STANDARD SETTING – IDENTIFYING ANTI-COMPETITIVE OUTCOMES

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ABSTRACT

Standard setting can have highly significant welfare and efficiency enhancing benefits. These can include protecting consumers from inferior or dangerous products and/or increasing compatibility between complementary and substitute products. However, as alleged in the complaint against Netstar, Tracker, Matrix and VESA, standard setting can also have anti-competitive effects. Given the differing opinions of the Competition Tribunal and the Competition Appeal Court, it does raise the question of when the setting of standards may have anti-competitive outcomes.

Economic literature outlines the following possible anti-competitive effects which may arise from the setting of standards:

i. it can facilitate collusion between competitors by reducing product differentiation or making product specifications more readily observable;

ii. it may enable exclusion of new entrants or other firms from the market; and

iii. It may confer upon a firm market power which, absent the standard, it may not have possessed.

Accordingly, this paper seeks to explore in greater detail the pro-competitive and potential anti-competitive effects of standard setting, with particular attention to factors that are likely to result in and/or facilitate anti-competitive outcomes in the relevant markets. Having determined the characteristics in this regard, we will attempt to identify some guidelines to identifying possible anti-competitive outcomes.

The views expressed in this paper are those of the authors and do not necessarily represent the views of Genesis Analytics.

1. INTRODUCTION

Standards and the setting of standards affects all facets of life – from professionals setting standards for their discipline; trade associations that set safety standards to sports associations that impose standards on equipment[1] In addition, most consumer products used today are the result of some form of standardisation. For instance, electric plugs and outlets are built to a particular standard for the voltage and plug shape.[2] Without this standard, one would not be able to stay in a hotel room without fear that one's hairdryer would work in the hotel's outlet. However, more recently with the development of more complex technology, the level of standardisation and the standards required have become more complex and technical. In these circumstances, one finds that standards are often developed around a particular technology the intellectual property rights ("IPR") for which might be owned by a particular firm.

A standard can be understood to be a set of features that a product or service is required to have.[3] A distinction can be drawn between performance standards which specify that products must meet certain performance characteristics and design standards which specify particular features which products must have if they are to conform to the standard. Standards can be set by various types of organisations.[4] There are legislative standards where the government, or any other law making organisation, might identify and set the appropriate standards.[5] Secondly, quasi-legislative standards may be developed for specific industries by regulatory authorities.[6] And finally, standards can be developed by a private organisation or industry association (usually comprised of firms in an industry), as was the case in the *Netstar/Tracker*[8] case.

It is situations where standards are set by private firms or organisations that are particularly relevant for competition law. Even though it is widely acknowledged that standard setting can have significant welfare and efficiency enhancing effects, it is in these situations where

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[1] Hovenkamp, H. (1999). *Antitrust Law: An Analysis of Antitrust Principles and Their Application*, Aspen Law & Business. Vol XIII, pp. 342 and Lopatka, J. E. (2009). *Antitrust and Sports equipment standards: Winners and whiners.* Available: www.globalcompetitionpolicy.org (Last accessed: 20 September 2011).

[2] Lemley, M.A. (2000). *Antitrust, Intellectual Property and Standard Setting Organisations,* p4. Available: http://www.ftc.gov/opp/intellect/020418lemley.pdf (Last accessed: 26 September 2011)

[3] Most antitrust literature broadly defines standards as technical specifications that provide common designs for products or processes. Teece and Sherry note that this definition may be misleading in some contexts.This is said to be because many standards do not specify a 'design for a product' so much as they identify certain features of the product that are standardized, leaving many if not most other product features unspecified and unstandardized. For example, the design of a toaster includes the design of the plug at the end of the power cord. While the plug design needs to be standardized so that the cord fits into the electrical socket and the toaster needs to be designed to run on common household current, the remainder of the design of the toaster does not need to be, and typically is not, standardised. (Source: Teece, D.J and Sherry, E.F. (2003). Standard setting and Antitrust. *Minnesota Law Review,* 87: p1914; and Hovenkamp, H. (2007). Standards and Ownership Policy. *Boston College Law Review 48(1)*).

[4] O'Donoghue, R. and Padilla, J. (2006). The Law and Economics of Article 82 EC. First Edition. Portland, USA: Hart Publishing, p535

[5]A standard may also arise from the operation of the market where consumers will gravitate towards a single product or protocol and reject its competitors. This form of standardisation is particularly likely in markets characterized by strong network effects. Lemley, M.A. (2000). Antitrust, Intellectual Property and Standard Setting Organisations, p5. Available: http://www.ftc.gov/opp/intellect/020418lemley.pdf (Last accessed: 26 September 2011).

[6] O'Donoghue, R. and Padilla, J. (2006). The Law and Economics of Article 82 EC. First Edition. Portland, USA: Hart Publishing, p535

[8] Competition Tribunal, Competition Commission and Tracetec v. Netstar (Pty) Ltd, Matrix Vehicle Tracking (Pty) Ltd, Tracker Network (Pty) Ltd and Vehicle Security Association of South Africa, Case no.: 17/CR/Mar05, 19 April 2010,

competing firms might participate in setting standards which gives rise to concerns regarding anti-competitive intent behind or effect of the standard.[9]

Hence, the assessment of whether standards contravene competition law is not necessarily simple one as it requires assessing the efficiency and consumer benefits of the standards against its potential anti-competitive effects. As such, the Courts in the United States and European Commission ("EU Commission") have focused on a rule of reason approach to assess standard-setting agreements. In South Africa, a similar approach was adopted in the *Netstar/Tracker* case[10]. The approach adopted by the various jurisdictions are informed by the fact that the courts are ill-equipped to determine whether a standard is reasonable due to the often technical nature of the standard and the expertise required in determining an appropriate standard.

This paper seeks to explore in greater detail the pro-competitive and potential anti-competitive effects of standard setting, with particular attention to factors that are likely to result in and/or facilitate anti-competitive outcomes. Having determined the characteristics in this regard, we will attempt to determine guidelines to identify possible anti-competitive outcomes.

2. THE PRO-COMPETITIVE AND ANTI-COMPETITIVE OUTCOMES OF STANDARD SETTING

In this section, we explore in more detail the potential pro-competitive and anti-competitive outcomes of standard setting.

2.1. PRO-COMPETITIVE BENEFITS

It is widely acknowledged that standard setting can have highly significant welfare and efficiency enhancing effects. The benefits of standards range from ensuring product compatibility to dealing with health and safety concerns. For example, construction products must meet industry standards for fire resistance and doctors, lawyers and numerous other professionals must meet minimum licensing standards in order to work in their respective professions. These standards promote social welfare by ensuring that imperfect information does not lead to consumers buying dangerous products or hiring unqualified doctors or other professionals because they cost less.[11]

Consumers use a wide variety of standardised products in their everyday life. For instance, the development of the Global System for Mobile communication ("GSM") standard for mobile wireless communication has contributed to the operation of an integrated worldwide telephone

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[9] Hovenkamp, H. (2007). Standards and Ownership Policy. *Boston College Law Review 48(1):* p87.
[10] Competition Tribunal, Competition Commission and Tracetec v. Netstar (Pty) Ltd, Matrix Vehicle Tracking (Pty) Ltd, Tracker Network (Pty) Ltd and Vehicle Security Association of South Africa, Case no.: 17/CR/Mar05, 19 April 2010,
[11] Lemley, M.A. (2000). *Antitrust, Intellectual property and Standard Setting Organisations. p4.* Available: http://www.ftc.gov/opp/intellect/020418lemley.pdf (Last accessed: 26 September 2011).

system. In the financial world, consumers are able to make purchases and obtain money worldwide through the implementation of standards for automatic teller machine ("ATM") cards as well as the standards in place to enable the acceptance and processing of credit cards in a variety of locations.[12]

As noted above, we live in a world built on product standards. In general, these standards are welfare enhancing as they (i) reduce the costs of production; and (ii) reduce the costs of obtaining information and thus consumer's search costs. Specifically, a standard is able to convey a lot of information about a product, which prevents the consumer having to do their own research. Some of the other benefits of standards include:

- Standards can also protect consumers from inferior or dangerous goods by identifying products that are of poor quality (i.e. those products not approved); stimulate demand by encouraging consumer trust in industry products[13]; facilitate customer comparison of essential rather than non-essential product differences and increase compatibility between complimentary and substitute products.

- Also, when products are compatible and an industry standard exists, then buyers are protected from being stranded with a purchase from a particular supplier that may not work with another product. For example, when a consumer purchases a television set sold within a particular country it needs to be compatible with the signals sent out by local broadcasters.[15]

- Standards may also enhance the reputation of certain industries or professions through the establishment of ethical codes.[16]

In addition, standards can also benefit both producers with resulting benefits for consumers. As mentioned above, the standard setting process allows for competitors to meet and agree to adopt a particular technology as the industry platform. Thus, the adoption of a standard allows producers to invest in products that utilise the adopted technology to offer consumers greater product variety.[17]

For the information economy and in high-tech industries in particular, standards are uniquely important to facilitate the success of many new products[18] and are often set to ensure

[12] Shapiro, C. (2000) *Setting Compatibility Standards: Cooperation or Collusion*. Paper prepared for a conference at the Engelberg Center on Innovation Law and Policy, La Pietra, Italy, June 25-28, 1998.
[13] Further, as noted by Hovenkamp, standards may also increase consumer confidence in a market, which stimulates demand, as the costs of bad purchases, trial and error and collateral losses falls. Hovenkamp, H. (1999) *Antitrust Law, An Analysis of Antitrust Principles and Their Application*, Aspen Law & Business. Vol XIII, pp. 347.
[15] Shapiro, C. (2000) *Setting Compatibility Standards: Cooperation or Collusion*. Paper prepared for a conference at the Engelberg Center on Innovation Law and Policy, La Pietra, Italy, June 25-28, 1998.
[16] Steuer, R.M., Roberti, J. and Bashir, A. (23 June 2011). *Standard Setting: Past, Present and Future.* Mayer Brown. Available: http://www.mayerbrown.com/antitrust/article.asp?id=11178&nid=112#6. (Last accessed: 23 June 2011).
[17] Steuer, R.M., Roberti, J. and Bashir, A. (23 June 2011). *Standard Setting: Past, Present and Future.* Mayer Brown. Available: http://www.mayerbrown.com/antitrust/article.asp?id=11178&nid=112#6. (Last accessed: 23 June 2011).
[18] Weisre, P.J. (2008). *Making the world safe for standard setting.* Legal studies research paper series, working paper number 08-06. Available: http://ssrn.com/abstract=1105571. (Last accessed: 20 June 2011).

interoperability[19] and compatibility[20]. Standards in these industries have four pro-competitive benefits.[21] Firstly, standardisation prevents the duplication of investment in new products that are comparable, but incompatible. Secondly, interoperability standards create networks[22] of compatible products, which have pro-competitive benefits to consumers. Thirdly, standardisation promotes innovation which improves competition.[23] Finally, the standard-setting process may help industry participants to share knowledge and develop optimal processes and "best-of-breed" products[24].

It is these significant benefits of standards that make the assessment of their potential anti-competitive effects a difficult one. It is to these anti-competitive effects that we now turn to.

2.2. ANTI-COMPETITIVE OUTCOMES

The three main anti-competitive concerns surrounding standards setting are the facilitation of collusion, the potential exclusionary effects of standards and potential abuse of the standard setting process by dominant firms (unilateral conduct).[25] Broadly, these three effects can be described as follows:

- it can facilitate collusion between competitors by reducing product differentiation or making product specifications more readily observable;
- it may enable the exclusion of new entrants or other firms from the market; and
- it may confer upon a firm market power which, absent the standard, it may not have possessed.

We discuss each of these in more detail below.

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[19] Interoperability is defined as "the capacity of the products of one vendor to communicate, or interface, directly with the products of competing suppliers or with complementary products." (Source: Leeds, D.D. (1996) *Raising the Standard: Antitrust Scrutiny of Standard-Setting Consortia in High Technology Industries*. Fordham Intellectual Property, Media and Entertainment Law Journal.
Available: http://ir.lawnet.fordham.edu/cgi/viewcontent.cgi?article=1134&context=iplj&sei-redir=1#search=%22Leeds%2C%20D.D.%20Raising%20Standard%3A%20Antitrust%20Scrutiny%20Standard-Setting%20Consortia%20High%20Technology%20Industries.%22 (Last accessed: 28 September 2011).
[20] Abell, J.E. (2008). *Setting the Standard: A Fraud-based Approach to Antitrust Pleading in Standard Development Organization Cases.* Available: http://ssrn.com/abstract=1288149. (Last accessed: 23 June 2011).
[21] In addition, the general benefit is that standards allow easier comparison by consumers of the competing products, which reduces the costs of acquiring information. As such, it allows consumers to compare prices more easily.
[22] The network effect refers to the fact that a product gains value due to the number of other consumers utilising that product.
[23] Leeds, D.D. (1996) *Raising the Standard: Antitrust Scrutiny of Standard-Setting Consortia in High Technology Industries*. Fordham Intellectual Property, Media and Entertainment Law Journal.
Available: http://ir.lawnet.fordham.edu/cgi/viewcontent.cgi?article=1134&context=iplj&sei-redir=1#search=%22Leeds%2C%20D.D.%20Raising%20Standard%3A%20Antitrust%20Scrutiny%20Standard-Setting%20Consortia%20High%20Technology%20Industries.%22 (Last accessed: 28 September 2011).
[24] Organisation for Economic Co-operation and Development, (2010). *Competitive Aspects of Collaborative Standard Setting.* Working Party No. 2 on Competition and Regulation, DAF/COMP/WP2/WD(2010)28, p6.
[25] Hovenkamp, H. (1999) *Antitrust Law: An Analysis of Antitrust Principles and Their Application*, Aspen Law & Business. Vol XIII, pp. 342.

2.2.1. Collusion

Standard setting may lead to collusive outcomes if the standard setting organisations are able to limit competition through their conduct. Their ability to achieve this stems from their market power which may result from the participation in the organisation of the largest companies in the industry. On the other hand, some organisations are able to exercise direct legal control over a market. This may be either directly (in the case where a bar association has the power to control entry into a profession granted by the courts) or indirectly (in the case where a private organisation adopts standards which are enacted into law by legislature or municipalities).[26]

It is often the case that standards are created or enforced by competing producers of the relevant product, as it is the producers themselves (as opposed to the government, consumers or other third parties such as insurers) are experts and thus best suited to set effective standards and also evaluate their competitors' products against the standard. It is in these circumstances that one would be concerned that the standards can facilitate collusion.

In general, standards can be seen to facilitate collusion when they make it easier for firms to reach terms of collusion or to police adherence to the collusive arrangement. Standards can achieve this by minimising product or service differentiation, or by making product specifications or terms readily observable across sellers. Cartels are much more difficult to manage when products are differentiated or sold subject to unique specifications, and thus using standards to eliminate product differences makes it easier to co-ordinate on price.[27]

However, standards do not only facilitate price fixing. Standards can result in the reduction in industry output through the exclusion of firms (in particular uncooperative firms), or of certain types of products from the market. In addition, consumers can also be harmed if the standard has the effect of reducing innovation (which further reduces product differentiation) as consumers will be deprived of innovative products that may have been present absent the standard. [28]

Buyers' cartel

It is not only collusion between sellers of a product that is a concern, buyers of products that are used as inputs can also use standard setting to facilitate a buyer's cartel. Specifically, standards will be set to limit the amount of a certain input required and thus suppress the price

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[26] Lemley, M.A. (2000). *Antitrust, Intellectual property and Standard Setting Organizations.* p4*.* Available: http://www.ftc.gov/opp/intellect/020418lemley.pdf (Last accessed: 26 September 2011).

[27] Hovenkamp, H. (2007) *Standards Ownership and Competition Policy,* Boston College Law Review, 48(1).

[28] Even though standards can stimulate innovation, there is a chance that investments in non-compatible innovation will decrease. This deprives consumers of these products that may have been produced absent the standard, and also reduces product differentiation which may facilitate collusion (see above). Leeds, D.D. (1996) *Raising the Standard: Antitrust Scrutiny of Standard-Setting Consortia in High Technology Industries*. Fordham Intellectual Property, Media and Entertainment Law Journal. Available: http://ir.lawnet.fordham.edu/cgi/viewcontent.cgi?article=1134&context=iplj&sei-redir=1#search=%22Leeds%2C%20D.D.%20Raising%20Standard%3A%20Antitrust%20Scrutiny%20Standard-Setting%20Consortia%20High%20Technology%20Industries.%22 (Last accessed: 28 September 2011)

of the input.[29] For example, if a product contains inputs in variable proportions, and one input is more expensive than the other, a standard setting organisation can limit the amount of the expensive input in the final product, which would result in the price of that input being suppressed. In the *National Macaroni Manufacturers Association*[30] case, the defendants responded to a temporary shortage of durum semolina wheat by setting a product standard for pasta that called for 50% durum semolina and 50% inferior farina wheat. As noted by Hovenkamp, the standard was intended to suppress the price of the durum semolina wheat input which would effectively lower the production costs of the defendants.[31]

2.2.2. Exclusion

The second anti-competitive effect that can result from the standard setting is the exclusion of current and potential competitors from the market by effectively raising barriers to entry to a market or firm's costs through the adoption of a standard. Exclusion of competitors is possible through the standard setting process in two ways: (i) direct exclusion due to only a few firms being complaint with the standard; and (ii) the standard setting process can confer market power to certain firms that are then able to exploit this market power to exclude other firms. Each of these is discussed in more detail below.

Standardisation leads to the exclusion of competitors. If standards are set in such a manner that only a small number of firms are compliant with the adopted standard, then competing technologies and companies face a barrier to entry and may be potentially, excluded from the market. In this case, standardisation enables a firm to protect its market shares by excluding actual and potential competitors. For example, in the *Netstar/Tracker* case[32], it was alleged that the standard was set in such a manner that new entrants would not have been able to meet the minimum criteria of the standard and obtain the necessary approval.[33] Further, standards requiring a particular technology or those that prevent the development of other technologies may lead to the direct exclusion of firms that do not comply.[34] For instance, in the case of an industry with network effects where products need to be compatible with the chosen network, following the adoption of an industry standard using a particular technology, firms with incompatible products will be excluded from the market as their products will not function with the chosen technology.

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[29] Hovenkamp, H. (1999) *Antitrust Law: An Analysis of Antitrust Principles and Their Application*, Aspen Law & Business. Vol. XII, pp. 112.
[30] National Macaroni Manufacturers Association v. Federal Trade Commission (FTC, April 30 1964). As cited in Hovenkamp, H. (2007). Standards and Ownership Policy. *Boston College Law Review 48(1):p92.*
[31] Hovenkamp, H. (2007) *Standards Ownership and Competition Policy,* Boston College Law Review, 48(1)
[32] Competition Tribunal, Competition Commission and Tracetec v. Netstar (Pty) Ltd, Matrix Vehicle Tracking (Pty) Ltd, Tracker Network (Pty) Ltd and Vehicle Security Association of South Africa, Case no.: 17/CR/Mar05, 19 April 2010,
[33] Competition Tribunal, Competition Commission and Tracetec v. Netstar (Pty) Ltd, Matrix Vehicle Tracking (Pty) Ltd, Tracker Network (Pty) Ltd and Vehicle Security Association of South Africa, Case no.: 17/CR/Mar05, 19 April 2010,
[34] Communication from the Commission: Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements (2011/C 11/01), paragraph 266. Available from: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2011:011:0001:0072:EN:PDF (Last accessed: 26 September 2011).

Standardisation confers market power. Standard setting may confer market power upon a firm which, absent the standard, it may not have possessed.[35] In the context of industries with patented technology, the firm holding the IPR essential to the implementation of a standard might acquire market power as a result. This firm is then has the potential to use this power to "hold-up" competitors either (i) by refusing to provide licences for the necessary IPR to other firms or (ii) by extracting excess rents through royalty fees.[36]

It should be noted that the conferment of market power from standardisation and the likely exclusionary effect that results is more likely to occur in cases where a company has an essential IPR that is incorporated in the industry standard.[42] However, there is no presumption that either holding the IPR essential to a standard or being included in a standard will in itself, confer market power.[43] Furthermore, the exclusionary effects is not necessarily dependent on unilateral conduct by the firm where it does not timely and completely disclose information on its ownership of a potentially essential IPR (as is seen in the *Rambus, Inc.*[44] and *Dell Computer*[45] case). As such, the question of the exclusionary effect of unilateral conduct, like the case of standardisation conferring market power, can only be assessed on a case by case basis.

3. SPECIFIC CHARACTERISTICS THAT LEAD TO ANTI-COMPETITIVE OUTCOMES

As discussed, standards can have significant pro-competitive and anti-competitive effects, therefore, the assessment of whether the standards contravene the competition laws is not a simple one. In addition, given the nature of the potential anti-competitive effects of standards, different factors need to be considered in determining whether a particular standard is likely to result in certain anti-competitive effect also differ. Therefore, we discuss below the factors to be considered in determining this.

3.1. EXCLUSIONARY EFFECT OF STANDARDS

Hovenkamp states that the exclusionary effect of standards can be accomplished by "*… setting standards in such a fashion that only a small number of compliant firms meet the*

[35] Madero Villarejo, C. and Banasevic, N. (2008). *Standards and Market Power.* Available: www.globalcompetitionpolicy.org (Last accessed: 26 September 2011).
[36] Communication from the Commission: Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements (2011/C 11/01), paragraph 266. Available from: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2011:011:0001:0072:EN:PDF (Last accessed: 26 September 2011).
[42] Madero Villarejo, C. and Banasevic, N. (2008). *Standards and Market Power.* Available: www.globalcompetitionpolicy.org (Last accessed: 26 September 2011).
[43] Communication from the Commission: Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements (2011/C 11/01), paragraph 269. Available from: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2011:011:0001:0072:EN:PDF (Last accessed: 26 September 2011).
[44] *Rambus Inc.,* 2006 WL 2330117, 2006-2 Trade Cas. Para 75364 (FTC, August 2, 2006).
[45] *Dell Computer,* 121 F.T.C, 616 (1996).

standard, or that the standard is only licenced to such firms".[51] Further, he notes that *"(a)t the same time, if a standard-setting process is at all meaningful, one or more firms will either "flunk" the standard or else have to make significant investment to comply with it*."[52]

Therefore, any standard that is chosen is likely to exclude some firms from the market. As discussed above, exclusion can result from two effects. Firstly, firms can be excluded from the market where they do not comply with the standard. Secondly, standards can confer market power onto a firm who then uses this power to exclude others from the market. The issue then becomes how to identify 'fair' exclusion based on the firm not meeting the standards and anti-competitive exclusion.[53] We discuss below the approaches followed in the United States, Europe and South Africa to address this issue.

3.1.1. The approach in the United States

The approach to standards and standards setting in the United States has developed over time through jurisprudence. In general, the approach to the assessment of the exclusionary effect of standards is based on a rule of reason analysis – where the anti-competitive effect would be weighed against the pro-competitive or efficiency gains from the standard. The focus of the assessment in terms of the US approach is on the structural prerequisites for anti-competitive effect as opposed to a direct assessment of the "reasonableness" of the standard. This focus is informed by the lack of expertise of the court to engage in an assessment of the technical dimensions of the standards. Their approach follows three aspects – a power inquiry, a structural inquiry and an assessment of the reasonableness of the standard (albeit on narrow grounds).

The first aspect of the approach is a "**power inquiry**".[56] This entails determining whether the standard setting organisation (or the firms participating in the standard setting organisation) has sufficient market power in the relevant market to cause an anti-competitive effect. This market power can stem from the market share of the firms setting the standard. If the firms have a significant share of the relevant market, collectively they might have sufficient market power to cause an anti-competitive effect. However, this is not definitive which brings us to the second factor – the market influence of the standard setting organisation. It might be the case that the standard setting organisation represents a significant proportion of the market but has little standing as a standard setting organisation. This would result in the standard setting

[51] Hovenkamp, H. (2007). Standards and Ownership Policy. *Boston College Law Review 48(1)*: p 96
[52] Hovenkamp, H. (2007). Standards and Ownership Policy. *Boston College Law Review 48(1)*: p 96
[53] However, this is not the only part of the assessment. Any potential anti-competitive effects, would have to weighed against the pro-competitive gains from the standards. This is in terms of the approaches adopted in the United States, Europe and South Africa.
[56] However, prior to any analysis of the anti-competitive effect of standards, the relevant markets would have to first be defined. This is because it would have to be shown from which market the complainant has been excluded from. Various markets can be defined such as the market for the product for which the standard is being set, the market for standard setters or the actual certification and testing market. However, in the case of exclusion, the relevant market would be the market for the product for which the standard is set as this is the market from which the firm would be excluded.

organisation (or the standard itself) not having much hold or influence in the market, thereby reducing the potential for an anti-competitive effect. [57]

The next step is the "**structural inquiry**". The purpose of this exercise is to establish whether the firms setting the standards have an anti-competitive intent. Hovenkamp states that *"(t)he structural condition leading to the strongest inference of anticompetitive purpose or likely effect is when all or substantially all of the decision makers are in direct competition with the plaintiff and stand to benefit from the plaintiff's demise or any significant restraint on its output*."[58] Hence, an anti-competitive effect will only result when firms that are setting the standard are competitors of the firm alleged to be excluded by standards.

There are also particular circumstances when it is clear that there can be no anti-competitive intent on the part of firms setting the standards – where the firms are not in the same product or geographic market as the firm being excluded. Specifically, firms that are offering complementary products or in a vertical relationship to the firm are unlikely to have anti-competitive intent as they will not benefit from the firm's exclusion from the market. The example of the *Moore* case is relevant. The plaintiff's tail light for boat trailers was disapproved by an association of boat trailer manufacturers. The court noted that the trailer manufacturers were customers of the tail light manufacturers and there was no competition between them. As such, the association of boat trailer manufacturers would have no incentive to exclude the plaintiff from the market but only required tail lights that complied with the federal safety specifications.[59]

Another important consideration is whether the standard is merely communicated to market/customers or whether it outright excludes the firm or a particular product from the market. Although, this is not a decisive factor as in some cases mere communication is enough to exclude the firm or product from the market. The key point is whether the disapproval of the product or the product's failure to meet the standard has a significant impact on the firm's ability to compete in the market. These points are illustrated by two cases.

- In the *Pretz* case, a farmer's cattle were not certified by a cattle breeding association. It was apparent the cattle would be worthless as breeding stock without the certification. As such, the mere communication of the lack of approval was sufficient to exclude the farmer from the market.

- In contrast, in the *Schachar* case, the American Academy of Ophthalmology declared the service provided by the plaintiff as experimental. However, the Court dismissed the case finding that the Academy stated its position on the service and issued a press

[57] Hovenkamp, H. (1999) *Antitrust Law: An Analysis of Antitrust Principles and Their Application*, Aspen Law & Business. Vol XIII: 358
[58] Hovenkamp, H. (1999) *Antitrust Law: An Analysis of Antitrust Principles and Their Application*, Aspen Law & Business. Vol XIII :359
[59] Hovenkamp, H. (1999) *Antitrust Law: An Analysis of Antitrust Principles and Their Application*, Aspen Law & Business. Vol. XIII: 360-361 and Hovenkamp, Standard ownership paper, pg. 99

release and it did not take any further action to prevent members from providing the service or inducing others not to deal with such members.[60]

An important issue to determine if the mere communication of the standard is sufficient to exclude a firm from the market is the relative sophistication of customers. Where customers are unclear about a product's quality and compatibility, the mere communication of the lack of approval of the products by a standard setting organisation might be sufficient to prevent customers from purchasing it. However, where customers are more knowledgeable, they can consider the relative performance and other characteristics of the products for themselves in making a decision. This was the case in *Clamp-all*, where the Court found that a standard setting organisation's declaration that a pipe coupler did not meet the standard was not likely to cause an anti-competitive effect. This was due to buyers who were builders and plumbers being considered as sophisticated users.[61]

If the structural inquiry finds that there is a significant potential for anti-competitive effect, then the courts will have to consider other factors such as the reasonableness of the standards. Consideration of these factors might assist it in avoiding a substantive analysis of the standard and its effect.

The **reasonableness assessment** requires a determination of whether the standard setting organisation acted reasonably or not – which can be done by assessing the process employed by the standards organisation in not approving the firm or adopting a particular standard.[62] Here, we are concerned with an "unreasonable restraint on competition" – where aggressive action is taken against the firm to reduce the competitive threat it poses. Some indications that the process employed by the organisation might be unreasonable include:

- "Unjustified discriminatory treatment" – In situations where it is clear that the standards organisation has unfairly discriminated between firms in similar circumstances, the standard organisation's conduct can be regarded as unreasonable. In *Miller*, a doctor's staff privileges at a hospital where revoked due to his lack of provision of patient care. However, the doctor cited an example where a less severe form of disciplinary action was taken against another doctor for similar conduct. The court found that this was sufficient to create a jury issue.[63]

- Lack of attentiveness to the merits of a firm's case – This could include evidence of arbitrary decision making by the organisation, the lack of notice or a hearing on the

[60] However, the District Court noted that where organisations are large and highly respected *"… factors other than the mere persuasive power of its arguments render it statements influential*." Statements by such organisations carry "…*more weight and thus have more coercive power than the views of individuals*." Hovenkamp, H. (1999) *Antitrust Law: An Analysis of Antitrust Principles and Their Application*, Aspen Law & Business. Vol XIII: 363

[61] Hovenkamp, H. (1999) *Antitrust Law: An Analysis of Antitrust Principles and Their Application*, Aspen Law & Business. Vol. XIII: 363

[62] Hovenkamp, H. (1999) *Antitrust Law: An Analysis of Antitrust Principles and Their Application*, Aspen Law & Business. Vol XIII: 373

[63] Hovenkamp, H. (1999) *Antitrust Law: An Analysis of Antitrust Principles and Their Application*, Aspen Law & Business. Vol XIII: 373-374

matter, failure to consider witnesses or evidence from both sides and excessively cursory examinations. Although, these actions are not contraventions of antitrust law, they are important points especially in light of the potential for the standard to exclude firms (as indicated by the structural inquiry). [64]

If there is a **less restrictive alternative** to the standard that would have been able to achieve the same benefits and aims of the more restrictive standard – this might suggest that the standard had an anti-competitive effect. One example of a less restrictive alternative standard might be a standard that merely communicated the standard or whether the firm was approved. In assessing whether the communication is a valid less restrictive alternative to direct exclusion, Hovenkamp suggests the following should be considered:

- Firstly, the type of customer and their level of sophistication should be considered,
- Secondly, the quality of the information available to the customers to enable them to make a decision regarding the product and
- Finally, the impact of the customers' decision on other parties not able to participate in the standard setting process.[65]

It might very well be the case that the reason for outright exclusion takes into account that customers would not necessarily be able to make the right decision regarding the products that should be allowed and those not.

The approach in the United States can be summarised as follows:

- Power inquiry entails determining whether the standard setting organisation (or the firms participating in the standard setting organisation) has sufficient market power in the relevant market to cause an anti-competitive effect.
- Structural inquiry establishes whether the firms setting the standards have an anti-competitive intent.
- The mere communication of the standard might not be sufficient to exclude the firm from the market. The important consideration here is whether customers are sophisticated to use make their own decision regarding a particular product.
- Reasonableness relates to whether the standard was applied in a non-discriminatory manner and proper processes were followed.

[64] Hovenkamp, H. (1999) *Antitrust Law: An Analysis of Antitrust Principles and Their Application*, Aspen Law & Business. Vol XIII: 374
[65] Hovenkamp, H. (1999) *Antitrust Law: An Analysis of Antitrust Principles and Their Application*, Aspen Law & Business. Vol XIII: 385

- In determining whether a less restrictive alternative standard would have achieved the same objectives as the restrictive standard one can consider whether mere communication of the standard was a valid alternative.

3.1.2. The Approach of the European Commission

The EU Commission essentially adopts a rule of reason approach to the assessment of standards where the potential anti-competitive effects would have to be weighed against the pro-competitive or efficiency gains. This approach is outlined in the EU Commission guidelines on horizontal cooperation agreements. [66]

A staggered approach is adopted where more rigorous analysis of the standards agreement is required the greater the potential for anti-competitive effects. As the first step, it needs to be assessed whether the agreements have as their object a restriction of competition – such agreements would be aimed at excluding actual or potential entrants from the market.[67]

If the agreement, however, does not meet these conditions, then the agreement must be assessed *"… in their legal and economic context with regard to their actual or likely effect on competition*."[68] The EU Commission notes that if there is no concern regarding the conferment of market power, then the standard is not capable of restricting competition.

It is generally considered that market power is not automatically conferred onto a firm whose IPR is included as part of a standard or that it will act on this power. This has to be assessed on a case by case basis. It has been suggested by Villarejo and Banasevic that to determine whether a standard confers market power to a firm, one has to consider two factors:[70]

- Firstly, whether firms in the market have to comply with the particular standard from a commercial perspective. If there are a number of competing standards, then it is unlikely that a holder of IPR for a particular technology will possess market power; and

- Secondly, if customers are locked in to the standard, in that they would not be able to switch from the standard to another technology, then there is the potential for the firm whose IPR has been incorporated in the standard to gain market power.[71]

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[66] Although the EU Commission does recognise the both the collusive and exclusionary effects of standards, it does not distinguish its assessment between these two effects. However, the focus of the guidelines is on the potential for exclusion through the conferment of market power through the firm's IPR being included in the standard. Communication from the Commission: Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements (2011/C 11/01), paragraph 269. Available from: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2011:011:0001:0072:EN:PDF (Last accessed: 26 September 2011).

[67] Agreements that contain terms to directly fix prices or influence the prices charged to customers is also regarded as agreements that restrict competition by object.

[68] Commission Guidelines, par. 277

[70] Villarejo, C.M., and Banasevic, N., "Standards and Marker power", Global Competition Policy, May 2008, pg. 3

[71] Villarejo and Banasevic also note that standards can confer an incremental degree of market power to firm holding IPR which the firm would not possess absent the standard. In order to determine whether the standard does confer some form of incremental market power, it is suggested that a hypothetical ex-ante competitive situation before the

If it is found that there is the potential for market power to be conferred to a particular firm, then in terms of the EU Commission approach the specific characteristics of the agreement will have to be assessed. The EU Commission guidelines identify a number of characteristics that if present in a standardisation agreement means that the agreement will not fall within the scope of Article 101(1).[72] Specifically, "(*w)here participation in standard-setting is* ***unrestricted*** *and the procedure for adopting the standard in question is* ***transparent****, standardisation agreements which contain* ***no obligation to comply*** *with the standard and provide* ***access to the standard on fair, reasonable and non-discriminatory terms*** *(FRAND) will normally not restrict competition*…".[73] In relation to standards involving IPR, an IPR policy needs to be adopted which requires (i) all firms wanting their IPR included in the standard to provide FRAND commitments and (ii) all firms participating in the standard setting to disclose in good faith their IPR that might be essential for the standard.[74]

However, if the agreement departs from any of the above principles, the EU Commission will assess the effect of the agreement on the relevant markets (i.e. an effects based approach). The following considerations should form part of this effects based assessment:

- Whether members of the standard setting organisation remain free to develop alternative standards or products that do not comply with the agreed standard;
- Whether the standard is available to all or only on a discriminatory basis to members or third parties (however, if there are competing standards or where the standard competes with a non-standardised solution, restrictions on competition are unlikely to result);
- Whether participation in the standard setting process is open to all competitors and other interested parties in choosing and designing the particular standard;
- The market shares of the goods or services based on the standard should be taken into account – where it is difficult to determine if a large portion of the industry will adopt the standard, the market shares of the firms involved in setting the standard can be used (however, this factor is not definitive);

standard was agreed be compared to the ex-post competitive situation (i.e. after the standard was implemented). They discuss the hypothetical situation of firm that has a unique and innovative technology for which there is not viable alternative. In this situation the price that the holder of the IPR for this technology would be able to charge the same before and after the standard comes into force.(Villarejo, C.M., and Banasevic, N., "Standards and Marker power", Global Competition Policy, May 2008, pg. 3-4)

[72] Article 101 (1) states the following: The following shall be prohibited as incompatible with the internal market: all agreements between undertakings, decisions by associations of undertakings and concerted practices which may affect trade between Member States and which have as their object or effect the prevention, restriction or distortion of competition within the internal market, and in particular those which: (a) directly or indirectly fix purchase or selling prices or any other trading conditions; (b) limit or control production, markets, technical development, or investment; (c) share markets or sources of supply; (d) apply dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage; (e) make the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts.

[73] Communication from the Commission: Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements (2011/C 11/01), par. 280

[74]Communication from the Commission: Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements (2011/C 11/01), paragraphs 292-297. Available from: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2011:011:0001:0072:EN:PDF (Last accessed: 26 September 2011) para. 292-299.

- If the agreement discriminates between participating or potential competitors it could lead to anti-competitive outcomes; and
- The specific requirements from firms participating in the standard setting related to the disclosure of IPR and commitments will also need to be assessed to determine if it guarantees effective access to the standard. It was noted that if agreements require ex-ante disclosure of the most restrictive terms for the licencing of the IPR, it will not restrict competition.[75]

Another important point from the EU Commission's guidelines is that the standardisation agreement "…*should cover no more than what is necessary to ensure their aims, whether this is technical interoperability and compatibility or a certain level of quality.*"[76]

3.1.3. The Approach of the South African Authorities

The only South African case assessing standards was the *Netstar/Tracker* case[83]. As discussed, the case involved an allegation against members of stolen vehicle recovery ("SVR") committee of the Vehicle Security Association of South Africa ("VESA") – an industry association and the association itself. The complaint alleged that the standard set for SVR systems prevented entrants from expanding in the market for such services.

This conduct was alleged to contravene section 4(1)(a) and section 8(c) – where 4(1)(a) prohibits an agreement by firms or an association of firms in a horizontal relationship that has the effect of substantially preventing or lessening competition in a market and 8(c) prohibits a dominant firm from engaging in an exclusionary act. In both cases, for a contravention, it has to be shown that the anti-competitive effect of the conduct is not outweighed by any technological, efficiency or other pro-competitive gains.

The Tribunal's assessment in the *Netstar/Tracker* case recognised that standard setting can have both pro- and anti-competitive consequences. In trying to differentiate between "*benign and malign standard setting*" (as the Tribunal stated), it identified a range of factors that should be considered. These factors borrowed heavily from the approach developed from the jurisprudence and approach in the United States. The four factors that the Tribunal outlined included:

- "Does the standard setting organisation have market power?" The Tribunal indicated that if the organisation does not have market power then there is unlikely to be an anti-competitive effect.

[75] Communication from the Commission: Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements (2011/C 11/01), paragraphs 292-297. Available from: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2011:011:0001:0072:EN:PDF (Last accessed: 26 September 2011).
[76] Commission Guidelines, par. 317
[83] Competition Tribunal, Competition Commission and Tracetec v. Netstar (Pty) Ltd, Matrix Vehicle Tracking (Pty) Ltd, Tracker Network (Pty) Ltd and Vehicle Security Association of South Africa, Case no.: 17/CR/Mar05, 19 April 2010,

- "Who drove the standard?" It was noted that if the standard was set by competitors then there will be a presumption that they will have an anti-competitive intent. But, if the standard is set by customers they would not have an anti-competitive intent in setting the standard.

- "What is the effect of the standard?" Here, it was considered whether the standard led to the exclusion of the firm from the market or whether it was merely communicated.

- "Is the standard reasonable?" In undertaking this assessment, the Tribunal indicated that one can consider whether the standard is consistent with its rationale and whether a reasonably efficient firm or one that is as efficient as a potential entrant would have been able to comply with the standard.[84]

On the basis of this approach, the Tribunal found that standards as set by VESA (and which Netstar, Tracker and Matrix participated in) were anti-competitive and resulted in the exclusion of entrants from the market for stolen vehicle recovery services – thus contravening section 4(1)(a) of the Competition Act.[85] Specifically, its findings were as follows:

- The Tribunal concluded that the members of the SVR committee had market power as they represented about 90% of the market and as they were an organ of VESA, the association can be regarded to have market power as well.

- The Tribunal argued that the role of the insurers association – the South African Insurance Association ("SAIA") – in the creation of the standard was limited and that its interest did not serve that of consumers but rather the insurers' self-interest. It concluded that the standard was not consumer driven.

- The Tribunal acknowledges that the standard did not prevent firms from offering SVR services. However, they found that it would not have been possible for a firm to expand in the market without VESA approval. This was based on the assertion that the insurers' required VESA approval and only insured motorists would demand SVR systems.

- The Tribunal found that the standard was not reasonable basing its conclusion on the point that more firms were approved when the financial guarantee was in place compared to the full criteria. In addition, the standard was self-serving in that it was designed to suit the incumbent firms and that new products of the incumbents were approved despite not meeting the criteria.

[84] Competition Tribunal, Competition Commission and Tracetec v. Netstar (Pty) Ltd, Matrix Vehicle Tracking (Pty) Ltd, Tracker Network (Pty) Ltd and Vehicle Security Association of South Africa, Case no.: 17/CR/Mar05, 19 April 2010, para. 238

[85] The Tribunal indicated that there was no need to assess the conduct in relation to section 8(c) as it had already found a contravention in terms of section 4(1)(a). Case no.:17/CR/Mar05, para. 313 and 316

However, the decision of the Tribunal was overturned on appeal by the Competition Appeal Court ("CAC"). One of the primary basis for the CAC's issue with the Tribunal's decision was that the latter's assessment of the case was not in terms of the facts of the complaint but rather on a theoretical assessment of the effects of standard setting in a market.[86] It also drew attention to the Tribunal's reliance on the rule of reason approach adopted in the United States for the assessment of the standard in this case. The CAC identified two flaws with the approach the Tribunal adopted. Firstly, the approach drew the Tribunal's attention away from the facts of the case and whether the evidence provided by the Commission supported the complaint. Secondly, it engaged in a theoretical assessment of the effect of standard setting and not whether the application of the standard resulted in a substantial prevention or lessening of competition in the market for SVR systems.[87]

However, the CAC's issue with the Tribunal's reliance on the approach to standards in other jurisdictions did not extend to a rejection of its use in the assessment of standards in South Africa. It stated that *"(t)his is not to say that reference to foreign authorities and the approach taken in other courts may not be helpful in standard setting cases.*"[88] This is further evidenced by its use of certain principles and factors based on that from other jurisdictions to support its assertion that the standards did not result in anti-competitive effects.

- It accepted the principle "… *that standards cannot generally be viewed as anti-competitive when the party or parties that drive their implementation in practice are the customers or users of those standards*".[89] It noted that *"(i)t is the acceptance by SAIA of the standards and the decision of their members to make use of VESA accreditation that caused the effect in the market.*"[90]

- It further noted that "…*the mere existence of the standard had no effect at all*".[91] The potential entrants were not prevented from competing in the market, as they could have approached insurance companies directly.[92]

From this discussion, the approach in South Africa is that of a rule of reason analysis where the pro- and anti-competitive effects of standards would have to be weighed. However, the clear lesson from this is that one needs to give very careful consideration to the facts in a standard setting case (or any other case for that matter) as the CAC reached a very different conclusion based on the facts of the case. Although, no clear approach has been outlined, the authorities have not rejected the use of approaches in other jurisdictions to the assessment of standard cases in South Africa.

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[86] The CAC argued that the Tribunal "*approached this question on a theoretical basis concerning the potential effect of standards in a market instead of examining the factual basis of the complaint that had been referred to it*." Competition Appeal Court, Netstar (Pty) Ltd, Matrix Vehicle Tracking (Pty) Ltd and Tracker Network (Pty) Ltd v. Competition Commission and Tracetec, Case no.: 97-99/CAC/May10, 15 February 2011, par. 59
[87] Case no.: 97-99/CAC/May10, par. 60
[88] Case no.: 97-99/CAC/May10, par.60
[89] Case no.: 97-99/CAC/May10, par.71
[90] Case no.: 97-99/CAC/May10, par.68
[91] Case no.: 97-99/CAC/May10, par.67
[92] Case no.: 97-99/CAC/May10, par.71

3.2. THE POTENTIAL FOR STANDARDS TO FACILITATE COLLUSION[93]

As with other practices that have the potential to facilitate collusion such as information sharing, an important consideration is the manner in which the practice can make it easier for firms to collude.[94] It is widely accepted that collusion is more likely where there are fewer firms active in the market, products are homogenous, high barriers to entry, greater symmetry between firms, etc.[95] As such, in determining whether the setting of a particular standard will facilitate collusion, one needs to assess how the standard will make it easier for firms to collude – through making it easier to decide on terms or to police those terms.[96]

Standard setting can facilitate price fixing as well as tacit collusion. Price fixing can be facilitated where the standard directly fixes the price or terms of pricing of the relevant product. But, there are also ways in which standards can facilitate tacit collusion. Firstly, a standard can be established that requires products to be standardised, i.e. reducing product differentiation. Secondly, it can reduce the number of firms in the market as the standard was designed in such a way that it reduces the number of firms that are able to comply with it. This could remove potential maverick firms that would not have cooperated with the cartel. Thirdly, the standard can restrict the amount of output that can be sold in the market by establishing a standard that limits the types of products that comply with the standard.

Given the various ways in which collusion can be facilitated by standard setting, we outline below a number of factors that should be considered in determining whether the standard and standard setting process facilitates collusion between the firms.

Product homogeneity. The key question to determining this is whether the homogeneity introduced by the standard is necessary and particularly, if consumers will benefit from the standard. In the *C-O-Two Fire Equipment Co.* case, the court found that the detailed specifications developed by manufacturers of fire extinguishers for government purchasers such as schools were unnecessary for the safe and effective operation of the fire extinguishers (one could only distinguish between the different manufacturer's products by reading the manufacturer's tag). However, Hovenkamp argued that it might be safer if all fire extinguishers worked the same, so that people can be trained in the use of one type of extinguisher.[97] As such, the product homogeneity introduced by a standard might have significant efficiency benefits for consumers and therefore, needs to be considered carefully.[98]

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[93] The potential for standards to facilitate collusion between competitors is the least common of all the potential anti-competitive effects of standards. Hovenkamp, Brown Book, pg. vol xiii 193
[94] See Competiton Law in South Africa, pg. 5-72
[95] For a more extensive list of factors that facilitate collusion, see Motta, pg. 142-159
[96] Competition Law in South Africa, pg. 5-72
[97] Hovenkamp, H. (2007). Standards and Ownership Policy. *Boston College Law Review 48(1):* 95
[98] Hovenkamp, H. (2007). Standards and Ownership Policy. *Boston College Law Review 48(1):* 95

A further consideration is that a high level of product differentiation (at the outset) might make it difficult for firms to reach an agreement, in the first place, on a standard that would be the basis for collusion.[99]

Number of firms. It is commonly understood that the larger the number of firms in the market the more difficult it would be to collude. However, it is possible that the standard might facilitate collusion between a large number of firms – particularly, where *"… the standard …is itself a direct restraint on output or pricing and violation of the standard is readily observable by cartel members*."[100]

Involvement of other interest groups. Another factor considered is whether the other interest groups have been taken into account in developing the standards.[101] As discussed under the exclusionary effect of standards, where firms that are in related markets or customers of the product, they are unlikely to have an anti-competitive intent. As such, if customers of the product subject to the standard have been involved in defining these standards, then it is less likely that the standard is being used to facilitate collusion.

Internal structure of the standard setting organisation. The internal structure of the standard setting organisation is also important – It does not need to lend itself purely to price fixing but collusion over other terms that have the effect of reducing market output or excluding lower cost or more innovative products.[102]

Overall, Hovenkamp, however, warns that one "…*must tread carefully*" when condemning standard setting that facilitates collusion as there might be significant benefits for customers of the standard. He notes that if standard setting is accompanied by price fixing, then it is perhaps prudent to condemn the price fixing. But, in most cases, standards will likely facilitate tacit collusion. And it is in these cases, one would have to consider other factors apart from its impact on product differentiation.[103]

4. GUIDELINES TO IDENTIFY ANTI-COMPETITIVE OUTCOMES

The clear implication of the above review is that a careful analysis of the standard is required. There are no clear indicators that suggest when a standard is likely to result in anti-competitive outcomes, but the weight of a number of factors are required to determine whether a standard will facilitate collusion or result in the exclusion of other firms. However, from the above we can discern a few guidelines that can assist in identifying anti-competitive outcomes:

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[99] Competition Law in South Africa, 5-73

[100] Hovenkamp also notes that "… *a large number of firms in the market subject to standard setting is often relevant, but needs not be decisive. One must consider how the collusive restraint on output or price is being carried out*." Hovenkamp, H. (2007). Standards and Ownership Policy. *Boston College Law Review 48(1):* 95-96

[101] Hovenkamp, H. (2007). Standards and Ownership Policy. *Boston College Law Review 48(1):* 95

[102] Hovenkamp, H. (1999) *Antitrust Law: An Analysis of Antitrust Principles and Their Application*, Aspen Law & Business. Vol XIII: 357

[103] Hovenkamp, H. (2007). Standards and Ownership Policy. *Boston College Law Review 48(1):* 95

- Anti-competitive effects are more likely when competitors are involved in developing the standard, however, where customers or other interested parties are involved, the risk of such outcomes are reduced;

- Where the standard setting organisation has a significant standing or influence in the market or the firms comprising such an organisation have significant market share then the standard set by these organisations are more likely to lead to exclusion of competitors;

- Where the IPR of a specific firm is included in a standard, it will only confer market power to the firm if firms in the market have to comply with the standard and if they are locked in to using the standard;

    - The manner in which firms can be prevented from exploiting such conferred market power is by (i) requiring FRAND commitments and full disclosure of IPRs from firms engaged in standard setting, (ii) participation in the standard setting process must be open to all relevant parties, (iii) the process for adopting the standard must be transparent and (iv) firms should not be obliged to comply with the standard.

- If the standard only reduces product homogeneity, it can potentially make it easier for firms to collude. However, this needs to be carefully considered in light of the potential benefits to consumers of such a standard;

- The mere communication of a standard might be exclusionary if customers are unsophisticated; and

- Discrimination between firms vying for approval or access to the standard might also indicate the potential for exclusion.