer (2007) proposed in their *Amici Curiae Supporting Neither Party* in the *Leegin* case is characterized by a "rebuttable presumption of illegality" (ibid.: 9) as a starting point. This is the first approach that is characterized by a sequential investigation process of different assessment criteria, as opposed to a simultaneous checking of (categorical) exemptions. According to the outcome of their investigation, different practices are sorted into ever smaller subclasses of pro- and anticompetitive RPM. Their proposed sequential assessment is as follows:

1. Evidence on dealer initiation terminates the investigation process, while manufacturer initiation requires further assessment;

2. wide-spread practice of RPM facilitates anticompetitive use and practices under scrutiny should be prohibited, if the relevant market is covered by more than 50 percent or if the additional share covers 10 percent of the market.[23]

In addition, the authors present an alternative investigation process, which puts a market power assessment before (ibid.: 10). This connects anticompetitive use of RPM with the theory of market power being a necessary condition. Specifically, the authors recommend

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[23] However, the defendant's option to show procompetitive RPM use is generally retained at each stage (Comanor/Scherer 2007: 10).

furthering scrutinizing those practices characterized by either a 10 (or more) percent manufacturer's market share or a HHI change of more than 100 points on the manufacturer's market. The investigation process then continues with the assessment of initiation followed by the assessment of the adoption rate.

First, using the manufacturer's market share or manufacturer concentration as some kind of safe harbor, i.e. permitting instances of RPM if some threshold is not reached, stands in contrast with the presumption of illegality. Searching for a characteristic that does not allow an exemption of this presumption seems more appropriate. The other two criteria (initiation and adoption-rate) are assessed and applied in the same fashion. Secondly, deciding solely on the outcome of the initiation criterion disregards the fact that the basic motivation of adopting RPM is not automatically revealed by the instigating party's identity (Lambert 2009: 1978). Though, the initiation criterion's weakness may be compensated by the assessment of market power, but both the manufacturer and dealer market have to be assessed to exclude both anticompetitive uses. Furthermore, dealer-initiated anticompetitive use is also linked to some degree of (unilateral or joint) market power on the dealers' market (Hersch 1994: 214). Therefore, focusing the market power criterion solely on the manufacturers' market may increase erroneous permissions. An optimal procedure may also require preferring an alternative criterion at the next stage. A very powerful candidate, as seen in the previous analysis, is the adoption rate or coverage of sales by RPM, because this very often directly reveals direct competition through alternative selling and distribution strategies (Overstreet 1983: 175; Easterbrook 1984: 163; Areeda/Hovenkamp 1989: 382-383; Ippolito/Overstreet 1996: 300). Regarding the initiation criterion's weakness, a manufacturer initiated RPM may have anticompetitive effects if powerful dealers (jointly) control a large share of the market sales (Bork 1978: 292). This important constellation cannot be detected by putting the assessment of a market's adoption-rate at the end.

4.   Recommended assessment of RPM

The paper's approach is different from currently existing assessment propositions in that it solely focuses on results that can be drawn from empirical studies about the ability of different assessment criteria in differentiating between pro- and anticompetitive welfare effects. The weighting toward empirically backed theoretical criteria weakens the significance of some theoretical results and even excludes others from consideration. Being aware of taking a special focus, we should keep in mind that some theoretical arguments cannot be included, because they have not been tested by empirical studies.

Unfortunately, the empirical studies mentioned above do not provide for specific quantitative information about the information inputs. At first glance, this renders searching for an optimal sequential investigation rule for RPM obsolete. However, optimal investigation rules may be approximated by heuristic solutions, which are characterized by fewer informational requirements. One possibility is the derivation of myopic investigation rules, for which the

(qualitative) results of the empirical studies may suffice because they contain propositions and suggestions about the ability of different assessment criteria in differentiating between pro- and anticompetitive welfare effects. Myopic investigation rules assess the set of possible criteria in decreasing order of their ability to discriminate between pro- and anticompetitive welfare effects. In this regard, the following analysis takes a look at currently existing empirical results and brings them together by enabling a decision-theoretic derivation of an (optimal) investigation rule for RPM. The implied new competition policy recommendation equally complements existing proposals for assessing RPM.
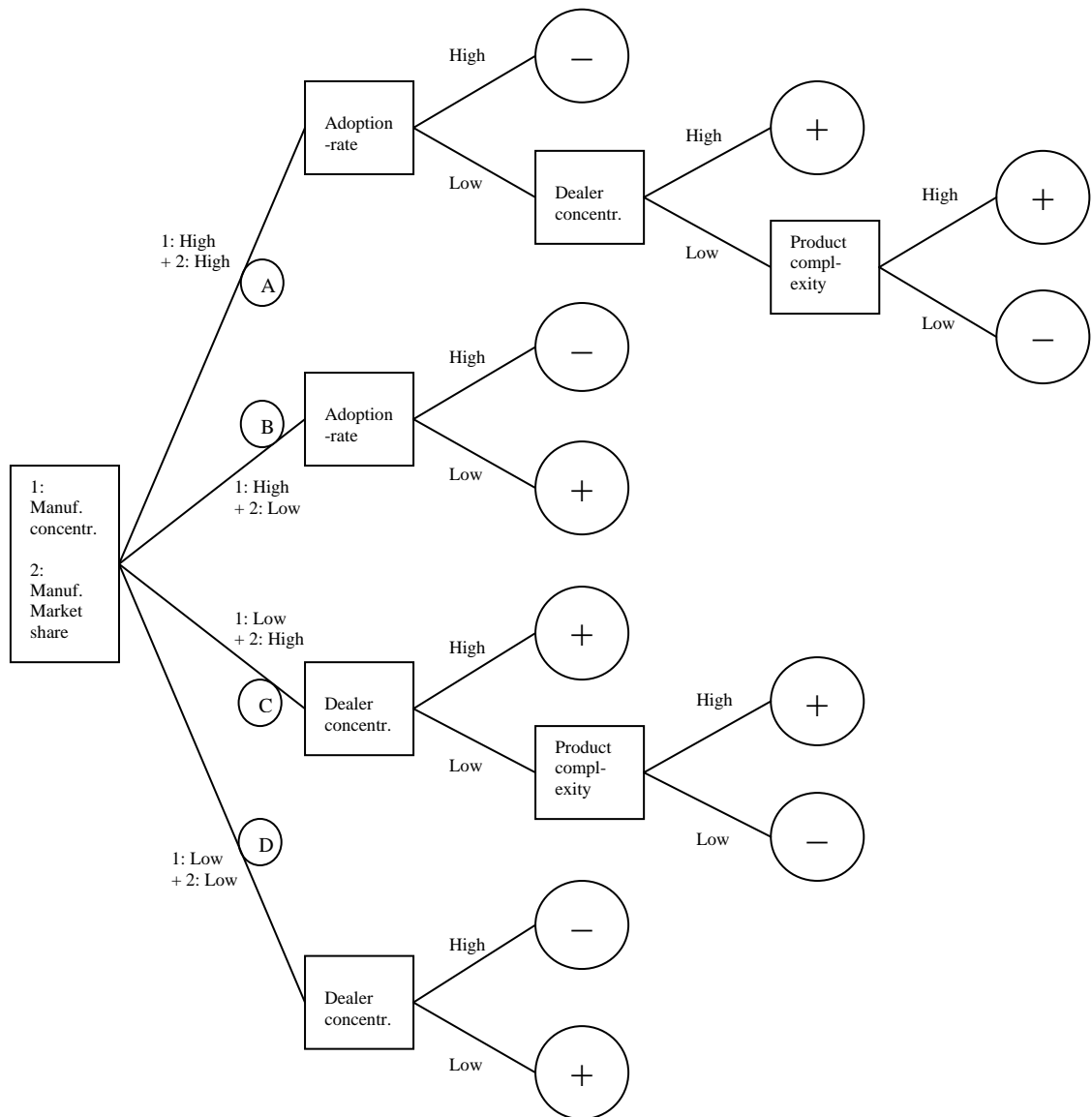

Figure: Proposed investigation rule for RPM. The rectangles represent the assessed criteria and the circles contain the decisions of permission (+) and prohibition (–).

Starting with a prior estimation of pro- and anticompetitive effects, the studies suggest somewhat more frequent efficiency rationales and effects of RPM use.[24] However, though excluded in two studies (Ippolito 1991 and Ippolito/Overstreet 1996), anticompetitive effects through manufacturer and/or dealer collusion cannot generally be rejected with regard to certain constellations of industry and company characteristics. In this respect, the studies first provide a selection of relevant criteria and, furthermore indicate how to apply these criteria for various hypotheses on RPM. Therefore, the recommended approach investigates the revealed criteria in a sequence, thus providing for a clear sorting of different instances of RPM from the beginning (see figure):

1   The investigation starts with a powerful criterion that makes it possible to quickly sort the various possible hypotheses on the use and effects of RPM, through assessing the manufacturer market, whereas a simultaneous determination of manufacturer concentration and manufacturers' market shares allows for synergies with respect to market delineation.

A   In the upper branch A, the focus is foremost on manufacturer collusion due to a high concentration on the manufacturer market, which functions like a necessary criterion for successful collusive activities (Overstreet 1983: 174-175; Gilligan 1986: 554). Successful manufacturer collusion is identified by a high adoption-rate of RPM revealing little diversity in distributional strategies and increased market transparency (Overstreet 1983: 174-175; Flath 1989: 196).[25]

In case the adoption-rate is low, some probability of utilizing market power exists with a high manufacturer's single market share (and additional high manufacturer concentration). Therefore, the investigation procedure's intention changes from demonstrating sufficient potential of manufacturer collusion towards the possibility of defending RPM uses on grounds of efficiency rationales like enhancing sales services through the reduction of free-riding and mitigating incentive problems. A high manufacturers' single market share reveals increased horizontal and vertical moral hazard problems (Gilligan 1986: 551-552; Hersch 1994: 212). Efficiency enhancing uses of RPM further require low dealer concentration, which then reduces the danger of dealer free-ridership (Hersch 1994: 212), plus high product complexity, which increases the need for sales service provision to consumers and enables dealers to influence the quality and provision of sales services to consumers (Overstreet 1983: 175; Ippolito 1991: 282-289). Low product complexity undercuts

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[24] According to Cooper et al. (2005a: 55-59) the existing empirical studies support the conclusion that procompetitive effects are more probable for RPM than anticompetitive effects.

[25] This assessment fits to the alternative investigation process of Comanor/Scherer (2007) – without regarding the empirically unconfirmed criterion of initiation. Both combinations, i.e. high manufacturer's single market share and/or high manufacturer concentration combined with high adoption-rate of RPM, should result in prohibition. The preferred thresholds of Comanor/Scherer (2007: 10) have been mentioned in section 3.

this efficiency defense by reducing horizontal and vertical moral hazard problems, and results in prohibition of RPM uses.

On the other hand, the existence of high dealer concentration is defendable for reasons other than efficiency rationales; although facilitating dealer collusion, a high manufacturer's market share alleviates this danger due to the existence of countervailing manufacturer's market power, i.e. a dealer collusion is less likely, the more powerful (some) manufacturers are (see Hersch 1994: 212). Consequently, RPM uses should be permitted in this case.

B   The beginning of the investigation equals the one of branch A. Again, the focus is foremost on manufacturer collusion due to a high concentration on the manufacturer market, and successful collusion is identified by a high adoption-rate of RPM (Overstreet 1983: 174-175; Gilligan 1986: 554; Flath 1989: 196).

In the case of low manufacturers' single market shares, combined with a relatively high manufacturer concentration, anticompetitive effects are unlikely, if the adoption-rate of RPM is low. This reveals existing competition through alternative selling and distribution strategies for competing products, and functions like a screen to sort out unproblematic cases because of low probability of collusive activities and low probability of unilateral utilization of market power (Overstreet 1983: 166-175).[26]

C   Due to low manufacturer concentration but high manufacturer's single market share, the focus in branch C is primarily on unilateral utilization of market power. This danger may emerge even if the manufacturer's market share is below the market dominance threshold (maybe 50 percent), what can be inferred from the combined "low" manufacturer market concentration. Even though, a high manufacturers' single market share reveals increased horizontal and vertical moral hazard problems (Gilligan 1986: 551-552; Hersch 1994: 212), efficiency enhancing uses of RPM can only be justified in the case of additional low dealer concentration, reducing the danger of dealer free-ridership (Hersch 1994: 212) plus high product complexity which increases the need for sales service provisions to consumers and the space for dealers to influence the quality (Overstreet 1983: 175; Ippolito 1991: 282-289). Again, low product complexity cuts off this efficiency defense by mitigating horizontal and vertical moral hazard problems, and results in prohibition of RPM uses.

Nevertheless, a high manufacturer's market share can be defended on the ground of alleviating the danger of dealer collusion, particularly in the case of high dealer

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[26] In this sense, there indirectly exists the incentive of being among the first making use of RPM ('race-to-RPM-use') because later manufacturers face a higher danger of already existing high pervasiveness of RPM use.

concentration. Consequently, RPM uses are permitted due to the existence of countervailing manufacturer's market power (see Hersch 1994: 212).

D The investigation branch D focuses on dealer collusion, which is opened by reduced countervailing manufacturers' market power (Hersch 1994: 212), i.e. low manufacturer concentration and low manufacturers' single market shares. Accordingly, low dealer concentration does not raise competitive concerns and implies immediate permission.

 On the other hand, in the absence of countervailing manufacturers' market power, high dealer concentration is sufficient for facilitating and sustaining dealer collusion (Overstreet 1983: 166; Gilligan 1986: 554; Hersch 1994: 212).

A possible objection concerns the upper branch A after a high adoption-rate has been observed in addition. The proposed prohibition may be questioned with regard to possible countervailing dealer market power. Of course, the high single manufacturer's market share will be tested for the utilization of market power in the case of low adoption-rate of RPM. On the one hand, the high dealer concentration can be defended on the grounds of countervailing manufacturer's market power, which is the empirical focus; on the other hand, high dealer concentration may itself also function as countervailing market power concerning the high manufacturer's market share. The latter argument, however, is not tested in the empirical studies, but confirms the decision to permit those RPM instances. High dealer concentration in this branch can, at least in theory, also be understood as revealing countervailing market power concerning the potential of manufacturer collusion through high manufacturer market concentration. However, next to the existence of a low adoption-rate of RPM, which alleviates collusive concerns, this argument does not find empirical support (see Hersch 1994: 212).

In the case of a high adoption-rate of RPM, the focus of investigation is on facilitating and maintaining manufacturer collusion, for which the previous stage of high market concentration can be seen as a necessary condition. According to the empirical studies, collusive activities on the manufacturer market are then seen as finally proven. However, the subsequent investigation of dealer concentration may definitely be an indication for the utilization of single market power (high manufacturer's single market share). However, due to the paper's special focus, only the empirically confirmed hypotheses are taken into account for the derivation of a recommended assessment procedure. The change in the investigation procedure's intention is, therefore, not applicable when a high adoption-rate is observed in the market.

The argument that high dealer concentration may itself function as countervailing market power concerning the utilization of a single manufacturer's market power can also be made in branch C. Again, this argument has not been tested in the empirical studies, but only

underscores the decision to permit those RPM cases. Even though, the investigation procedure is very similar to the second part of the upper branch A (defending efficiency rationales), the focus in branch C is directly on the utilization of single market power (high manufacturer's single market share). The low manufacturer concentration renders an assessment of manufacturer collusion and, therefore, the adoption-rate of RPM unnecessary.

Successful dealer concentration is finally demonstrated in branch D, after investigating only two assessment criteria (manufacturer market and dealer concentration). The theoretical literature often emphasizes the high importance of initiation by dealers for anticompetitive concerns of RPM use. This criterion is either not tested by empirical studies or it does not find empirical support. However, its implication might function indirectly, because it is reasonable to also presume dealer initiation of RPM use in the case of high dealer concentration opposed to low concentration and low single market shares on the manufacturer market. Therefore, the empirically supported prohibition in branch D is only underscored by this argumentation. Hersch (1994: 211-212) makes another point in this respect. According to the empirical results, "the percentage of product sales sold by single-outlet stores" serves as an additional criterion for the assessment of dealer collusion. A high percentage may indicate a comparatively powerful countervailing position of manufacturers and weakens the market power of dealers. Besides the absence of analyses in the literature, the theoretical explanation for the relevance and validity of this criterion seems far from being obvious; especially when regarded in the case of low concentration plus low single market shares on the manufacturer market.

The recommended approach defines the optimal decision to be made when a specific criterion's outcome has been observed, then deciding to either permit or prohibit, or to further investigate another criterion may terminate the assessment process. Searching for the right investigation rules does not lead to zero decision errors; such a claim cannot be made. Instead, decision-theoretic approaches utilize the certainty about making errors and try to minimize costs on average which result from erroneous decisions (i.e. permitting anticompetitive or prohibiting procompetitive cases of RPM) plus costs of the assessment. However, the simplified illustration neglects some important points.

For ease of exposition, it is assumed that the outcomes of the various criteria are dichotomous, i.e. 'high' or 'low', which also characterizes most criteria of the other above-mentioned assessment proposals, and at the end the decision will be either to permit or prohibit certain RPM cases. The assumption of dichotomous outcomes is far from self-evident and the specific classifications of 'high' and 'low' outcomes are the result of another – though not unconnected – theoretical and empirical analysis. Assessing a given criterion may result in the observation of a specific value (e.g., when the market share of a specific manufacturer is being assessed). The different values must then be optimally grouped together for equal treatment (permission, prohibition or further investigation) in practice.[27] In this respect, the 50 per cent adoption-rate, 10 per cent manufacturer's market share, or HHI change of 100 given

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[27] Kerber et al. (2009) provide a general theoretical framework for the analysis of optimal partitioning of continuous criteria's outcomes.

in the approaches of Comanor/Scherer (2007: 9-10), are not self-evident and require a more detailed analysis. Furthermore, also trichotomous sets of outcomes are possible, in which intermediate values may automatically indicate the necessity for further investigation.

Next to the special empirical focus, the presented approach also gives special consideration to the theoretical framework. The sorting process of sequential investigation rules often reflects implicit underlying presumptions. The manufacturer market functions like the first sorting criterion, thereby establishing specific presumptions about the subsequent path of investigation. These first presumptions can, however, also be changed due to the specific observation of further criteria's outcomes. This does not mean rendering previous assessments unnecessary, but means establishing the possible defense of RPM cases on different sets of justifications. For example, after observing high manufacturer concentration plus high single manufacturer market shares (branch A), the initial focus will be on manufacturer collusion (primarily due to the high manufacturer concentration). A low adoption-rate at the next stage, however, does not terminate the investigation of these RPM cases, but changes the focus on the high manufacturers' single market shares and possible utilizations of single market power (both presumptions of manufacturer collusion and single market power are compatible with the outcomes of the first criterion). Efficiency rationales can then be defended in case of low dealer concentration plus high product complexity. Though high dealer concentration leads to the same terminating decision (permission), the justification is totally different: namely, alleviating the danger of dealer collusion due to the existence of countervailing market power on the manufacturer market. Consequently, the assessment of dealer concentration leads to another change in the underlying investigation presumptions (the latter is the case analogously for branch C).

5. Conclusions

Finding the correct assessment procedure for RPM has attracted much attention after the US Supreme Court's *Leegin* decision in 2007 with its included recommendation of a rule of reason approach. Such an approach aims at distinguishing cases of RPM concerning their pro- and anticompetitive welfare effects. Even though the theoretical literature provides a number of possible assessment criteria for such distinction, only a few seem relevant from the empirical point of view. Furthermore, industrial organization has often focused on analyzing possible outcomes of RPM on competition, which are theoretically ambiguous, depending on the specific market constellations and company characteristics. Policy decisions though have to rely on the respective importance of different hypotheses and theories, which have to be provided by empirical studies. This includes the identification of practical, meaningful screening criteria as well as the determination of the likelihood of harmful and beneficial cases in particular settings (Breyer 2009: 130). Unfortunately, empirical research has attracted surprisingly little attention to this highly disputed business practice. Trying to characterize the

effect of different assessment criteria in this way, will resolve the crucial existing research deficits concerning the guidance of an optimal assessment process.

Nevertheless, the existing empirical studies allow for a discussion of the existing assessment proposals as well as suggesting and recommending a different approach based on the idea of optimal sequential investigation procedures. Such procedures investigate different assessment criteria sequentially, criteria, which allow for distinctions and which sort instances of RPM into ever smaller subclasses of pro- and anticompetitive welfare effects. The results identified by empirical studies regarding the sorting effect of different assessment criteria, are incorporated into a new competition policy recommendation concerning RPM. This is the first approach solely based on empirical results. Due to informational shortcomings, the recommended approach has to rely on a heuristic solution, thereby allowing for the approximation of an optimal solution. The derivation of an optimal sequential investigation rule requires further empirical studies about sorting effects of specific assessment criteria as well as the associated investigation costs. However, the approach of summarizing (qualitative) empirical results concerning RPM uses within a sequential assessment process provides for useful further discussion on the correct assessment of RPM.

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