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Loyalty rebates and the more economic approach to EU competition law

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ABSTRACT

In 2009 the European Commission published the art. 102 guidance regarding abusive exclusionary conduct by dominant undertakings. The guidance is based on the more economic approach to competition policy. This paper investigates the welfare implications of the more economic approach to loyalty rebates. First, the paper presents an economic framework linking weights attached to probabilities of false positives and negatives and the legal norm. After that, the paper discusses cases before the guidance paper (*i.a.* Hoffmann-La Roche), the guidance paper itself, and cases after the guidance paper (*i.a.* Intel). In the period after the guidance paper, we observe a non-linear increase in the weight attached to preventing false positives. The paper concludes that to further limit welfare losses due to false positives, the category of rebates that is assumed to be abusive should be defined in a restrictive way. Furthermore, in law enforcement priority should be given to cases that, considering all the circumstances, can be expected to be most harmful to consumers.

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KEYWORDS Loyalty rebates; more economic approach

I. Introduction

"Competition works and competition policy makes it work better. That is what it is all about – making markets work better for consumers", according to a well-known statement by Neelie Kroes.[1]

For economists it seems evident that competition policy should be directed at increasing welfare. There is some room for discussion about

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[1]Neelie Kroes, *EU Competition Rules – Part of the Solution for Europe's Economy*, European Competition Day, Paris 18 November 2008.

whether this should be consumer welfare or social welfare.[2] Nevertheless, originally increasing welfare was not the goal of European competition policy. The formulation of the Treaty of Rome (1957) appears to be strongly influenced by Ordoliberal thinkers.[3] For Ordoliberals protecting competition is an end in itself. Article 3f of the Treaty mentions "the institution of a system ensuring that competition in the common market is not distorted".

Between 1999 and 2004 Mario Monti aimed at bringing competition policy in line with modern economic thinking. At the end of his mandate as European commissioner for competition policy he argued that "competition policy is now clearly grounded in sound micro-economics".[4] We may observe, in other words, a transition towards a more economic approach to competition law. This transition is established using "soft law", especially guidelines used by the Commission in applying competition law. Roughly, competition law itself did not change, but what changed is the way in which the Commission enforces competition law. This gave rise to tensions between the more economic approach used by the Commission and the more formal approach applied by the General Court and the Court of Justice.[5]

The most controversial part of competition policy concerns the approach to abuse of dominance, especially the approach to exclusionary practices. Exclusionary practices may be defined as "actions taken by dominant firms to deter new competitors from entering an industry, to oblige rivals to exit, to confine them to market niches, or to prevent them from expanding".[6] Different types of exclusionary behaviour may be distinguished, inter alia the use of loyalty rebates. In a broad sense, loyalty rebates may be described as any "payment schedule that rewards larger orders with lower prices".[7] In a stricter sense, "loyalty", "fidelity", or "exclusivity" rebates are granted for exclusivity, whereby the supplier rewards a customer who purchases all (or nearly all) of its

[2]Simon Bishop and Mike Walker, *The Economics of EC Competition Policy* (3rd edn, Edward Elgar, 2010) 29–32.

[3]Nicola Giocoli, 'Competition versus Property Rights: American Antitrust Law, the Freiburg School, and the Early Years of European Competition Policy' (2009) 5 Journal of Competition Law and Economics 747. And Peter Behrens, 'The 'Consumer Choice' Paradigm in German Ordoliberalism and Its Impact upon EU Competition Law', (2015) Europa Kolleg Hamburg Discussion Paper.

[4]Mario Monti, 'A Reformed Competition Policy: Achievements and Challenges for the Future', (2004) Competition Policy Newsletter.

[5]Cf. Anne C Witt, *The more economic approach to EU Antitrust Law* (Bloomsbury, 2016).

[6]Chiara Fumagalli, Massimo Motta and Claudio Calcagno, *Exclusionary Practices* (Cambridge University Press, 2018) 1.

[7]Hans Zenger, 'Loyalty Rebates and the Competitive Process' (2012) 8 Journal of Competition Law and Economics 718.

requirements for the product of the supplier.[8] The treatment of loyalty rebates under Article 102 of the Treaty on the Functioning of the European Union (TFEU) is perhaps the most heavily disputed field of European competition policy.[9]

Hoffmann-La Roche is the seminal case on loyalty rebates in the period preceding the more economic approach. The approach following *Hoffmann-La Roche* triggered an extensive discussion. A central element in the discussion is that the policy towards loyalty rebates may lead to welfare losses due to the prohibition of welfare enhancing behaviour. As Bishop and Walker put it:

> if a firm is found to be dominant, then any loyalty rebate scheme is very likely to be deemed to represent an abuse of that dominant position. This hostile policy stance translates into an effective per se prohibition on dominant firms employing such schemes. In so doing, the law will in many instances be detrimental to competition and hence consumers.[10]

This discussion culminated in "the article 102 guidance".[11] In this guidance paper the Commission formulated enforcement priorities based on the more economic approach. Applied to loyalty rebates, interventions should be focussed on cases where the application of rebate schemes has negative effects on consumer welfare.

The aim of the paper is to investigate the welfare implications of the development of the more economic approach to loyalty rebates. For this purpose, section 2 presents an economic framework. The underlying idea is that false positives (over-enforcement) and false negatives (under-enforcement), are unavoidable. The probability of false positives and the probability of false negatives depend on the legal norm. From an economic perspective, the optimal norm minimizes welfare losses due to false positives and false negatives. The norm implies a specific trade-off between the probability of false positives and false negatives. In section 3 this economic framework is used to interpret the transition to the more economic approach to competition policy. First, seminal cases regarding loyalty rebates before the "guidance paper", i.a. *Hoffmann-La Roche*, are discussed. Second, the discussion leading to the "Article 102 guidance" is examined. Third, cases after the "guidance paper", i.a.

[8]Alison Jones, Brenda Sufrin and Naimh Dunne, *EU Competition Law: Text, Cases, and Material* (7th edn, Oxford University Press, 2019) 449.
[9]Zenger (n 7).
[10]Bishop and Walker (n 2) 262–263.
[11]Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings (hereafter, "Article 102 guidance"), 2009 O.J. (C 45/7).

Intel, are discussed. In section 4 we interpret the development in terms of the trade-off between the probability of false positives and the probability of false negatives. In theory, the introduction of the more economic approach, reflects a change in the weights attached to false positives and false negatives. In case law, however, we do not observe a gradual development in one direction. Although the development may be interpreted as a change in the weighing of false positives and false negatives, this interpretation is indirect. That is, the rulings in the cases are not formulated in terms of false positives and false negatives. Rather, they are formulated in terms of the norm that should be used. Section 5 concludes that the probability of false positives in judgement in cases regarding loyalty rebates still is a serious issue. The analysis suggests a number of implications for competition policy. First of all, it is advisable to define the category of loyalty rebates that is presumed to be abusive in a very restrictive way. Second, setting enforcement priorities in line with the economic approach used in the article 102 guidance is helpful in avoiding welfare losses.

II. Economic framework

Assume that the goal of competition policy, in line with the more economic approach, is to promote welfare. Ideally, inefficient rebate schemes (i.e. rebate schemes leading to welfare losses) will be considered abusive (true positives) and efficient rebate schemes (i.e. rebate schemes leading to welfare gains) will be considered not abusive (true negatives). As indicated in Table 1, both false negatives and false positives give rise to welfare losses. As Niels et al. put it: 'competition policy must strike a balance between minimizing the likelihood of prohibiting practices that are in reality pro-competitive (false positives), and minimizing the likelihood of condoning practices that are in reality anti-competitive (false negatives)'.[12]

The occurrence of false positives and false negatives depends on the legal norm, on how the distinction between abusive and non-abusive behaviour is made. Is it sufficient that a rebate scheme has certain characteristics? Or is it also necessary to show that the rebate scheme potentially has negative welfare effects, is likely to have negative welfare effect, or actually has negative welfare effects?

[12]Gunnar Niels, Helen Jenkins and James Kavanagh, *Economics for Competition Lawyers* (2nd edn, Oxford University Press, 2016) 17.

Table 1. Welfare losses due to false negatives and false positives.

	Inefficient rebate scheme	Efficient rebate scheme
Abusive	*True positive*	*False positive* Welfare loss: stopping behaviour that would give rise to an increase in welfare
Not abusive	*False negative* Welfare loss: not stopping behaviour the leads to a welfare loss	*True negative*

A. Optimal norm

In order to find an optimal norm, that is a norm that minimizes the sum of the expected welfare losses, it is helpful to think in terms of conditional probabilities.[13] In Table 2 r is the probability that an inefficient rebate scheme is *rightly* considered to be abusive. In fact, r is a conditional probability. Given that a rebate scheme is inefficient, the probability that this rebate scheme will be considered abusive is r. Furthermore, w is the probability that an efficient rebate scheme is *wrongly* considered to be abusive. Of course, w is also a conditional probability. In the literature r is also indicated as the true positive rate and w is indicated as the false positive rate.

The expected costs of false positives depend on the probability of false positives (w), the number of efficient cases (N_E) and the costs per case (C_{FP}). The expected costs due to false positives are equal to wN_EC_{FP}. Since a stricter norm leads to a decrease in the probability of false positives, a stricter norm gives rise to a decrease in the expected costs due to false positives.

The expected costs of false negatives depend on the probability of false negatives ($1-r$), the number of inefficient cases (N_I) and the costs per case (C_{FN}). The expected costs due to false negatives are equal to $(1-r)N_IC_{FN}$. Since a stricter norm leads to an increase in the probability of false negatives, a stricter norm gives rise to an increase in the expected costs due to false negatives.[14]

In order to illustrate the line of reasoning, Figure 1 depicts the expected costs due to false negatives (indicated Cfn) and the expected costs due to false positives (indicated Cfp). Furthermore, the figure

[13] Ronald A. Heiner, 'Imperfect Decisions and the Law: On the Evolution of Legal Precedent and Rules' (1986) 15 Journal of Legal Studies 227–261. Roland Kirstein and Dieter Schmidtchen, 'Judicial Detection Skill and Contractual Compliance' (1997) 17 International Review of Law and Economics 509–520.

[14] Of course, a stricter norm may also lead to an increase in enforcement costs. For convenience we do not explicitly discuss these costs. They can, however, be assumed to be included in the Cfn-curve presented below.

Table 2. Conditional probabilities.

	Inefficient rebate scheme	Efficient rebate scheme
Abusive	r	w
Not abusive	$1 - r$	$1 - w$

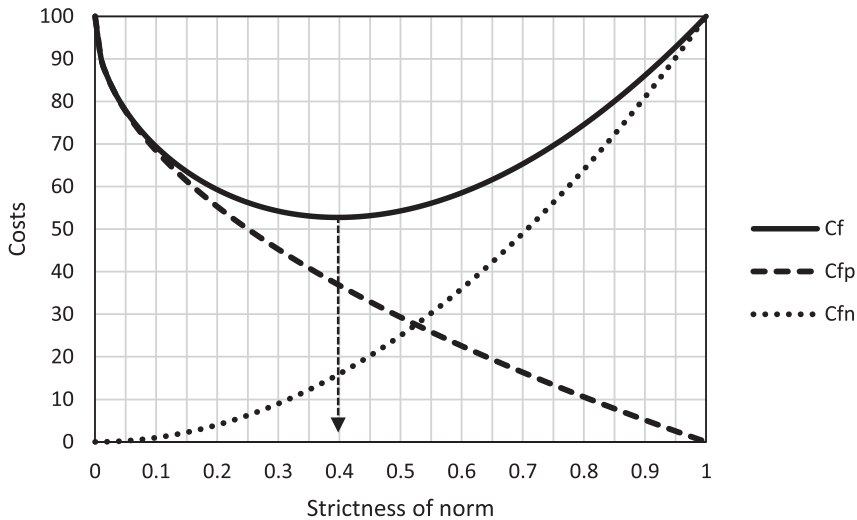

Figure 1. Expected costs due to false positives and false negatives.

shows the sum of both (indicated Cf).[15] The horizontal axis represents the strictness the norm. On the left-hand side of Figure 1, no proof of inefficiency is needed. So, the expected costs of false positives will be high and the expected costs of false negatives will be zero. A stricter norm leads to a reduction in Cfp and an increase in Cfn. Figure 1 indicates the optimal norm, i.e. the norm that minimizes the sum of the expected costs of false positives and false negatives.[16]

B. Optimal trade-off

The choice of a legal norm implies the choice of an r,w-combination. The trade-off between r and w can be depicted by the so-called ROC-curve

[15]The hypothetical example is based on $r = 1 - s^2$, $w = 1 - \sqrt{s}$, $N_I = 50$, $N_E = 50$, $C_{FN} = 2$, $C_{FN} = 2$, where s ($0 \leq s \leq 1$) represents the strictness of the legal norm. In the example, the optimal strictness of the legal norm is 0.4.

[16]A similar graph is presented by Christiansen and Kerber. They, however, focus on the influence of legal complexity rather than the strictness of the legal norm. Arndt Christiansen and Wolfgang Kerber, 'Competition Policy with Optimally Differentiated Rules Instead of "Per se Rules vs. Rule of Reason"' (2006) 2 Journal of Competition Law and Economics 215–244.

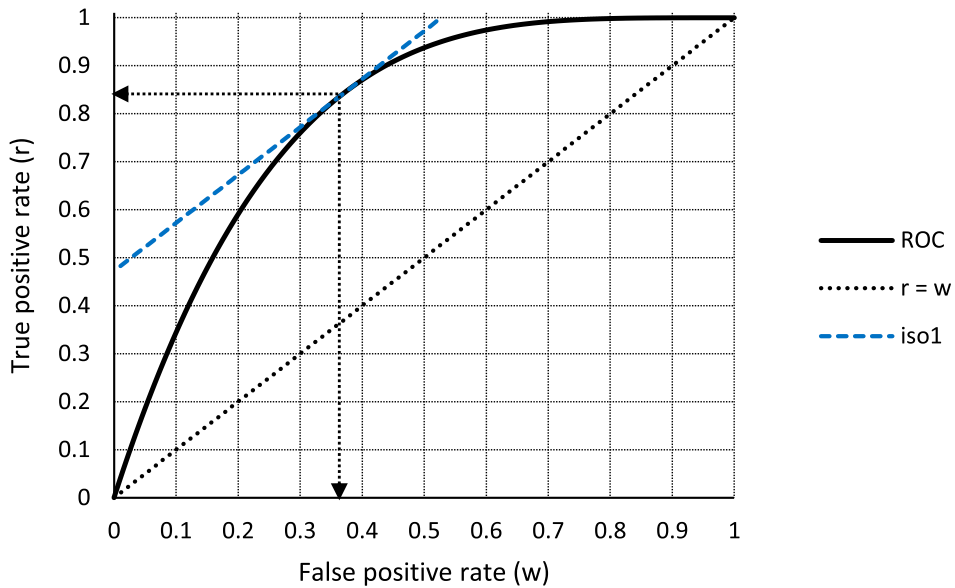

Figure 2. ROC-curve.

shown in Figure 2.[17] A policy-maker may, for instance, opt for an increase in the true positive rate. But "the price" would be that he also has to accept an increase in the false positive rate. The ROC-curve, in other words, shows the combinations of r and w available to a policy-maker.[18]

The ROC-curve is frequently used to analyse decisions that may lead to false positives and false negatives. A well-known example is medical decision-making. False positives lead to unnecessary treatments that may cause harm to (healthy) persons. False negatives lead to missing opportunities to effectively treat (sick) persons. The more evidence of illness is required for treatment, the lower r and w. The ROC-curve is also applied in legal contexts. An example pertains to the evaluation of the accuracy of instruments to assess the risk of predict violent behaviour.[19] The ROC-curve may also be used as an instrument to analyse competition policy.[20]

The slope of the ROC-curve represents the trade-off between the true positive rate and the false positive rate. If a policy-maker wants to reduce the false positive rate, he will have to accept a decrease in the true positive rate. In other words, the "price" of reducing the false positive rate (w) is a decrease in the true positive rate (r).

The price the policy-maker is willing to pay for a reduction in the false positive rate, depends on the consequences. On the one hand, there is a reduction in the expected costs due to false positives, w$N_E C_{FP}$. On the other hand, there is an increase in the expected costs due to false negatives, $(1-r)N_I C_{FN}$. Consequently, since a decrease in w would lead to cost reduction and an increase in r leads to a costs increase, there is a certain increase in r that is just acceptable to bring about a decrease in w. This defines the slope of an iso-cost curve (where the sum of the expected costs of false negatives and false positives is constant).

[17] ROC = receiver operating characteristic. See *inter alia* C.E. Metz, 'Basic Principles of ROC Analysis' (1978) 8 Seminars in Nuclear Medicine 283–298, and John A Swets, The Science of Choosing the Right Decision Threshold in High-Stakes Diagnostics (1992) 47 American Psychologist 522–532. It is straightforward to find the ROC-curve for the example shown in footnote 15. The ROC curve essentially shows the values of r that can be obtained for different values of w. Since $r = 1 - s^2$ and $w = 1 - \sqrt{s}$ the ROC-curve is given by $r = 1 - (1 - w)^4$.

[18] The ROC-curve may be used to evaluate the decision-making under uncertainty. A perfect test would be characterized by $r = 1$ and $w = 0$. A powerless test would be characterized by $r = w$. A better test would lead to a ROC-curve "further above" the diagonal. The so-called AUC-value measures the "area under the curve". A powerless test has an AUC-value of 0.5. A perfect test leads to AUC = 1. AUC-values between 0.7 and 0.9 indicate moderately accurate tests. See David L. Streiner and John Cairney, 'What's under the ROC? An Introduction to Receiver Operating Characteristic Curves' (2007) 52 Canadian Journal of Psychiatry 121–128. The AUC-value of the test represented in Figure 2 is $\int_0^1 (1 - (1 - w)^4) dw = 0.8$. Hence, the example represents a moderately accurate test.

[19] See for instance Douglas Mossman, 'Assessing Predictions of Violence: Being Accurate about Accuracy' (1994) 62 Journal of Consulting and Clinical Psychology 783–792.

[20] See for instance Dieter Schmidtchen, 'Wettbewerbsschutz durch regelgeleitete Wettbewerbspolitik' (2006) 57 Ordo Jahrbuch für die Ordnung von Wirtschaft und Gesellschaft 165–189.

The optimal combination of r and w is found where best attainable iso-cost curve is tangent to the ROC-curve.[21]

C. Social change and competition policy

Assuming policy-makers aim at maximizing social welfare, policy choices depend on (perceptions of) N_I, N_E, C_{FP}, and C_{FN}.

Policy-makers will opt for a "form-based approach" (i.e. interventions based on the characteristics of the rebate scheme, without investigation the welfare implications in the specific case) if they believe that most loyalty rebates schemes are inefficient ($N_I >> N_E$), non-intervention in case of inefficient rebate schemes will cause substantial costs (high level of C_{FN}), and intervention in the case of efficient rebate schemes will cause limited causes (low level of C_{FP}).

Policy-makers will opt for an "effects-based approach" (i.e. interventions based on an analysis indication that the use of the rebate scheme will in the specific case lead to welfare losses) if they believe that most loyalty rebates schemes are efficient ($N_E >> N_I$), intervention in the case of efficient rebate schemes will cause substantial harm (high level of C_{FP}) and non-intervention in case of inefficient rebate schemes will cause limited costs (low level of C_{FN}).

Clearly, purely form-based or effects-based approaches are extreme choices. In practice intermediate choices will in general be optimal choices.

It is now straightforward to see how optimal decisions change in response to changes in society. If the costs of false positives become more important (because of an increase in N_E or C_{FP}), the iso-cost curve gets steeper, so the optimal choice on the ROC-curve would imply lower values of r and w. And this would require a stricter norm. If the costs of false negatives become more important (because of an increase in N_I or C_{FN}), the iso-cost curve gets less steep, so the optimal choice would imply higher values of r and w. And this would require a less strict norm.

In the next section, the ROC-curve will be used as a heuristic device to interpret the development of decisions and judgements in cases regarding loyalty rebates and abuse of dominance.

[21] The costs due to false positives and false negative are given by $C_F = (1 - r)N_I C_{FN} + wN_E C_{FP}$. Hence, the slope of the isocost curve is given by $\frac{dr}{dw} = \frac{N_E C_{FP}}{N_I C_{FN}}$. Since $N_I = 50$, $N_E = 50$, $C_{FN} = 2$, $C_{FN} = 2$, the slope of the curve is 1. Hence, the optimal trade-off between r and w is 1. The slope of the ROC-curve is $4(1 - w)^3$. So the optimal value of w follows from $4(1 - w)^3 = 1$, implying $w = 0.367$. Then: $r = 0.840$. This implies that s must be set at 0.40 (as indicated in Figure 1).

III. Application to the more economic approach

The transition towards a more economic approach to abuse of dominance, effectively amounts to a transition from a form-based approach to a more effects-based approach. A form-based approach implies that decision-makers opt for a "high" *r* and accept a "high" *w*. Essentially: if a rebate scheme "looks like" an exclusivity rebate scheme, it is considered to be abusive. In this, at least implicitly, a relatively high false positive rate is accepted. A transition towards a more effects-based approach implies that decision-makers aim at a lower false positive rate and accepts a lower true positive rate. Essentially: if a rebate scheme "looks like" an exclusivity rebate scheme *and* leads to a reduction in welfare (or leads to consumer harm), it is considered to be abusive.

The ratio behind the transition towards a more economic approach to abuse of dominance appears to be the idea that a form-based approach leads to welfare losses due to false positives. Hence, more weight should be attached to (preventing) false positives. The problem is that behaviour that would be welfare enhancing (or that would lead to an increase in consumer welfare) is forbidden. So, the aim is to reduce *w* and the "price" (one is prepared to pay) is a reduction in *r*. That is: in order to reduce the probability that an efficient activity is forbidden, one accepts a reduction in the probability that an inefficient activity is forbidden.

Analytically, a distinction can be made between optimal levels of *r* and *w* on the one hand, and optimal levels of *s* on the other. This leads to the question: is the discussion on the more economic approach to abuse of dominance framed in terms of *r* and *w* or in terms of *s*? Or, what role do *r*, *w*, and *s* play in the discussion?

In order to investigate the welfare implication of the more economic approach to loyalty rebates, we first discuss seminal cases in the period preceding the Article 102 Guidance. Next, we consider the Article 102 Guidance from the perspective presented earlier in this paper. Finally, we discuss cases in the period after the Article 102 Guidance. Do we see changes in the weighing of *r* and *w*? And do we observe changes in the legal norm?

A. Cases prior to the Article 102 guidance

In the seminal case *Hoffmann-La Roche v. Commission*[22] the ECJ in 1979 formulated the basis for the treatment of loyalty rebates.[23] A crucial element in the judgement is paragraph 89.

[22]Case 85/76, *Hoffmann-La Roche & Co. AG v Commission*, EU:C:1979:36.
[23]Jones, Sufrin and Dunne (n 8) 366–367.

> An undertaking which is in a dominant position on a market and ties purchasers – even if it does so at their request – by an obligation or promise on their part to obtain all or most of their requirements exclusively from the said undertaking abuses its dominant position within the meaning of Article 86 of the Treaty, whether the obligation in question is stipulated without further qualification or whether it is undertaken in consideration of the grant of a rebate. The same applies if the said undertaking, without tying the purchasers by a formal obligation, applies, either under the terms of agreements concluded with these purchasers or unilaterally, a system of fidelity rebates, that is to say discounts conditional on the customer's obtaining all or most of its requirements – whether the quantity of its purchases be large or small – from the undertaking in a dominant position.

As explained by Witt,

> These two sentences suggest that entering into exclusivity arrangements is always abusive on the part of a dominant undertaking, and that there is no need to make such a finding dependent on an in-depth analysis of the actual or likely effects on competition.[24]

In other words, the court essentially follows a form-based approach. By indicating that in-depth analysis of actual or likely effects is not required, the court implicitly accepts a high false positive rate. As indicated before, such a form-based approach implies that the court aims at a "high" *r* and implicitly accept a "high" *w*. The judgement implies that no extensive investigation of effects is required to conclude that fidelity rebates constitute abuse of dominance. That is, in deciding whether the conduct is abusive the court does not use a strict norm; not much indications of harmful effects are required.

A similar idea is repeated in cases after *Hoffmann-La Roche*. A well-known example can be found in *Michelin II*: For the purposes of establishing an infringement of Article 102 TFEU "it is sufficient to show that the abusive conduct of the undertaking in a dominant position *tends to* restrict competition or, in other words, that the conduct *is capable of having* that effect".[25] An identical formulation is used in *British Airways*.[26]

[24] Anne C. Witt, 'The European Court of Justice and the More Economic Approach to EU Competition Law: Is the Tide Turning?' (2019) 62 Antitrust Bulletin 194.
[25] Case T-203/01, *Manufacture française des pneumatiques Michelin v Commission*, EU:T:2003:250, para 239.
[26] Case C-95/04P, *British Airways plc v Commission*, EU:C:2007:166, para 293.

B. The Article 102 guidance

The approach following *Hoffmann-La Roche* triggered an extensive discussion on the approach to exclusionary abuses.[27] As indicated by Motta, by neglecting effects-based considerations the judgement in *Michelin II* contributed to the debate on the enforcement of art. 102.[28] This discussion resulted in the "Article 102 Guidance". Two reports played an important role in the discussion.

The first of these is a report by the Economic Advisory Group on Competition Policy (EAGCP) published in July 2005. The group presents to following abstract of the report:

> This report argues in favour of an economics-based approach to Article 82, in a way similar to the reform of Article 81 and merger control. In particular, we support an effects-based rather than a form-based approach to competition policy. Such an approach focuses on the presence of anti-competitive effects that harm consumers, and is based on the examination of each specific case, based on sound economics and grounded on facts.

In the report the trade-off between the likelihood of false positives and false negatives plays a central role. As formulated in the report:

> the competition authority must balance the likelihood of false positives (condemning a pro-competitive practice in a particular case) and false negatives (allowing a dominant firm to abuse its market power in other cases), as well as the likely magnitudes of the costs for competition of both types of errors.[29]

It is exactly this balancing act that lead to the efficient norm in Figure 1, where the efficient norm depends on the expected costs of false positives and false negatives.

The second report is the "DG Competition discussion paper on the application of Article 82 of the Treaty to exclusionary abuses" published in December 2005. Essential ideas in the report are: that competition policy is about consumer welfare, that decisions should be based on an effects-based approach, and that the as efficient competitor test has a role to play. "Article 82 prohibits exclusionary conduct which produces actual or likely anticompetitive effects in the market and which can harm consumers in a

[27] See for instance Roger J Van den Bergh, *Comparative Competition Law and Economics* (Edward Elgar, 2017) 358.
[28] On Michelin II: Dennis Waelbroeck, 'Michelin II: A Per Se Rule Against Rebates by Dominant Companies?' (2005) 1 Journal of Competition Law and Economics 149. Massimo Motta, 'Michelin II – The Treatment of Rebates' in Bruce Lyons (ed), *Casus in European Competition Policy* (Cambridge University Press, 2009). Zenger (n 7). Hans Zenger and Mike Walker, 'Theories of Harm in European Competition Law: A Progress Report' in Jacques Bourgeois and Denis Waelbroeck (eds), *Ten Years of Effects-Based Approach to EU Competition Law* (Bruylant, 2012).
[29] EAGCP, An Economic Approach to Article 82, 7, 2005. Available at https://ec.europa.eu/dgs/competition/economist/eagcp_july_21_05.pdf.

direct or indirect way" (para. 55). The central concern of Article 82 with regard to exclusionary abuses is thus foreclosure that hinders competition and thereby harms consumers. (para. 56) In the specific market context, a likely market distorting foreclosure effect must be established. (para. 58) In general only conduct which would exclude a hypothetical "as efficient" competitor is abusive (para. 63). There is, however, no explicit discussion of the trade-off between false positives and false negatives.

In terms of the economic framework presented earlier in this paper: the focus in the first report is on the trade-off between r and w, whereas in the second report the focus is on s.

The European Commission published the Article 102 Guidance in 2009. In this guidance paper the Commission formulated enforcement priorities in applying Article 102 TFEU to abusive exclusionary conduct by dominant undertakings. These priorities are based on the more economic approach. Para 5 suggests that the Commission aims at a relatively high r. "In applying Article 82 to exclusionary conduct by dominant undertakings, the Commission will focus on those types of conduct that are most harmful to consumers". An efficiency defence may reduce the probability of false positives, since the Commission may decide not to intervene in activities that look like restrictive practices but in fact are efficiency enhancing. The Commission will consider claims by dominant undertakings that rebate systems achieve cost or other advantages which are passed on to customers (para. 46). The fact that the Commission will use the "as efficient competitor test" implies that the Commission opts for a relatively strict norm. "With a view to preventing anti-competitive foreclosure, the Commission will normally only intervene where the conduct concerned has already been or is capable of hampering competition from competitors which are considered to be as efficient as the dominant undertaking" (para. 23).

A preference for a relatively strict norm, which follows from a transition from a form-based approach to a more effects-based approach, implies an increase in the weight attached to false positives relative to the weight attached to false negatives. The trade-off between the probability of false positives and the probability of false negatives, as explicitly discussed by the EAGCP, remains rather implicit in the Guidance paper.

C. Cases after the Article 102 guidance

Judgements in landmark cases after the guidance paper was published, reveal that the guidance paper did not immediately lead to a watershed in the judgements.

1. Post Danmark I and II

In 2012 the Court of Justice presented a preliminary ruling in *Post Danmark I*.[30] This ruling appeared to be consistent with core tenets of the more economic approach to exclusionary behaviour. Most importantly, the Court opted for an effects-based approach, took consumer welfare as the relevant benchmark, and made reference to the as efficient competitor test. The judgement implies that significant weight is attached to reducing the risk of false positives, since it is considered to be important to test whether the pricing policy produces "an actual or likely exclusionary effect".[31]

A number of cases after *Post Danmark I* seemed to indicate that the tide was turning again. In *Tomra* the ECJ confirmed the formalistic judgement by the General Court. The General Court used formulations that are similar to formulations in *Michelin II*:

> for the purposes of proving an abuse of a dominant position within the meaning of Article 102 TFEU, it is sufficient to show that the abusive conduct of the undertaking in a dominant position tends to restrict competition or that the conduct is capable of having that effect.[32]

In *Post Danmark II*[33] the ECJ held that in order to fall within the scope of article 82 EC, the anticompetitive effect of a rebate scheme operated by a dominant undertaking must be likely or probable. The as-efficient-competitor test must be regarded as one tool amongst others for the purposes of assessing whether there is an abuse of a dominant position in the context of a rebate scheme. Furthermore, there is no need to show that the anticompetitive effect is of a serious or appreciable nature.[34] This leads to the question: what is "probable" or "likely"?[35] In her opinion on the case Advocate General Kokott formulates a rather explicit answer to the question how likely the anti-competitive effect of a rebate scheme operated by a dominant undertaking has to be in order to constitute abuse within the meaning of Article 102 TFEU:

> According to settled case-law, it is necessary but also sufficient that the rebates in question *can* produce an exclusionary effect. This is the case where, on the basis of an overall assessment of all the relevant circumstances of the

[30]Case C-209/10 *Post Danmark v Konkurrencerådet* EU:C:2012:172.
[31]Case C-209/10, *Post Danmark v Konkurrencerådet*, EU:C:2012:172, para 44.
[32]Case C-549/10P, *Tomra Systems ASA and others v Commission*, EU: C:2012:221, para 68.
[33]Case C-23/14, *Post Danmark A/S v Konkurrencerådet*, EU:C:2015:651.
[34]Case C-23/14, *Post Danmark A/S v Konkurrencerådet*, EU:C:2015:651, para 62.
[35]Cf. Pablo Ibáñez Colomo, 'The Future of Article 102 TFEU after *Intel*' (2018) 9 Journal of European Competition Law and Practice 293.

> individual case, the presence of the exclusionary effect appears more likely than its absence.[36]

In her view it would be inappropriate to set a higher bar for assuming the existence of an abuse that is incompatible with Article 102 TFEU and, for example, to require that the presence of an exclusionary effect must be "very likely" or "particularly likely" or must be assumed to be "beyond reasonable doubt". In the terminology of the economic framework presented above, a strict norm would be inappropriate. Limited evidence is required to conclude that a rebate scheme used by a dominant firm constitutes an abuse of dominance. In order to realise a high *r*, a high *w* is accepted.

Clearly, from an economic point of view *Post Danmark II* fails to take account of crucial information. Since "there is no need to show that the anticompetitive effect is of a serious or appreciable nature" the costs of false negatives do not play a role. Without this information it is, however, impossible to determine what the optimal norm would be. Several commentators indicated that the judgement in *Post Danmark II* was outdated and inefficient. As Lundqvist put it: "there is a clear risk that competition will be restricted by the use of the old doctrine under Article 102 (c) TFEU, which *Post Danmark II* seems to suggest".[37] According to Venit: "on the basis of Post Danmark II, it would appear that, rather than taking a bold new direction, the Court is maintaining its traditional approach to Article 102, at least where loyalty rebates are concerned".[38]

2. Intel

The *Intel* case probably best illustrates the discussion on the transition towards a more economic approach to loyalty rebates.

Intel was, and still is, the leading dominant firm producing central processor units (CPUs) of the so-called X86 architecture. These processors run both Windows and Linux. The only serious competitor is AMD. Intel offered conditional rebates to four major original equipment manufacturers (OEMs): HP, Dell, NEC and Lenovo. Intel granted rebates to these OEMs conditioned on these OEMs purchasing all or almost all of

[36] Opinion of Advocate General Kokott in Case C-23/14, *Post Danmark A/S v Konkurrencerådet*, EU: C:2015:343, para 82.

[37] Björn Lundqvist, 'Post Danmark II, Now Concluded by the ECJ: Clarification of the Rebate Abuse, But How Do We Marry Post Danmark I with Post Danmark II? (2016) 11 European Competition Journal 557.

[38] James S. Venit, 'Making Sense of Post Danmark I and II: Keeping the Hell Fires Well Stoked and Burning' (2016) 7 Journal of European Competition Law and Practice 165.

their x86 CPUs from Intel. On 18 October 2000 AMD filed an official complaint.

On 13 May 2009, the European Commission adopted a decision finding that Intel had abused its dominant position.[39] The Commission first of all concludes that the conditional rebates granted by Intel constitute fidelity rebates which fulfil the conditions of the *Hoffmann-La Roche* case law. On top of that the Decision also conducts an economic analysis of the capability of the rebates to foreclose a competitor which would be as efficient as Intel, albeit not dominant.[40]

> Although not indispensable for finding an infringement under Article 82 of the Treaty according to the case law, one possible way of showing whether Intel's rebates and payments were capable of causing or likely to cause anticompetitive foreclosure is to conduct an as efficient competitor analysis.[41]

The Commission concludes that Intel's behaviour resulted in a reduction of consumer choice and in lower incentives to innovate. On 22 July 2009 Intel brought an action for the annulment of the decision. One of the arguments put forward by Intel was that the as efficient competitor test applied by the Commission did not indicate anti-competitive foreclosure.

On 12 June 2014, the General Court upheld the Commission Decision.[42] The General Court held that the rebates granted to Dell, HP, NEC and Lenovo were exclusivity rebates. The General Court explained that the question of whether such a rebate can be categorised as abusive does not depend on an analysis of the circumstances of the cases aimed at establishing the capability of the rebate to restrict competition. Hence, the General Court did not see any reason for investigating arguments regarding the effects of the rebates. On 24 August 2014 Intel brought an appeal against the judgement of the General Court before the Court of Justice. In this Intel claimed that the General Court erred in law by failing to examine the rebates at issue in the light of all the relevant circumstances.

On 6 September 2017 the Court of Justice issued its judgement in the Intel case.[43] The judgement is in line with AG Wahl's opinion.[44] The most crucial element in the judgement of the Court of Justice is that

[39]Case COMP/C-3 /37.990, *Intel*, Decision of 13 May 2009.
[40]Summary of Commission Decision of 13 May 2009, Official Journal of the European Union, C/227, para. 25 and 28.
[41]Case COMP/C-3 /37.990, *Intel*, Decision of 13 May 2009, para 925.
[42]Case T-286/09, *Intel v. European Commission*, 12 June 2014.
[43]Case C-413/14 P, *Intel v. European Commission*, Judgement of the Court, 6 September 2017.
[44]Opinion of Advocate General Wahl, delivered on 20 October 2016 in Case C-413/14 P *Intel Corporation Inc. v European Commission*.

the General Court was required to investigate all of Intel's arguments regarding the AEC test. More specifically:

> the judgment of the General Court must be set aside, since, in its analysis of whether the rebates at issue were capable of restricting competition, the General Court wrongly failed to take into consideration Intel's arguments seeking to expose alleged errors committed by the Commission in the AEC test.[45]

Therefore, the Court of Justice referred the case back to the General Court.

Looking at the decisions of the European Commission, the General Court and the Court of Justice in the Intel case, we may observe a development in the role of form-based and effects-based types of arguments. The Commission Decision was a first attempt to not only use form-based but also effects-based arguments. According to the General Court, it is only form-based arguments that count. The judgement of the General Court can be qualified as hostile towards an effects-based analysis.

> Unfortunately, at least for now the gap between the Court's form-based standard and an effects-based policy remains wide. This dichotomy will continue to make compliance work a challenging task, at least for dominant firms that are intent on competing intensely for every sale they can win in the market.[46]

The Judgement is "unduly formalistic" and fails to "incorporate the teachings of economics".[47] "The outcome in the *Intel* case represents a setback in the transition process towards a More Economic Approach".[48] "There is no doubt that this is a very formalistic judgement, which – if confirmed by the Court of Justice – will likely turn back the clock of European policy towards abusive conduct".[49] The judgement of the Court of Justice appears to be the "rebirth" of the more economic approach.[50] The Court did not follow the "hostile approach" where, in line with *Hoffmann-La Roche*, the use of loyalty rebates by dominant firms is considered to be abusive. The Court of Justice decided that effects-based

[45]Case C-413/14 P, *Intel v. European Commission*, Judgement of the Court, 6 September 2017, para 147.
[46]CRA, 'Intel and the future of Article 102' (2014) CRA Competition Memo, June 2014.
[47]Damien Geradin, 'Loyalty Rebates after Intel: Time for the European Court of Justice to Overrule Hoffmann-La Roche' (2015) 11 Journal of Competition Law and Economics 579.
[48]Van den Bergh (n 31) 373.
[49]Chiara Fumagalli, Massimo Motta and Claudio Calcagno, *Exclusionary Practices* (Cambridge University Press, 2018) 219.
[50]Giuseppe Colangelo and Mariateresa Maggiolino, 'Intel and the Rebirth of the Economic Approach to EU Competition Law' (2018) 49 IIC International Review of Intellectual Property and Competition Law 685.

arguments are relevant. Loyalty rebates used by a dominant firm are no longer considered to be abusive *per se*. The exclusionary effect "may be counterbalanced, or outweighed, by advantages in terms of efficiency which also benefit the consumer". (para. 140). As Ibáñez Colomo puts it: "the presumption underlying the *prima facie* prohibition of exclusive dealing and loyalty rebates can be rebutted by a dominant firm".[51]

3. Post Intel cases

Since Intel, the Commission has adopted two decisions involving exclusivity rebates.[52]

On 24 January 2018 the Commission imposed a fine of €997 million on Qualcomm for Qualcomm abusing its dominant position in the market for LTE chips.[53] The decision concludes that the payments granted by Qualcomm to Apple on the condition that Apple obtain from Qualcomm all of Apple's requirements of LTE chipsets were exclusivity payments. These payments had potential anti-competitive effects. Qualcomm has not demonstrated that its exclusivity payments were counterbalanced or outweighed by advantages in terms of efficiency that also benefit the consumer. The idea that exclusivity payments are anticompetitive is, apparently, a rebuttable presumption.

On 18 July 2018 the Commission imposed a fine of €4.34 billion on Google for illegal practices regarding Android mobile devices to strengthen dominance of Google's search engine.[54] The commission concluded that Google has engaged in three separate types of practices, which all had the aim of cementing Google's dominant position in general internet search: 1. Illegal tying of Google's search and browser apps; 2. Illegal payments conditional on exclusive pre-installation of Google Search; 3. Illegal obstruction of development and distribution of competing Android operating systems. With respect to the second practice, the Commission decided that "Google's portfolio-based revenue share payments constituted exclusivity payments". Exclusivity payments are presumed to be an abuse of dominance.[55] The dominant firm may seek to rebut the presumption by submitting evidence to demonstrate that its exclusivity payments were not capable of restricting competition and,

[51]Pablo Ibáñez Colomo, 'The Future of Article 102 TFEU after Intel' (2018) 9 Journal of European Competition Law and Practice 293.
[52]Massimiliano Kadar, 'Article 102 and Exclusivity Rebates in a Post-Intel world: Lessons from the Qualcomm and Google Android Cases' (2019) 10 Journal of European Competition Law and Practice 439.
[53]Commission Decision of 24 January 2018 in Case AT.40220 — *Qualcomm*.
[54]Commission Decision of 18 July 2018 in Case AT.40099 — *Google Android*.
[55]Commission Decision of 18 July 2018 in Case AT.40099 — *Google Android*, para. 1188.

in particular, of producing the alleged foreclosure effects.[56] Hence, also in this case the idea that exclusivity payments are anticompetitive is a rebuttable presumption.

IV. Discussion

Looking at the cases, we may observe changes in the strictness of the norm and, consequently, in the weights attached to false positives and false negatives. In order to interpret the development, we use the ROC-curve as a heuristic device. That is, we interpret the chances as movements along the ROC curve. This is illustrated in Figure 3.

(1) In *Hoffmann-La Roche*, *Michelin II*, and *British Airways* a form-based approach is used. By indicating that in-depth analysis of actual or likely effects is not required, the court implicitly accepts a high false positive rate. This implies the choice for relatively high levels of *r* and *w*.
(2) In *Post Danmark I* one may recognise an effects-based approach and the choice for relatively low values of *r* and *w*. In line with the more economic approach, significant weight is attached to preventing false positives. In order to realise a relatively low value of *w*, a relatively low value of *r* is accepted.
(3) In *Tomra* and *Post Danmark II* higher values of *r* and *w* appear to be chosen again. In these cases the ECJ used formulations similar to *Michelin II* and *British Airways*. Consequently, corresponding combinations of *r* and *w* are chosen on the ROC-curve.
(4) The decision of the Commission in *Intel* again contains effects-based elements, implying lower values of *r* and *w*. The European Commission used an AEC-test to check whether Intel's behaviour could be expected to lead to harm to consumers. This would limit the probability of a false positive outcome.
(5) The judgement of the General Court in *Intel* is again dominated by form-based elements, implying higher values of *r* and *w*. Since the GC did not see any reason for investigating arguments regarding the effects of the rebates, the Court accepted a relatively high probability of a false positive. Consequently, the General Court opted for higher values of *r* and *w* then the European Commission.
(6) The judgement of the ECJ in *Intel* leaves room for more effects-based elements, so the ECJ opted for lower values of *r* and *w* then the GC.

[56]Commission Decision of 18 July 2018 in Case AT.40099 — *Google Android*, para. 1189.

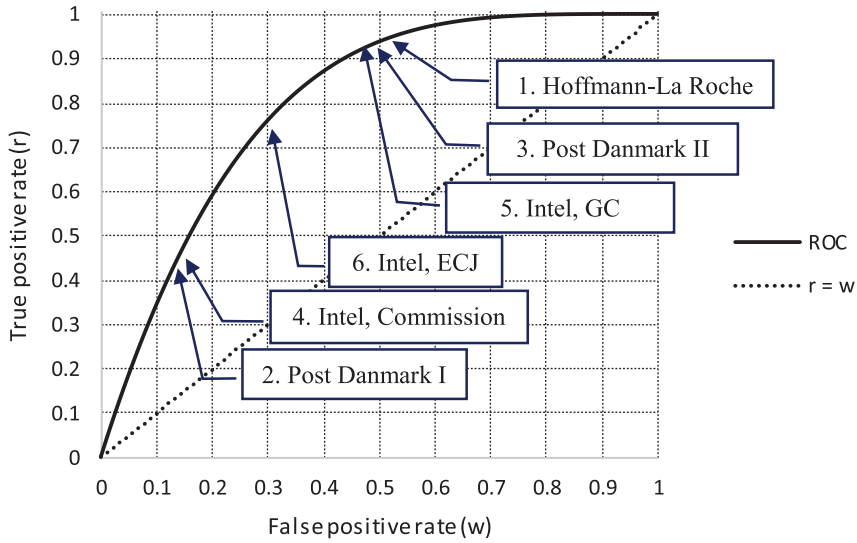

Figure 3. ROC-curve and decisions.

Loyalty rebates used by a dominant firm are no longer considered to be abusive *per se*. Essentially, the idea that loyalty rebates are anti-competitive may be characterized as a rebuttable presumption.

(7) The decisions of the European Commission in *Qualcomm* and *Google Android* appear to be in line with the judgement of the ECJ in *Intel*.

Overall it seems fair to say that we do not observe a gradual movement in one direction, rather fluctuations that seem to converge to the idea that loyalty rebates are presumed to be harmful and this presumption is rebuttable.

Although the development may be interpreted as a change in the weighing of false positives and false negatives, this interpretation is indirect. That is, the rulings in the cases are not formulated in terms of false positives and false negatives. Rather, they are formulated in terms of the norm that should be used. Hence, the line of reasoning comes closer to the 'DG Competition discussion paper' then the EAGCP report.

V. Conclusion

This paper investigated the welfare implications of the more economic approach to loyalty rebates in EU competition policy. The paper starts

from the idea that false positives and false negatives are unavoidable. From a welfare perspective, competition policy is about minimizing the sum of the error costs due to false positives and false negatives.

The probability that an efficient rebate scheme is (wrongly) considered to be abusive and the probability that in inefficient rebate scheme is (wrongly) considered to be not abusive, depend on the legal norm, on how the distinction between abusive and non-abusive behaviour is made. A stricter norm (requiring stronger indications to conclude that behaviour is abusive) leads to an increase in expected costs due to false negatives and a decrease in the expected costs due to false positives. An optimal norm minimizes the sum of the expected costs due to false positives and false negatives.

The introduction of the more economic approach to competition law, reflects a change is the weights attached to false positives and false negatives. A form-based approach, in line with *Hoffmann-La Roche*, implies a relatively high probability of false positives. This would be consistent with the idea that loyalty rebates are generally inefficient and the costs of false positives are generally low. A shift towards an effects-based approach leads to a decrease in the probability or false positives, but at the same time leads to an increase in the probability of false negatives. This may be interpreted as the response of a welfare maximizing policy-maker after learning that the a larger number of loyalty rebate schemes may be efficient and that the costs of false positives are more substantial than perceived originally.

We considered cases concerning loyalty rebates before and after the introduction of the more economic approach. Overall, we observe a development that is consistent with an increase in the weight attached false positives and a decrease in the weight attached to false negatives. We do not, however, observe a linear development from a form-based towards an effects-based approach. In fact, we observe fluctuations that seem to converge to the idea that loyalty rebates are presumed to be harmful and that this presumption is rebuttable.

From a welfare perspective, the use of rebuttable presumptions has positive and negative aspects. The use of presumptions may provide an optimal solution to minimise the costs of false positives and false negatives. For types of behaviour that will generally lead to welfare losses, the presumption of illegality will minimise the costs of false negatives. By the same token, the presumption of legality will minimise costs of false positives for types of behaviour that will generally be welfare enhancing. As stressed by Fernández, it is crucial that the presumption is

rebuttable "subject to more or less exceptional circumstances demonstrating that such practice can be pro-competitive (in case of a presumption of illegality) or anti-competitive (in case of a presumption of legality)".[57] This leads to the negative aspect. If it is hard to effectively rebut the presumption, the approach comes very close to a form-based approach. A form-based approach effectively amounts to intervening without a theory of harm, leading to a high probability of false positives.[58]

The preceding analysis suggests a number of implications for competition policy. First of all, it seems to makes sense to define the category of rebates that is presumed to be abusive in a very restrictive way. This in order to reduce the probability of false positives. This would be consistent with advocate-general Wahl's opinion: "Experience and economic analysis do not unequivocally suggest that loyalty rebates are, as a rule, harmful or anticompetitive, even when offered by dominant undertakings. That is because rebates enhance rivalry, the very essence of competition".[59] Second, even after the ruling of the ECJ in *Intel*, the probability of false positives appears to be substantial. In order to limit the probability of false positives, it would make sense if the Commission would explicitly focus on rebate schemes that, considering all the circumstance of the case, are most harmful to consumers. Effectively, that would be setting enforcement priorities in line with the article 102 guidance.

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[57] Cani Fernández, 'Presumptions and the Burden of Proof in EU Competition Law' (2019) 10 Journal of European Competition Law and Practice 450.
[58] Zenger and Walker (n 33).
[59] Opinion of Advocate General Wahl, delivered on 20 October 2016 in Case C-413/14 P *Intel Corporation Inc. v European Commission*, para. 90.