



WHY SHOULD LEGAL STANDARDS IN ANTITRUST ENFORCEMENT BE DIFFERENT IN DEVELOPING THAN IN MATURE JURISDICTIONS: A DECISION-THEORETIC APPROACH

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Why Should Legal Standards in Antitrust Enforcement be Different in Developing than in Mature Jurisdictions: A Decision-Theoretic Approach¹

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I. INTRODUCTION

The appropriate choice of *legal standards* (LSs) in antitrust enforcement, that is, of the *decision procedures or decision rules*² that provide the basis for how assessment of potentially anticompetitive conduct must be undertaken in order to decide whether there is liability or not, has been hotly debated for many years. How widely divergent the opinions have been in this debate and how dominant specific points of view become, in terms of their influence on enforcement practice, has varied over time and across countries and continents. Broadly speaking, excluding hard-core horizontal agreements, for which there is broad unanimity that their treatment should rely on a strong presumption of illegality³, for most other conducts that come under antitrust scrutiny (vertical restraints and monopolisation, or abuse of dominance practices), the US (or North America) enforcement practice has differed quite significantly from that in the EU and the EC in particular as well as from other less mature jurisdictions⁴, the latter being at present much closer to the EU than to US.

There are a number of differences. To start with, US tends to treat many more practices, even when undertaken by firms with significant market power, as *presumptively legal* (rather than illegal), that is, on average benign, than is the case in the EU that would treat these practices when undertaken by dominant firms as *presumptively illegal*. Next and related to this, in US, the dominant view has been that the primary objective in antitrust enforcement is to limit false convictions rather than false acquittals – a view that has only started to be strongly criticised recently – and a view that is not held in the EC. As an outcome of these views in US there is a strong tendency to treat what are considered *presumptively legal* conducts using a Per Se Legality (or Modified Per Se Legality, or Quick Look) LS (see below), an approach that leads to a high

1 Over the years I have benefitted enormously from discussions on the general issues dealt with by this paper with Svetlana Avdasheva, Svetlana Golovanova, Frederic Jenny, Bill Kovacic, Pierre Regibeau, Patrick Rey, Thomas Ross, Jacob Seifert and David Ulph. Of course, all responsibility for errors, omissions and ambiguities lies with me. I would like to thank for their research assistance, Vasiliki Bageri, Eleni Metsiou and Galateia Makri who contributed in the context of the ELIDEK project “Optimal Design of Competition Policy Enforcement”.

2 We recognise that a distinction is drawn by legal scholars between “rules” (a term that, in the context of antitrust, they reserve for Per Se decision procedures) and “standards” (like the “rule of reason”) – see Blair and Sokol (2012), Jones and Kovacic (2017) and for a very recent excellent and extensive discussion (and references) Kovacic (2021). As e.g. Blair and Sokol (2012, p. 472) write “The rule of reason involves a more open-ended inquiry than that of a per se analysis, moving antitrust away from rules and toward a standard”. Also, can see Araiza (2011) for a discussion extending beyond antitrust. Below, for simplicity, we neglect this terminological distinction and refer to all the “decision procedures” (which might be the most appropriate term for economists) that we discuss and compare (including the Per Se rule) as legal “standards”.

3 That is, the LS should be one of Per Se Illegality (in US) or by-object restriction (in EU). Though we recognise that these are not exactly equivalent LSs - see for an extensive discussion on this Katsoulacos and Makri (2020) – for our purposes here they can be treated for much of the discussion as if they are, so below we will not distinguish between them. There are also some conducts (e.g. refusal to license know-how) for which there is broad agreement that they should be treated under Per Se Legality.

4 Below we will refer to them.

rate of acquittals and has been particularly criticised with respect to enforcement in the high-tech digital markets. If, on the other hand, in US a practice is considered *presumptively illegal*, then at least in the last two decades, there is a strong tendency to rely on extensive use of economic analysis and evidence in case-specific investigations, that is, to rely much more on the *rule of reason* (or *full effects-based approach*). This is not the case in EU⁵ which treated the practices considered *presumptively illegal* until recently by relying more on *object-based* or on intermediate LSs rather than full *effect-based*⁶ and it is certainly not true in other jurisdictions⁷. However, a detailed empirical analysis of the extent and type of economic analysis applied in the assessment of abuse of dominance cases by DGCOMP (rather than on the economic analysis utilised in the assessment of the appealed decisions of these cases by the EU Courts), Katsoulacos and Makri (2020) show that there has been a systematic and *substantial move towards effects-based* in the DGCOMP decisions in the last two decades.

The debate on the appropriate choice of LSs has gained in intensity in recent years as a result of the concerns expressed by a significant number of academics and policy makers in many countries with the treatment of the major platforms. Even in the US, an increasing number of commentators have been arguing that the current antitrust doctrines, rules and antitrust enforcement “are too limited to protect competition adequately, making it needlessly difficult to stop anticompetitive conduct in digital markets” and growing market power (Baker et.al. 2020)⁸. More generally, it has been argued, for US, that, “as a result of unsound economic theories and unsupported empirical claims about the competition effects of certain practices.... antitrust rules constructed by the courts reflect a systematically skewed error cost-balance⁹: they are too concerned to avoid chilling procompetitive conduct and the high cost of litigation, and too dismissive of the cost of *failing* to deter harmful conduct”. Also, they have “encouraged overly cautious enforcement policies and overly demanding proof requirements and have discouraged government enforcers and private plaintiffs from bringing meritorious exclusionary conduct cases”¹⁰.

5 Both at the level of the EU Commission (EC) and that of Member States. The difference is thought to be particularly pronounced in abuse of dominance cases but also many vertical restraints. For an excellent overview of the application of economics in a century of antitrust enforcement in US see Kovacic and Shapiro (2000). As Gavil (2008) notes, after the *Sylvania* decision in US “the Court systematically went about the task of dismantling many of the per se rules...., and increasingly turned to modern economic theory to inform its interpretation and application of the Sherman Act”. See also Hovenkamp (2018) for a thorough and very thoughtful review on the rule of reason LS. Neven (2006) reviews the situation in EU, identifying low levels of economic analysis, especially in abuse of dominance cases. Geradin & Petit (2010) note that under a presumption of illegality, the assessment of such cases in the EU has relied on “old, formalistic legal appraisal standards, and (has shown) a reluctance to endorse a modern economic approach”. See also, Gual and Mas (2011), Papandropoulos (2010), Marsden (2010), Wils (2014), Rey and Venit (2015), Peepercorn (2015) and for a recent extensive review Ibanez Colomo (2016). But see also Katsoulacos and Makri (2020) that show that there has been a systematic and *substantial move towards effects-based* in the DGCOMP decisions in the last two decades.

6 We will use the terms “effects-based” (popular in Europe, also as “economics-based”) and “rule-of-reason” (used in US) interchangeably though, as has been pointed out, Vickers (2007), under the latter there is greater discretion afforded to an agency / court than under the former. Intermediate LSs are described in detail below.

7 See the empirical findings of Katsoulacos, Avdasheva, Benetatou, Golovanova, Makri (2020) covering France, Greece and Russia as well as the EC.

8 “Joint Respose to the House Judiciary Committee on the State of Antitrust Law and implications for Protecting Competition in Digital Markets” by 12 of the most prominent economists and legal experts in US.

9 For a very systematic and extensive criticism of the view that the primary objective in antitrust enforcement is to limit false convictions rather than false acquittals, that has its origins in Easterbrook (1984), see Hovenkamp (2021) – that also contains many references to opposing views. Gavil and Salop (2020) and Baker (2015) are also very critical. Gavil and Salop (2020) point out that “Many of the assumptions that guided this generation-long retrenchment of antitrust rules were mistaken, and advances in the law and in economic analysis have rendered them anachronistic. This is especially the case with respect to exclusionary conduct” (p. 6).

10 Baker et.al (2020; p. 4-5). This situation has “been defended with reference to mistaken and unjustified assumptions – including erroneous claims that markets self-correct quickly, monopolies best promote innovation, firms with monopoly power can obtain only a single monopoly profit, vertical restraints..... almost invariably benefit competition even in oligopoly markets, courts and enforcers are manipulated by complaining competitors, and courts cannot tell whether exclusionary conduct harms competition or benefits it” (p. 5). The authors go on to devote a distinct section on legal rules.

II. FACTORS INFLUENCING THE CHOICE OF LSS

We can refer to a large number of broad considerations that influence the choice of LSS, that have been the subject of an extensive literature. The most important are: the desire to minimise decision errors¹¹; the desire to minimise implementation / enforcement costs¹²; the deterrence effects and the legal uncertainty effects of different LSS¹³; reputational concerns of the Competition Authorities (CAs); the substantive (or liability) standards applied¹⁴. The first four considerations are encapsulated in the so-called *normative or welfare maximising approach* to the choice of LSS (Katsoulacos and Uplh, 2009, 2015, 2016, 2020). Reputational concerns can be important, given that when decisions are reached by different LSS, they encapsulate economic analysis to a different extent and degree of sophistication, and thus are likely to be treated differently by Appeal Courts, leading to annulment rates of decisions that differ depending on the LS used –decision annulment influencing negatively the reputation of CAs (Avdasheva et al., 2019; Katsoulacos, 2019b) –. Finally, the adoption of non-welfarist *substantive standards*¹⁵ leads to optimal LSS closer to Per Se (Katsoulacos, 2019a).

Here, we focus on the consideration that has had the greatest influence on thinking in this area and that has been discussed most extensively and for a longer period than all others: the desire to minimise the welfare costs of decision errors¹⁶ (see, Easterbrook, 1984; Beckner and Salop, 1999; Hylton and Salinger, 2001; Evans and Padilla, 2005; Katsoulacos and Uplh, 2009 and for a very recent authoritative non-technical review applied to exclusionary conduct, Gavil and Salop, 2020¹⁷). In particular, Katsoulacos and Uplh (2009), extended by their 2016 paper and followed by Seifert (2020), Katsoulacos and Uplh (2020), and, especially, Katsoulacos and Uplh (2021¹⁸), provide models that examine all the factors that a CA or a court must take into account and derive *simple representations, in terms of conditions expressed by simple formulas, of exactly the way that these factors interact and influence the error-minimising choice of LSS*.

11 And, hence, on the factors that influence decision errors, on which our analysis here is dedicated. See below for additional discussion and references.

12 Grant and Sanghvi (2021) focus on these. They consider “the per se rule a profoundly economic approach to the problem that the demand for judicial resources exceeds its supply” (p. 99), recognising however that “Administrative convenience alone is not enough to justify the per se rule”, as the *Leegin* (2007) decision, to which they point out, shows (footnote 5), as well as the multitude of the other cases in which per se has been abandoned in US (and many other countries) – see also Kovacic (2021). Clearly, the welfare cost of decision errors and implementation costs are two sides of the same coin: choosing the most suitable LS must take both into account. On the other hand, it is important to stress that in many cases (hard-core horizontal cartels been the most obvious) Per Se rules minimise decision error costs – the existing analyses on decision errors and the one presented here explain exactly when this is the case (abstracting from implementation costs).

13 Easterbrook (1984); Lemley and Leslie (2008). See also, however, Katsoulacos and Uplh (2015 and 2016) who distinguish between different *types of legal uncertainty* and show that under many circumstances the rule of reason remains superior.

14 See below for more details.

15 Such as “protecting the competitive process” or “non-disadvantaging rivals”. See for more details below.

16 More precisely, in the words of Beckner and Salop (1999), “minimising the expected consumer welfare costs of erroneous decisions” (p. 50). For early applications of this error-cost approach to legal rules see Ehrlich and Posner (1974) and Posner (1973).

17 Especially section II. As they note “ It has been recognized for decades that decision theory is useful for understanding and formulating legal standards. Making legal decisions based on probability, inferences, and presumptions is consistent with a decision-theoretic approach to legal rules. Decision theory provides a methodology for information-gathering and decision-making when outcomes are uncertain, information is inherently imperfect, and information is costly to obtain. This methodology is a rational process in which a decision-maker begins with initial beliefs (i.e., presumptions) based on prior knowledge and then gathers additional information (i.e., evidence) to supplement the presumption in order to make a better, more accurate decision” (p. 16).

18 They build on the seminal contribution of Breckner and Salop (1999), and the papers of Hylton and Salinger (2001) and of Evans and Padilla (2005).

Katsoulacos and Ulph (2021) recognise that the task usually facing CAs and Courts is to choose *to what extent* their assessment should rely on *additional* distinct economic analyses and information gathering investigations that improve our ability to correctly discriminate between genuinely harmful and benign conducts of the same type. They think of the additional assessment tests as lying along a *sliding scale or continuum*, at the extremes of which are on the one hand assessments based purely on *presumptions* (the Strict Per Se, that relies on just the characterization of the conduct) and, at the other, assessments based purely on the findings of all potential case-specific economic analyses and tests that could influence the conduct's impact (full Effects-based, or rule of reason). The idea that "the modes of antitrust analysis represent a continuum, or "sliding scale" with different fact finding requirements for different situations" was initially developed in the *Antitrust Law* treatise of Areeda and Hovenkamp¹⁹. This idea's articulation, that best represents the approach in Katsoulacos and Ulph (2021) is that of Jones and Kovacic (2017). As they note "the general progression in U.S. doctrine has been toward recognition of an *analytical continuum* whose boundaries are set, respectively, by categorical rules of condemnation (*per se* illegality) or acquittal (*per se* legality) and an elaborate, fact-intensive assessment of reasonableness (Rule of Reason). These poles are connected by a range of intermediate tests that seek to combine some of the clarity and economy of bright-line rules with the greater analytical accuracy that a fuller examination of evidence can produce"²⁰. In Katsoulacos and Ulph (2021), the continuum with the range of intermediate tests is described by a sequence of steps or stages, in each of which additional screens are examined using further blocks or components of economic analysis, generating additional information, building on the information already gathered in previous steps. The question then is whether it is best to add another step of economic analysis and hence move to a LS closer to full effects-based. Thus, the objective of each stage of the information gathering and analysis process is to examine whether certain *preconditions or screens* are satisfied that are considered necessary for demonstrating liability (welfare harm) – such as significant extant market power, potential for exclusion, potential for consumer harm and potential for efficiencies. Then, decision error costs are compared across stages to determine the optimal (error-minimising) LS.

To appreciate the usefulness of this approach, one could for example think its application for comparing whether, when assessing tying arrangements, a Modified Per Se Illegality LS, under which we rely, in order to reach a decision, on certain contextualisation tests and the existence of significant market power, is preferable (in terms of decision errors) than strict Per Se Illegality under which there is no pre-requirement of extant market power; also, whether a Disadvantaging Rivals (truncated effects-based) LS is preferable to MPS Illegality – where, under the former, for illegality, significant market power is not enough, it is also required to demonstrate that rivals are likely to be excluded (in a broad sense) from the market by the conduct. Or, whether a full effects-based is preferable to the Disadvantaging Rivals LS. As noted by Evans and Padilla (2005), first, Strict Per Se and then later Modified Per Se Illegality have been the standards favoured for tying by both US and EU jurisdictions until about the end of the 1990s²¹ and since then it has been decided to move to LSs closer to effects-based.

19 4th Edition, 2017. See also the detailed discussion in Hovenkamp (2018) ; as noted there this was an idea discussed in all three previous editions of the Areeda and Hovenkamp treatise, p.123).

20 Also, Kovacic (2021), Gavil and Salop (2020; p. 3, also referring to Gavil, 2012), Gavil (2008), p. 139 and Italianer (2013, p. 2), referring to Justice Stevens who was one of the first to point out that one should think of legal standards (for dealing with restraints under US Section 1) as forming a *continuum* with Per Se and Rule of Reason being at the opposite ends of this *continuum* (on Judge Stevens see also Azaira, 2019, who notes that "Justice Stevens has suggested that a judge better performs her role by paying careful attention to facts and context, as opposed to unthinkingly applying rigid legal rules"). As Italianer notes, the US Supreme Court has explicitly recognized that "the categories of analysis cannot pigeonholed into terms like "per se" or..."rule of reason". No categorical line can be drawn between them. Instead, what is required is a situational analysis moving along what the Court referred to as a "*sliding scale*".

21 Under this LS, tying is presumed to violate the law (i.e. it is considered presumptively illegal) when undertaken by dominant firms. See also Ahlborn et.al (2004) and Evabs et.al. (2006).

To give another example, the approach can be used to clarify and make precise why it makes sense to recommend that antitrust laws should be updated in order “to recognise that under some circumstances conduct that creates a risk of substantial harm should be unlawful even if the harm cannot be shown to be more likely than not”²².

Here, we rely on these recent developments in the literature on the choice of LSs to show that generally, *error-minimising LSs*, for reaching liability decisions in antitrust enforcement, will be closer to Per Se than to effects-based, in developing countries than they would be in developed countries with jurisdictions. To do so we provide below more details about how various factors influence the error minimising choice of LSs.

III. DECISION ERROR-MINIMISING LSs: DEVELOPED VS. DEVELOPING COUNTRIES

As indicated above, a CA can decide that a conduct violates competition law by undertaking one or more investigations, in each of which it successively examines a screen or precondition for identifying harm. Assuming here that the objective is to identify whether the conduct is harmful to consumer welfare the CA could consider that this objective has been satisfied, depending on the type of conduct investigated, in a number of ways, differing in terms of whether some or all and which screens are examined. Specifically, to reach a liability decision, the CA's investigations can cover one or more of the following stages each of which is associated with the examination of a specific screen or precondition:

Stage 0: Initial characterisation of the conduct. This includes a detailed examination of all the relevant features of the conduct with a focus on those features that according to case law and established economic theory are considered most likely to influence the effects of the conduct. This conduct examination is often accompanied by a description of some basic market magnitudes such as the level of sales, that are an input to stage 2 and can be also considered as been part of that stage. We can refer to this as the “conduct characterisation screen”.

Stage 1: Detailed contextualisation of the market(s)²³ and, most importantly, establishing that there is Significant Market Power (SMP, or Dominance). We can refer to this as the “market contextualisation and SMP screen”.

Stage 2: Establishing that there is potential for significant exclusionary impact, or, more generally, competition lessening effect (by enhancing ability to exercise market power). This can be manifested through the exit of a rival or rivals or through the marginalisation of rivals (so that they cannot exploit economies of scale and/or network effects) or through the exclusion of potential entrants. We can refer to this as the “enhanced ability to exercise market power screen”.

Stage 3: Establishing that there is potential for consumer welfare loss *before accounting for efficiencies*. Salop (2017) provides an extensive discussion of how for many of the practices usually considered under AoD, exclusionary potential may or may not be associated with consumer welfare harm²⁴. Ideally, consumer welfare

22 Recommendation of group of US experts (Baker et. al., 2020; p.1) to Joint Judiciary Committee.

23 If, as in the tying cases, there are more than one markets to consider, market power must be established in the tying and the tied market.

24 As noted we are assuming that the substantive or liability standard is one of consumer welfare. With a total welfare standard an additional investigation stage would be added.

should be evaluated in terms of effects on prices, on output, on consumer choice (product variety), on quality and on innovation²⁵. We can refer to this as the “potential consumer welfare loss due to anticompetitive effects screen”.

Stage 4: Establishing lack of potential for significant efficiencies that can benefit consumers, specifically, establishing that *efficiencies are not sufficiently significant to outweigh the anticompetitive effect of the conduct*. We can refer to this as the “efficiencies and balancing screen”.

Depending on the screens examined we can then distinguish the following legal standards.

- i. Strict Per Se (SPS) LS, is the LS under which the liability decision relies purely on the initial characterisation of the conduct (in stage 0) and the presumption that this generates about its welfare impact.
- ii. Modified Per Se LS (MPS LS): under this, a liability decision relies just on the information from stages 0 and 1 and the presumption that this generates about its welfare impact.
- iii. Truncated Effects Based I LS (TEB I LS): under this, a liability decision relies on the information from stages 0, 1 and 2 and the presumption that this generates about its welfare impact. The US Quick Look LS can be considered as an intermediate LS between MPS and TEB I with a “quick look” on the efficiency defense²⁶.
- iv. Truncated Effects Based II LS (TEB II LS): under this, a liability decision relies on the information from stages 0, 1, 2 and 3 and the presumption that this generates about its final welfare impact.
- v. Full Effects Based (or rule of reason) LS (FEB LS): under this, a liability decision relies on the information from all assessment stages 0 - 4.

We note that LSs (i) – (iv) are all *presumption-based LSs*, in the sense that they all rely on some presumption about the outcome of subsequent assessment(s), were one or more subsequent assessments made. Only in case (v) the liability decision relies on case-specific information from *all* assessment steps (0 – 4). So the distinguishing characteristic of this LS is that there is no reliance on presumptions when the liability decision is made.

Clearly, for all *presumption-based LSs* there can be either a *presumption of illegality* (that is, presume that the conduct is on average harmful) or a *presumption of legality* (that is, presume that the conduct is on average benign). To clarify, consider stage 0: in this stage the LS is that of Strict (or, for simplicity, just) Per Se Illegality if just on the basis of the information collected in this stage the conduct is considered *presumptively illegal*; or, the LS is that of Per Se Legality if in this stage the conduct is considered *presumptively legal*. To determine this, in stage 0, following the CA’s characterisation of the conduct as being, by virtue of its specific

²⁵ Concentrating on consumer choice may mean reaching decisions on the basis of effects on “competitors”, the exclusion of which may reduce consumer choice. This would be wrong however since there can well be an increase in consumer welfare even with less consumer choice.

²⁶ Under this, a liability decision relies just on the information from stages 0 and 1 and sometimes on the effect to competitors assessed in stage 3, on the basis of which anticompetitive effect is inferred. This term is used essentially in discussions of US enforcement and it signifies that the Court reviews also (has a quick-look) on the efficiency defense presented by defendants (see Harrington, 2020; Hovenkamp, considers this LS as problematic and argues that it has rarely been used, 2018 p. 122- 131).

formal features, of a particular *type*²⁷, the CA can draw on knowledge of other cases involving this type of conducts, of relevant economic theory and evidence, and the information collected from the complainants and the firm(s) involved in the specific case, in order to come to a view that a fraction γ , $0 < \gamma < 1$ of such cases²⁸ are genuinely harmful to consumer welfare²⁹, with (average) harm $H > 0$, while the remaining fraction are genuinely benign, with (average) benefit $B > 0$. Given this, if the average harm *across all cases* is \bar{h} ³⁰, the conduct is considered *presumptively illegal* (PI) if $\bar{h} > 0$ and is considered *presumptively legal* (PL) if $\bar{h} < 0$. Clearly, knowledge about the values of these parameters need not be very precise³¹ in the sense that what a CA actually needs to determine is just whether on average the conduct can be *presumed* to be harmful or benign. This essentially involves agencies or courts “creating presumptions³² through experience, to guide their factual investigations and decision making” (Breckner and Salop, 1999; also Gavil and Salop, 2020). CAs or courts have “initial information on the likelihood and magnitude of benefits and harms....(representing) preliminary presumptions for the entire class of similar (conducts) before gathering *additional case-specific* information”.

At present in many jurisdictions (including those of North America and of the EU) only very rarely will a general conduct type identified in stage 0 be characterised as Presumptively Illegal, without any additional contextualisation of the circumstances under which the specific conduct is undertaken, the exception been that of horizontal hard-core cartels in US³³. Indeed, for abuse of dominance practices and most vertical restraints this is not the case and the general conduct types examined under these enforcement categories are currently characterised as PL. Of course, liability decisions on such conducts are never or very rarely taken using a Strict Per Se LS: at least some case specific investigations are first undertaken. At a minimum, this is in order to contextualise market conditions and to establish whether there is significant extant market power (step 1 of the investigative steps defined above). Having undertaken this step, if it is determined that the firms involved have SMP (or are dominant), the question then becomes whether the general type

27 E.g. tying of products, engaging in exclusive dealing contracts, offering quantity discounts or fidelity rebates, refusing to deal with a rival firm etc. In each type, the formal characteristics of different cases are likely, of course, to be different.

28 This is what Hylton and Salinger (1999) call the “base rate” probability (p. 60).

29 We assume throughout here that the substantive (or liability) standard is that of consumer welfare. This would seem to be the most appropriate assumption for North America: “In US since the end of 1970s, the Courts have accepted the view that antitrust law is a “consumer welfare prescription” (Jones and Kovacic, 2017; also, Hyman and Kovacic, 2013). But it is worth noting that recently there have been quite a few voices that have argued that this should change, and the emphasis should return to the protection of the competitive process (e.g. Werden & Froeb, 2018 and Wu, 2018). Indeed, Werden (2014) claims that, “commentators either have merely asserted that a welfare standard must be applied or mistakenly claimed that the Supreme Court has endorsed a welfare standard”. In the EU, the weaker substantive standard concerning the impact on competitors or to the «competitive process» has been favored by Courts (see for discussion and references, Katsoulacos, 2019a), though not necessarily the DGCOMP. In developing countries other *public interest objectives* are also very important. This will tend to strengthen the argument that effects-based LSs aiming to assess the welfare impact of conduct are not appropriate.

30 $\bar{h} = \gamma H - (1 - \gamma)B$.

31 In an adversarial system of enforcement, such as that of the US, estimates of the values of these parameters will be provided by the defendants and the plaintiffs.

32 Easterbrook (1984) emphasized the importance of presumptions in antitrust inquiries and thought that the open-ended rule-of-reason approach is often impractical - he advocated a more structured rule-of-reason inquiry when a Per Se rule is not used which may be considered closer to the concept of the rule of reason used here. For a recent very useful discussion in the context of applying decision theory see also Gavil and Salop (2020).

33 The term Per Se is commonly and rather loosely deserved for the case in which the liability decision is based only on the initial characterisation of the conducts in stage 0. However, in EU, the often similarly treated term *object-based LS* is deserved to categorise and reach decision on conducts on the basis of the initial characterisation and *also* the initial market contextualisation associated with stage 1. Further, in formal terms no conduct is strictly Per Se Illegal in EU, in the sense that all (including hard-core cartels) are rebuttable under article 101 (3). The closest to a (strict) Per Se LS is that used in US to treat hard-core horizontal cartels, though, as noted by Harrington (2020), in the US too there are always defenses in practice, so “in practice, there does not seem to be much difference between the US and the EU with regard to explicit agreements” (p. 10).

of conduct, *when undertaken by dominant firms*, is PI (on average harmful) or PL (on average benign) and what is the strength of this presumption. If in this stage conduct is considered *presumptively illegal and no further assessment is made* the LS is that of *Modified Per Se Illegality*; if in this stage the conduct is considered *presumptively legal and no further assessment is made* the LS is that of *Modified Per Se Legality*. It can easily be seen that if the conduct is presumptively illegal in stage 1, the conduct will be presumptively illegal, indeed even more so, in subsequent stages if the screens in these stages are satisfied.

Using the notation introduced above, in stage 1, the conduct will be presumptively illegal if average harm $\bar{h} > 0$ and presumptively legal if $\bar{h} < 0$, where \bar{h} is the probability that the conduct, when undertaken by dominant firms, is genuinely harmful³⁴. Thus in stage 1 conduct will be presumptively illegal if H is large relative to B and/or γ_1 is quite large and it will be presumptively legal if H is small relative to B and/or γ_1 is quite small. It is important to note that if the conduct is presumptively legal and the Modified Per Se legality LS is chosen, all conducts will be permitted and the cost of decision errors will be just the *costs of false acquittals*, $\gamma_1 H$. If the conduct is presumptively illegal and the Modified Per Se Illegality LS is chosen, all conducts will be banned and the cost of decision errors will be just the *costs of false convictions* $(1 - \gamma_1)B$ ³⁵. Thus false convictions are large relative to false acquittals if H is small relative to B and/or γ_1 is quite small.

More generally, a number of other parameters will also influence the relative value of false convictions and false acquittals. Katsoulacos and Ulph (2021) get an exact characterisation of all these factors and thus can determine under what conditions the Easterbrook (1984) hypothesis that led to what Hovenkamp (2021) calls “an anti-enforcement bias in antitrust”, namely that expected error costs from false convictions are higher than from false acquittals. Specifically, the smaller the probability that a screen is satisfied, which in stage 1 means the smaller the prevalence of dominant firms (or, more correctly, the higher the probability of markets’ contestability), the higher the relative value of false convictions. Also, when we can identify that harmful conduct is indeed harmful with a high degree of accuracy (that depends on the probability of identifying correctly if the screen is satisfied and on the probability of identifying that, given this, the conduct is harmful when it is), but cannot identify benign conduct with a high degree of accuracy, the higher will be the relative value of false convictions.

The perception about the value of these parameters explains why, as mentioned above, there are very significant differences in the answer to the question of whether a specific conduct should be considered presumptively illegal or legal and what is the relative value of false convictions and false acquittals across different jurisdictions. Hovenkamp (2021), criticizes particularly the Easterbrook (1984) assumption that B is likely to be larger than H, but we see from list of factors just mentioned that even if this were to be true there is no obvious reason to expect that the decision error costs of false convictions are higher than those of false acquittals.

Of course, in a jurisdiction in which the dominant economic ideology places greater trust on the markets’ ability to self-correct, that tends to significantly lower the value of H (dominant US model in the last 40 years) and puts great weight on the incentive effects of false convictions³⁶ (raising the value of B), it is much more

34 $\bar{h}_1 = \gamma_1 H - (1 - \gamma_1)B$. Of course, $\gamma_1 > \gamma$

35 In the simplest case where the CA does not try to discriminate between harmful and benign conduct undertaken by dominant firms.

36 Adverse deterrence effects or “chilling” effects, also mentioned above. Another important factor is the significance attributed to the potential efficiencies generated by a conduct. As an example, Hylton and Salinger consider that for the case of tying “false acquittal costs are likely to be small relative to false convictions when there are (1) market constraints on the firm’s conduct, (2) strategies other than tying that the firm could use to gain the same advantage in the market, or (3) no clear incentive to use tying in order to harm consumers. On the other hand, false conviction costs are likely to be relatively large when (1) there are substantial potential efficiencies associated

likely to characterize a conduct as PL and to consider false convictions more costly than false acquittals than in a jurisdiction that does not place as much trust on markets' ability to self-correct, de-emphasizes incentive effects and places trust in the governments' ability to improve outcomes through intervention (EU model). In the latter it is much more likely to characterize a conduct as PI and to consider false convictions less costly than false acquittals. This is, of course, a very important consideration in explaining the different enforcement approaches in US and EU mentioned above. Indeed, Anu Bradford et.al. (2019) attribute to this difference in economic ideology the emerging "Global Dominance of European Competition Law Over American Antitrust Law".

Needless to say, in developing countries the ability of markets' to self correct will usually be even more limited than in developed economies, as entry barriers and other market failures will be higher, and the CA decisions are unlikely to have significant adverse incentive effects³⁷. The likelihood that the conduct undertaken by a dominant firm is genuinely harmful, which as we have seen is a very significant factor in determining whether conduct is presumptively illegal and the relative size of error costs, is likely to be much higher in developing countries. Thus in the latter the presumption is much more likely to be that of illegality and false acquittals more costly than false convictions. To illustrate, consider a potentially anticompetitive conduct (such as some predatory pricing or rebate schemes) that on their own would not be able to limit entry into markets but can do so (and will be used to do so) when some other entry barriers or market failures are present. In this case, in countries/jurisdictions with low other entry barriers or market failures, might not even engage actively in enforcement against such practices, while in jurisdictions with many other entry barriers the value of enforcement will be very high. Further, in the former, if CAs do remain involved in enforcing competition law for such conducts, they should be using effects-based assessment, but (the administratively less costly) Per Se LSs should be used in jurisdictions in which other barriers are relatively high (prevalence of contestability is low), since in the latter the presumption of illegality of these conducts –i.e. presumption that they create harm– is much higher³⁸ with cost of false convictions more likely to be lower than the cost of false acquittals.

Examining the factors that determine whether an additional assessment stage (and, hence, a movement from Per Se towards effects-based) will lower decision errors, also shows that in developing countries this movement is less likely to be justified than in developed countries. There are six factors that need to be taken into account. In the discussion below we assume that the conduct type is presumptively illegal in stage 1, i.e., when conduct is undertaken by firms with significant market power.

- i. The probability that the conduct for which a screen (and the previous screens) is correctly identified as satisfied is genuinely *not* harmful. This is reduced with additional assessments and this lowers the costs of false convictions. It is not possible to say whether the reduction in the

with tying and (2) tying is an important competitive instrument".

37 Hovenkamp's (2021) remark that "Firms are pretty good at inventing around legal rules" and that "Courts can also invent around their own previous ruling, construing them more broadly or narrowly as perspective changes" is even more likely to be true in developing countries.

38 See also Fox and Gal (2014) for a closely related discussion concerning the need for enforcing competition law in developing countries. Their discussion reminds us that different jurisdictions are characterised by different degrees to which competition is workable in products and services markets, *in the absence of CL enforcement*. The degree to which competition is workable, while it depends both on the anticompetitive conduct of firms, which enforcement seeks to eliminate, also, and perhaps primarily, depends on the more general economic development, political and socio-cultural conditions and characteristics in any given country and its government's policies (that influence barriers to entry, to trade and to foreign direct investment in markets), the degree of market concentration, the quality of physical infrastructure and the provision of public goods as well as the levels of education and health care (which determine the availability and quality of human resources), and the extent that there are missing institutions and underdeveloped financial markets. Also see Gal (2004).

probability is likely to be larger or smaller in developing than in developed countries³⁹.

- ii. The probability that a screen is satisfied given that previous screens are satisfied. This becomes lower for additional screens and this again lowers the costs of false convictions once additional screens are assessed. However, now, the reduction in this probability is likely to be smaller or much smaller in developing countries since the percentage size of the reduction is smaller the greater the probability that in the next screen assessment the screen will be satisfied, and this probability will be greater in developing countries. Thus, the fact that the probability that the conduct has exclusionary impact is higher in developing countries implies that the percentage reduction of this probability relative to the probability of significant market power is smaller in these countries which tends to make the reduction in the costs of false convictions smaller.
- iii. The next four factors essentially determine the improvement in the *discriminatory power of the assessment* after an extra screen is examined. The discriminatory power of the assessment depends on four probabilities, the following. First, there are the probabilities that a harmful conduct is correctly identified as harmful and the probability that a benign conduct is correctly identified as benign, once a screen is examined. It is expected that the latter two probabilities increase as more assessments (screens) are made (examined). The increase in the former probability lowers the cost of false acquittals while the increase in the latter lowers the costs of false convictions. There are a significant number of factors that tend to make the level and the increase in these probabilities, if additional assessments are made, much smaller in developing than in developed countries. These factors are limited experience, a “short” case-law history on which to rely, limited skills and resources and limited data in terms of availability and quality. This lack in the discriminatory power of the assessments is one of the most important factors making LSs closer to Per Se than effects-based the error minimising choice in developing countries.

Second, there are the probabilities that a screen is correctly identified as holding when it holds and is correctly identified as not holding when it does not hold. It is not obvious how these probabilities will change for additional screens that may be examined. One important consideration is that additional screens are more likely to require more sophisticated, but also more ambiguous in its predictions economic analysis, and this leads to an increase in the difficulty of correctly identifying the screen. Thus, to give an example, it is likely to be less difficult to identify correctly exclusionary impact than a reduction in consumer welfare – thus the probability of identifying correctly the second screen will be lower than the probability of identifying correctly the first. A decrease in the first probability (correctly identifying a screen as holding when it holds) increases decision error costs from false acquittals and the decrease in this probability is likely to be more pronounced in developing countries, making even larger the increase in these costs. While the decrease of this probability tends, as a first effect, to reduce costs from false convictions, the latter will tend to increase from a decrease in the second probability (correctly identifying a screen as not holding when it does not hold) and this increase is likely to outweigh the first effect. Again, the fact that the decrease in the second probability is likely to be more pronounced in developing

39 This is because this probability is the product of two probabilities: the probability that the screen is satisfied (given previous screens were satisfied), which is reduced as additional screens are assessed, but the reduction is smaller in developing countries (see (ii) below); and the probability that given the additional screen is satisfied the product is genuinely benign that is lower with the additional screen but the reduction is likely to be larger in developing countries where the lack of contestability and other market failures imply that conduct is highly unlikely to be benign as additional screens are satisfied.

countries, makes even larger the increase in costs from false convictions in these countries.

To conclude, the discussion above suggests that decision error principles can be used to provide the framework for analysing the choice of legal standards in competition law enforcement in developing countries/jurisdictions and to show that the error-minimising choices in such jurisdictions are more likely to be closer to Per Se than to effects-based, than in developed countries/jurisdictions.

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