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From 1994 to Now

Two competing approaches in South African competition policy: merger control and anti-cartel enforcement over three decades

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This paper is one of nine prepared for the '1994 to Now' Policy Paper Series, commissioned for the SALDRU 'South Africa at 30 Years of Democracy' Conference. These papers will be (were) presented at the conference to inform discussions and debates while fostering constructive economic dialogue.

Fouché Venter
Executive Director

Competition Policy in South Africa: From 1994 to Now. Two competing approaches in South African competition policy: merger control and anti-cartel enforcement over three decades

Willem H. Boshoff [1]

Abstract

This paper examines the evolution of South African competition policy since the Competition Act of 1998, focusing on merger control and anti-cartel enforcement. Using a Bayesian decision-theoretic framework, the analysis evaluates whether enforcement trends are driven by research and policy experience or by shifting policy preferences. The findings reveal two divergent paths: merger control has become significantly more interventionist with broader theories of harm, largely driven by changing policy preferences rather than empirical evidence; meanwhile, anti-cartel enforcement expanded rapidly before stabilising, with its growth primarily supported by learning effects and international practices, though recent novel interpretations of collusion also reflect preference shifts. The paper identifies tensions between these approaches—one evolving based on economic literature and international precedent, the other shaped by policymaker preferences. It concludes that competition policy dominated by preferences rather than systematic, evidence-based evolution may undermine effective competition enforcement, even when pursuing broader objectives beyond economic efficiency.

Keywords: Competition policy, Merger control, Cartel enforcement, South Africa, Decision theory, Policy preferences

JEL classification: L40, K21, D78, O55

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Executive Summary

The Competition Act of 1998 created a modern competition law regime, fit for a democratic South Africa and its economic ambitions. Twenty-seven years later, the South African competition authorities enjoy local and international recognition for their robust enforcement and innovative approaches. However, there are important questions about the direction and goals of South African competition policy, particularly in the context of weak economic growth.

This paper examines two core areas of competition policy: merger control and anti-cartel enforcement. These two areas not only represent the most active fields of competition policy but also offer the clearest empirical trends for analysis. The paper is structured around four empirical claims – two for merger control and two for anti-cartel enforcement – which aim to reflect the long-run direction of enforcement in the two areas. For each claim or trend, the paper evaluates the competing roles of, on the one hand, research and policy experience and, on the other hand, policy preferences as determinants of the particular trend. This evaluation is based on a Bayesian decision-theoretic framework, which allows separation of these two determinants based on their role in shaping the burden of proof for merger and anti-cartel enforcement decisions.

The first empirical claim is that South African merger control has become significantly more interventionist over the past three decades. This trend is evidenced by a growing share of mergers being either approved with conditions or outright prohibited. Initially, from 1999 through the early 2010s, most proposed mergers did not attract conditions, and intervention rates remained relatively stable. However, from 2016 onwards, this pattern shifted. For example, in the earlier part of the sample, only about 10% of mergers attracted conditions, while by 2017–2018, this figure had risen to approximately 30%.

The increase is observable across different merger sizes and types. Changole and Boshoff (2024) use econometric modelling to demonstrate that, even after controlling for merger characteristics, the estimated probability of conditional approval increased significantly in later years of the sample period. Similarly, Morris and Boshoff's analysis of more than 3,000 mergers from 2011 to 2021 finds that, post-2017, the probability of a merger attracting conditions increased by 11 percentage points, even after accounting for relevant legal and economic factors. Prohibitions also became more frequent, with the number of blocked mergers per annum rising from 2 (in the early 2000s) to 7 (in the 2015–2020 period), although it has since declined.

A second empirical claim is that theories of merger harm have broadened significantly over the past three decades. Alongside increased interventionism, South African merger control experienced a broadening of the theories of harm used to justify intervention. Originally dominated by unilateral effects (where one firm acquires market power), merger analysis has increasingly focused on coordinated effects (where multiple firms are expected to coordinate post-merger) and vertical effects (arising from mergers between firms at different levels of the supply chain). Moreover, there has been a notable rise in attention to potential competition, particularly in digital and platform markets. Changole (2022) quantifies this evolution. His analysis shows that horizontal concerns still dominate, but coordinated effects raise the probability of conditional approval by 35%, and vertical effects also show a statistically significant role. This diverges from trends in the EU, where unilateral theories remain predominant. The shift in South Africa may be partly attributed to lessons learned from cartel prosecutions, which sharpened awareness of coordinated behaviour risks. From the mid-2010s, concerns about potential competition have emerged more strongly. The MIH/WeBuyCars case in 2020 is emblematic: it was the first merger prohibited in a digital market and centred on a theory that the acquisition of a nascent competitor would dampen future market entry. This case marked a heightened concern with mergers that may hinder dynamic, long-term market contestability.

Moving to collusion, the third empirical claim is that anti-cartel enforcement expanded rapidly and then stabilised. The enforcement of anti-cartel provisions in South Africa increased significantly in the first two-thirds of the post-Act period, before plateauing from around 2018. Initially, the Commission relied largely on complaints, but its enforcement capabilities were transformed following the 2004 introduction of the Corporate Leniency Policy (CLP). This led to a surge in cartel referrals, with the number of cases referred to the Tribunal rising from 84 by 2009 to 151 by 2014 and 215 by 2019. Penalties also rose steeply, from under R500 million pre-2009 to over R2.5 billion by 2019. The expansion of anti-cartel enforcement is not only evident from the number of cartel cases. It is also evident in the broadening industry focus of these efforts. At the aggregate level, the distribution of prosecuted cartels in South Africa across different industries appears to align with that of prosecuted cartels in the US and EU.

A fourth and final empirical claim is of a broadening in the view of what constitutes collusion, at least from the perspective of the Commission. While the focus of cartel cases in earlier parts of the sample period was on classic cartel conduct—like price-fixing and bid-rigging—more recent cases involved novel legal interpretations and a broader range of agreement types. This expansion is evident in the renewed debate around the "characterisation" principle, which requires an examination of whether agreements that superficially meet the definition of collusion are anti-competitive in their object. Since around 2015, the Competition Commission has pursued several cases based on an arguably narrow interpretation of the statute. Examples include cases where firms were not true competitors, or where coordination stemmed from shared ownership or employment ties. Both the Tribunal and the Competition Appeal Court reaffirmed that such agreements must be evaluated based on their economic character, not just legal form. In this sense, the trend is not yet pervasive, but it is nevertheless a key development in South African anti-cartel enforcement.

The decision-theoretic analysis presented in the paper strongly suggests that the increase in merger interventions (captured in the first claim) does not necessarily enjoy support from the broader competition policy literature or policy experience elsewhere. There is certainly a case to be made for 'learning' in the initial years. Yet the sharp increase in interventions occurs later in the sample period, which suggests that prior odds of merger harm and benefit were not driving these increases. Instead, the analysis suggests that the increase in intervention was driven by changing policy preferences. South African policymakers appear to have become much more concerned about the cost of getting it wrong in allowing a harmful merger than about getting it wrong in blocking a merger.

As far as different theories of merger harm are concerned, as captured in the second empirical claim, the decision-theoretic analysis in this paper suggests that the moderate rise in interventions due to coordinated effects was probably motivated by past experience: the anti-cartel enforcement success of the authorities has shaped how coordinated effects are assessed. Similarly, the growing international literature and policy concerns with entry and dynamism appear to be an important driver of the increased concern with merger-induced harm to potential competition. However, the same does not hold for the apparent concern with vertical effects, given that the economics literature and international policy experience do not suggest an increasing consensus that vertical mergers are problematic. Therefore, one might conclude that changing policy preferences have been at least an important driver of merger interventions as well.

In sum, changing policy preferences appear to have played a decisive role in shaping merger control. Simplistically, one might say that politics, rather than economics, has dominated the long-run evolution of merger control. This inference finds somewhat weaker support when it comes to explaining the broadening of theories of merger harm, though the increased emphasis on vertical concerns appears to be driven by policy preferences.

In contrast, the cartel-related claims suggest a policy environment that remained, by and large, tethered to the economics literature and policy approaches of the past and of elsewhere. The third empirical claim suggests anti-cartel enforcement that has grown more aggressive during the first half or longer of the sample period, but which subsequently stabilised. The decision-theoretic analysis in the paper strongly suggests that the overall rise in cartel prosecution over this first part of the sample period was strongly driven by learning effects. Authorities uncovered a range of price-fixing and other practices in the earlier parts of the sample period. These typically then gave rise to multi-year investigations and prosecutions. In this sense, prior probabilities of judging conduct to be collusive rather than competitive grew significantly and likely determined the path of enforcement activity.

The decision-theoretic analysis also suggests that the increasing concern with alternative forms of collusion (as captured in the fourth empirical claim) in the last part of the sample period is less well explained by the evolution of the academic literature or of policy approaches taken elsewhere. The 'characterisation' debate, in our view, reflects the rise in policy preferences also in anti-cartel enforcement. There is limited support from the international literature, even the recent literature highlighting novel forms of collusion, for several recent cartel cases. This leaves one to conclude that policy preferences have also started featuring in anti-cartel decisions.

With due regard to a variety of nuances that should accompany these generalisations, the experience of merger control and anti-cartel enforcement suggests two alternative paths for competition policy. One is a path where competition enforcement activity and intensity are allowed to evolve based on changes in priors (in other words, in keeping with the changing conclusions in the literature and broader policy approaches elsewhere). Another is a path where competition enforcement activity is decisively shaped by the preferences – i.e. the error costs embedded in the loss function – of policymakers.

It will be challenging for competition policy to accommodate both a prior-based model and a preference-driven model in the long run. For one, merger control dominates the competition policy enforcement landscape. From an effects perspective, it is the most consequential because of its direct impact on the market for corporate control and the attendant implications for investment and growth in the larger economy. Even more important, it commands large resources. Where merger control goes, other areas of competition policy enforcement may follow. For another, there is evidence that the tensions inherent to these two alternative approaches to competition policy are also evident in the other major area of competition policy enforcement, namely, abuse of dominance. The paper briefly explores these tensions, including the rise in interim relief orders in recent years.

It is not clear that a competition policy strongly dominated by policy preferences is preferable. Competition law enforcement that accounts for the evolution of the economics literature and for policy decisions of the past and in other jurisdictions has a better likelihood of ultimately advancing competition even if competition law includes other objectives, such a broader competition policy is not served by a move away from systematic policy-making – which is only possible if policymaking remains committed to evolve in line with changes in economics research and international policy practice.

1 Introduction

South African competition policy has grown in stature and scope since the 1990s. The Competition Act of 1998 created a modern competition law regime, fit for a democratic South Africa and its economic ambitions. Twenty-seven years later, the South African competition authorities are rare examples of efficient and active enforcement bodies. At the same time, there are important questions about the appropriate scope and focus of competition law. After almost two decades of weak economic growth, it is important to consider how competition policy, as a key part of the institutional structure of the economy, might or should change. To this end, it is necessary to first reflect on the evolution of South African competition policy and its main drivers.

This paper contributes to this reflection, focusing on merger control and anti-cartel enforcement. Merger control represents a large, even dominant, part of South African competition policy and has a widespread impact on investment and economic growth. Anti-cartel enforcement represents a substantial area of enforcement with respect to anti-competitive behaviour, and its evolution is likely indicative of broader trends in other areas of South African competition policy. Furthermore, these two areas of South African competition law are the most amenable to systematic evaluation, entailing a large number of cases. In focusing on mergers and collusion, I do not imply that trends in enforcement against abuse of dominance or the notable and expanding role of market inquiries are not important, even very important, aspects of competition policy enforcement.

The paper describes the key trends in merger control and anti-cartel enforcement and then evaluates the extent to which these trends are related to two forces: one, the role of economics research and policy experience and, two, the role of policy preferences. Formally, the paper relies on a Bayesian decision rule framework to formally distinguish these two factors and relate them to trends in competition policy.

2 Methodology

Decisions in merger and cartel cases – like all competition law decisions – can be viewed as involving a weighing of probabilities based on evidence. In the case of mergers, the competition authorities weigh the likelihood of merger harm against the likelihood of merger benefit, given the evidence. That is, to decide against a proposed merger, competition authorities must judge that the case evidence is more compatible with a theory of harm than with a theory of benefit. In the case of cartels, authorities must judge whether observed evidence is consistent with a theory of collusion (i.e. anti-competitive behaviour) as opposed to a pro-competitive theory (or, at least, a theory that the behaviour is not anti-competitive).

Case evidence favouring a conclusion of merger harm or of anti-competitive behaviour need not necessarily lead to a decision against a respondent. Similarly, case evidence favouring a conclusion of merger benefit or of the absence of anti-competitive behaviour need not necessarily lead to a decision in favour of a respondent. The relative weight of case evidence in favour of harm should pass a particular threshold, or burden of proof, to trigger a rational decision against a respondent.

Two factors determine the burden of proof: the so-called 'prior' probabilities and the so-called 'loss function' of the adjudicating body. The academic literature, as well as previous case decisions – both locally and internationally – set a 'prior' probability of harm and benefit. For example, suppose that the economics literature or other cases suggest that mergers with features similar to those of a proposed merger are likely to be harmful. Then the prior probability of merger harm (compared to benefit) is high. If the case evidence to support the proposed merger leaves the decision-maker uncertain about the competing benefits and harm in the particular case, the prior probability should lead it to reject the merger. In contrast, if the prior probability was low (perhaps because the literature or previous cases suggest that such mergers are not likely to be harmful), the decision-maker should allow the proposed merger. That is, the weight of case evidence is not determinative.

The loss function of decision-makers also matters. The extent to which an adjudicating body is willing to accept the costs of incorrect decisions also influences its decision. When a decision-maker is more concerned about the possibility of incorrectly concluding that a proposed merger is beneficial than harmful, it should not allow the merger if the case evidence is uncertain.

Assigning error costs is a policy choice. Therefore, the two factors (prior probabilities and error costs) represent two competing forces in case decisions: the one, the force of economics research and case experience, and the other, the force of policy preferences. This paper therefore explores how South African merger and anti-cartel enforcement decisions have changed and attempts to explain the relative role of these two forces as drivers of these changes.

The following subsection sets out the formal statistical framework for a so-called Bayesian decision rule, applied to merger control. A similar framework applies to anti-cartel decisions.[2]

2 Merger control entails judging a forward-looking action (a proposed merger), while anti-cartel enforcement requires judging a past action (possibly collusive behaviour). Even so, the time horizon of the action to be judged does not change the probabilistic nature of a rational judgment of that action: both merger control and anti-cartel enforcement decisions involve judging the likelihood of a particular explanation of an action based on available evidence and are therefore subject to uncertainty.

2.1 A Bayesian decision rule for merger control or anti-cartel enforcement

A proposed merger may entail both harmful and beneficial effects. Assume that an adjudicating body must judge a proposed merger as harmful (H) or beneficial (B). Let e represent various pieces of case-specific evidence, which determines a so-called conditional[3] probability of benefit ($P(B|e)$) (i.e. the probability of the merger being beneficial given the case evidence) and, similarly, a conditional probability of harm ($P(H|e)$).

Associated with a judgment in favour of either harm or benefit is a set of error costs relevant for the adjudicating body. Error costs relate to the costs of erroneous decisions and may affect not only the merging parties, but likely also broader society. Two social welfare costs are associated with an incorrect decision. Firstly, there is the cost of allowing a harmful merger, which entails incorrectly judging the merger to be beneficial and hence allowing it (C_{BF}). This cost relates to actual harm to society. Second, there is the cost of prohibiting a beneficial action. For merger decisions, this is the cost of falsely judging the merger to be harmful and hence blocking it (C_{HF}). This 'cost' relates to the forgone gain to society that would have followed the implementation of the merger.

As noted earlier, these error costs are assigned by the relevant adjudicating body (and the accompanying legal framework) and reflect policy preferences: policymakers can (and do) change their views of these costs.

Each error cost has an associated probability, which implies that a decision sensitive to error costs involves accounting for expected costs of harm and benefit, conditional on evidence:

$$E(Cost_H|e) = P(B|e)C_{HF} \quad (1)$$

$$E(Cost_B|e) = P(H|e)C_{BF} \quad (2)$$

A decision that minimises error cost requires a merger to be prohibited if $E(Cost_H|e)$ is lower than $E(Cost_B|e)$. Using (1) and (2), this yields the following condition for prohibiting a merger:

$$\frac{P(H|e)}{P(B|e)} > \frac{C_{HF}}{C_{BF}} \quad (3)$$

Bayes' Theorem allows re-expressing the condition for merger prohibition as:

$$\frac{P(e|H)}{P(e|B)} > \frac{C_{HF}}{C_{BF}}\frac{P(B)}{P(H)} \quad (4)$$

A key result of Bayes' Theorem is to invert the conditionality from case evidence to the different states (harm and benefit) under investigation: $P(e|H)$ and $P(e|B)$ on the left-hand side of (4) are the likelihoods that the case evidence observed is consistent with a theory of merger harm and, alternatively, a theory of merger benefit.

On the right-hand side of (4), $P(H)$ denotes an unconditional probability: this 'prior' probability of merger harm is not based on case-specific evidence, but is derived from case law and approaches by other

3 This paper uses 'conditional' in two ways: first, in the statistical sense, referring to the probabilities associated with a so-called conditional distribution and second, in the competition law sense, referring to merger conditions. The distinction is clear from the particular section of the paper.

jurisdictions as well as the stance of the research literature. The same holds for $\mathrm{P(B)}$. In addition, the right-hand side also features the two error costs indicated earlier.

An adjudicating body should therefore prohibit an action if the weight of evidence of harm (the left-hand side of (4)) outweighs the right-hand side of (4), which is determined by both the relative costs it assigns erroneous decisions ($\frac{\mathrm{C_{HF}}}{\mathrm{C_{BF}}}$) and the so-called prior odds that the action is beneficial ($\frac{\mathrm{P(B)}}{\mathrm{P(H)}}$). This required outweighing is the statistical counterpart of a "clear showing" in law.[4]

2.2 Application of the framework in this paper

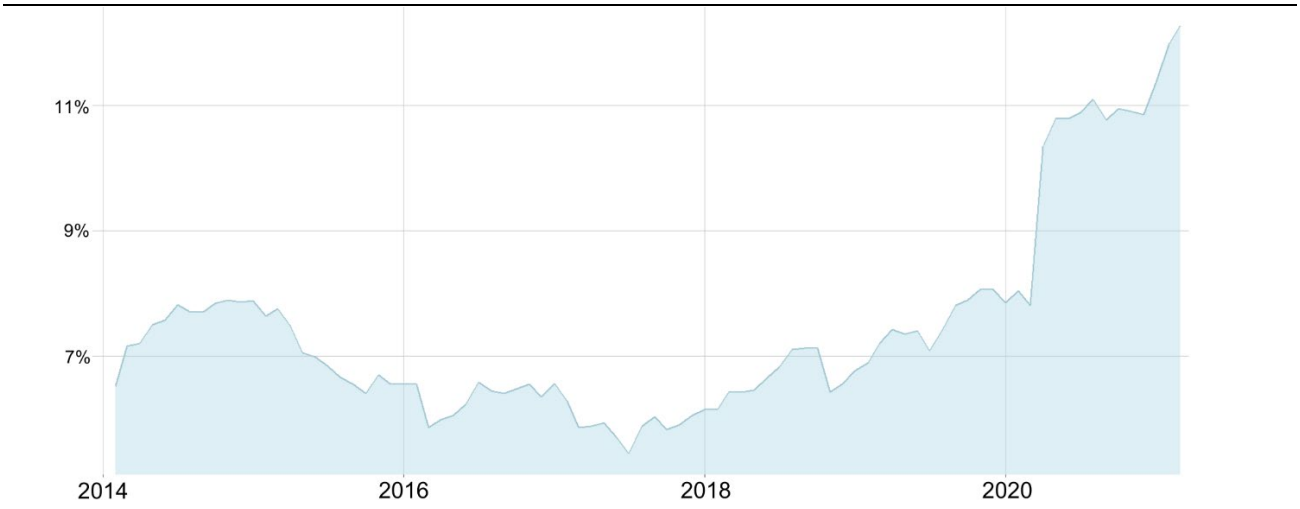
This paper relies on the decision rule articulated in (4) to study the drivers of decisions in merger control and anti-cartel enforcement in South Africa since 1998. As mentioned, the following sections set out four empirical claims (or trends) – two with respect to merger adjudication decisions and two with respect to anti-cartel enforcement decisions. After presenting the evidence with respect to a particular trend, that trend is evaluated against the relevant prior probabilities and loss function (with respect to error costs) that would apply to that decision. The aim of the evaluation is to establish which of the two factors determining the burden of proof – prior probabilities or error costs – has dominated (and effectively generated) the particular trend. The final section of the paper then combines the assessment of the four claims to argue that there are two competing approaches in South African competition policy.

[4] A decision rule such as (4) does not require explicit and quantitative values for the various probabilities or error costs. It emphasises that a rational decision should account for these competing factors – include for qualitative differences in relative sizes of these factors.

3 Empirical claim 1: Merger control has grown more interventionist over the past 25 years

Since the implementation of the Competition Act of 1998, South African competition policy has evolved significantly, with a notable increase in interventionism in merger control. This trend is reflected in the growing proportion of mergers approved with conditions and outright prohibitions. Figure 1 below, from Morris and Boshoff (2024), reports a three-year moving average of the proportion of merger cases attracting a form of intervention (either by conditional approval or prohibition). Morris and Boshoff analyse a public merger decision dataset released by the Competition Commission in 2022 that covers large, intermediate, and small merger decisions. Their analysis suggests that, while the proportion of mergers intervened was relatively stable (and even somewhat declined) up to 2016, it grew significantly after that.

Figure 1: Proportion of merger cases attracting intervention, three-year backward-looking moving average, 2014 to 2021



Source: Morris and Boshoff (2024: 6)

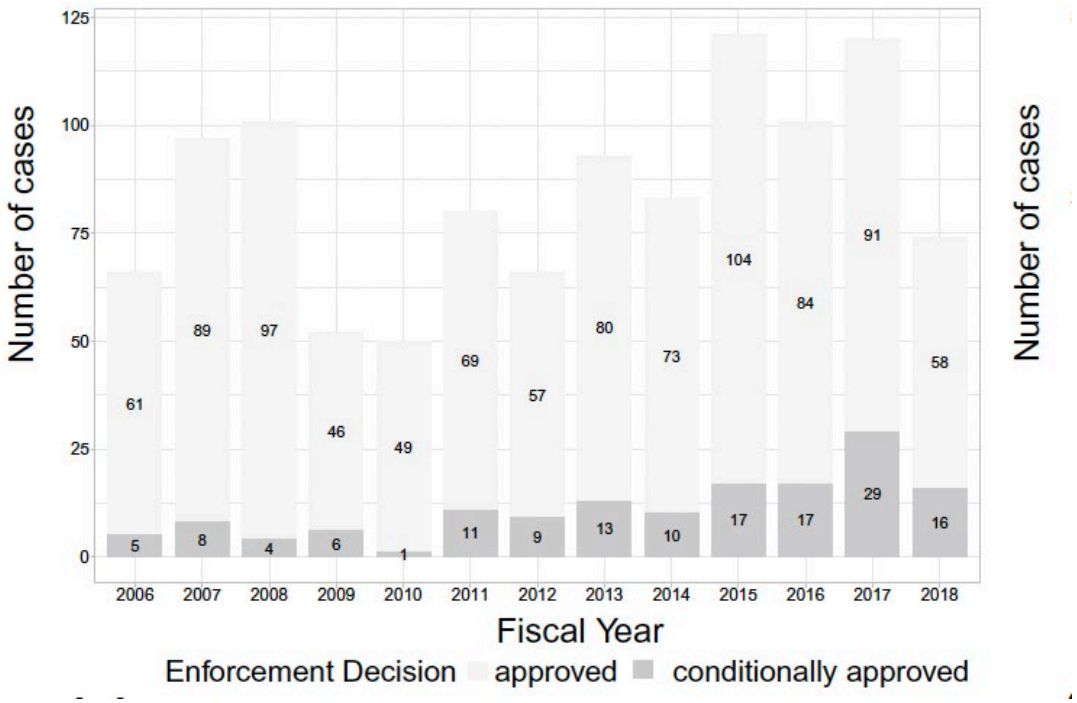
As discussed below, other empirical analyses, including those by Changole and Boshoff (2021) and Changole (2022), as well as periodic review reports by the Competition Commission, support a conclusion that merger control has become gradually more interventionist. This constitutes the first empirical claim of this paper. To support this claim, the following subsections present more sophisticated (often econometric) evidence, including on the probability of mergers attracting conditions or being prohibited.

3.1 Empirical evidence on conditional approvals

Changole and Boshoff (2022) systematically examine merger adjudication trends in South Africa using a self-compiled dataset of large merger decisions from 2006 to 2018. Their analysis shows that conditional approvals[5] accounted for only a small portion of mergers in the early 2000s. This proportion had grown significantly by the late 2010s. As shown in Figure 2 below, approximately of 30% of cases attracted conditional approval by 2017 and 2018.

[5] This somewhat counterintuitive formulation sees the principal two categories in merger decisions as those that have gained approval without conditions and those that been approved with conditions attached. The number of blocked mergers is limited and Changole (2022) excludes these cases from the quantitative analysis.

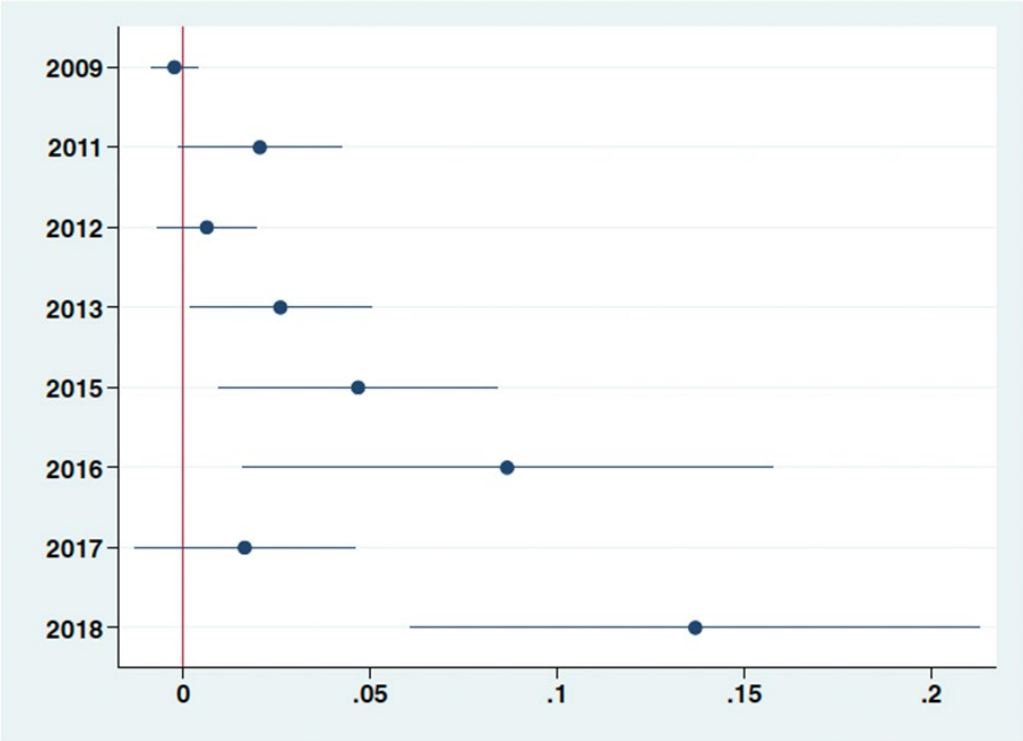
Figure 2: Merger decisions, split between approved with and without conditions, fiscal years 2006 to 2018



Source: Changole and Boshoff (2022: 382)

The graphical evaluation above does not consider whether different types of mergers affect conditional approval. The composition of merger cases might differ between years. As different types of mergers may give rise to different risks, changing compositions between years may result in more conditions in some years or, alternatively, might mask important trends for particular types. Accordingly, Changole and Boshoff (2022) use econometric models to estimate the probability of merger approval (with or without conditions), after controlling for various decision factors. As shown in Figure 3 below, the initial probability of a merger attracting conditions in the earlier years of their sample period (2009 to 2012) is estimated to be low and often statistically insignificant. This probability rises significantly in later years (2013 to 2018), reaching 13%. Put differently, Changole and Boshoff find that mergers with similar characteristics were increasingly probable of attracting conditional approvals as the sample period progressed.

Figure 3: Estimated probability (based on marginal effects) of conditional merger approval per fiscal year, 2009 to 2018



Source: Changole and Boshoff (2022: 393)

The trend identified by Boshoff and Changole relates to pre-2018 behaviour and does not account for the possible impact of the 2018 amendments to the Competition Act. Similar analyses of post-2018 behaviour indicate a similar trend. Morris and Boshoff (2024) employs several statistical learning and econometric analyses of over 3,000 merger cases from 2011 to 2021. Their longer sample period allows them to explicitly model whether merger decisions post-2018 were more stringent. They estimate that the average probability of conditional approval increased by approximately 11% after December 2017 (Morris and Boshoff: 15). This probability reflects statistical controls for several competition and public-interest-related drivers of merger decisions (we return to this distinction later in the paper). In other words, a trend of increasing probability of conditional approval pre-2018 had continued subsequently.

3.2 Empirical evidence on merger prohibitions

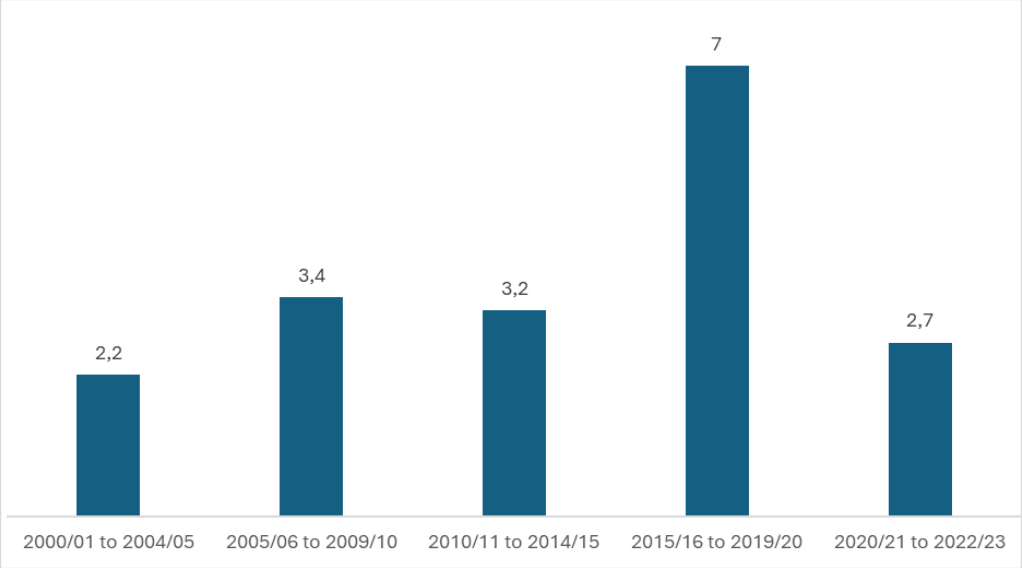
Over much of the sample period, merger prohibitions remained an exception rather than the norm, with the vast majority of mergers being approved — either unconditionally or with conditions. Even so, there is evidence of a gradual rise in prohibitions recommended by the Competition Commission. Even though many of these cases were either subsequently approved by the Tribunal or settled with conditions, the suggested trend nevertheless supports the earlier findings of an increasingly interventionist posture in merger control.

Figure 4 below compares five-year averages of the number of merger prohibitions (including small, intermediate and large mergers). It suggests a gradual rise from around 2 per annum in the first five years to around 3 in the next ten years and to 7 in the next five years. Prohibitions then return to an average of about 3 in the final three years of available reports.

Recent cases suggest that the likelihood of outright prohibitions may have risen further following the amendments. The Burger King merger decision, as discussed in Changole (2022), represents a turning point: in this case, the Commission recommended prohibition solely based on public interest concerns related to

ownership transformation. The decision suggests that, while conditional approvals have historically been the primary tool of intervention, regulators may now be more willing to outright prohibit mergers that fail to meet broader economic transformation objectives.

Figure 4: Number of merger prohibitions by the Commission, five-year averages, fiscal years 1999/2000 to 2022/23



Source: Own calculations from data compiled from annual reports of the Competition Commission

3.3 Summary of findings

The trajectory of South African merger control over the past 25 years is one of greater interventionism. Empirical evidence from Changole and Boshoff (2022), Morris and Boshoff (2024), and the Competition Commission's own reports demonstrate a steady rise in conditional approvals and, to a lesser extent, prohibitions: over the sample period, rising interventionism was first reflected in a rising number of mergers receiving conditional approval, while the more recent experience suggests that the likelihood of outright prohibition has also risen. What explains this trend of merger interventionism?

3.4 Decision-theoretic analysis

The decision-rule framework set out earlier identifies two factors that determine the threshold that evidence for any merger case must pass to lead to rejection of the merger (or, more accurately, merger intervention – either by means of a conditional approval or a prohibition). The first factor relates to prior probabilities of merger harm and benefit: these reflect the general stance of the research literature and of policy approaches in other competition law jurisdictions in respect of merger harm. The second factor relates to a loss function of the adjudicating body, as reflected in the error costs assigned by competition authorities to incorrectly allow or block a merger: these error costs reflect policy preferences, often determined by broader political considerations.

This section explores the evolution of both prior probabilities and policy preferences with respect to merger harm and benefit, to identify the principal drivers of the increased merger interventionism over the sample period. The analysis of these factors is complicated by the increasingly dual nature of merger control over the sample period: formally from the 2018 amendments, but also empirically observable for several years prior, public interest considerations rose to enjoy the same weight as competition concerns in merger control. This implies that any consideration of 'harm' or 'benefit' must be clarified: in the subsequent analysis,

we will consider both probabilities of competitive harm as well as probabilities of detrimental effects on public-interest-related outcomes.

Prior probabilities

There is no systematic evidence of a growing trend in merger interventions in the first five to seven years of the new competition regime. This inference is consistent with at least the self-evaluation of the Commission (see its 5-year review and annual reports of that period), which reflected a learning mode for a young agency. Over time, from 2005 onwards, the competition authorities would have gained experience – also from increased contact with other jurisdictions - in judging the general probabilities of merger harm and benefit. The relatively gradual rise in probabilities of conditional approval and the settling in the number of prohibitions would be consistent with an emerging and settling level of priors.

While a gradual rise in prior probabilities over the first ten to fifteen is to be expected, there is limited support in the broader economics literature for a continued rise in prior probabilities after this initial period: this paper argues that the sustained increase in probabilities of conditional approval (and to, a lesser extent, the rise in prohibitions) was not the product of a further increase in prior probabilities.

It is useful to keep in mind that prior probabilities of merger harm or benefit are not 'chosen' by a decision-maker. Priors are determined by the body of research and by international policy experience. If authorities choose to view mergers differently, it would be captured by a change in the loss function (i.e. a change in error costs), described in the next section. As far as prior probabilities are concerned, we make three arguments.

(i) The prior probability of merger harm to competition has not changed

There is limited support, from either the research literature or from policy experience in other jurisdictions, to suggest that the prior probability of merger harm (relative to the prior probability of merger benefit) has risen. That is, there is limited support for arguing that proposed mergers - of whatever form - should have been treated with greater caution as the sample period progressed.

This inference is at odds with the narrative of competition authorities over the past decade. Indeed, the past ten years have seen a significant debate in international antitrust on rising levels of concentration and its relationship with merger control.

The challenge of market concentration and its relation to competition policy has been a central concern in South African economic policymaking, even preceding the modern competition law regime – see, for example, the academic debate between Reekie (1994) and Fourie and Smith (1998, 1999). Regardless of differences among economists on the importance of concentration, all sides appear to have agreed that the issue at hand was market concentration – i.e. the distribution of market shares in a relevant market. Theron (2001), for example, studies early merger decisions following the implementation of the Act in 1999, highlighting the salience of market concentration concerns in merger prohibitions. This implicit consensus – that the market is the unit of analysis – started giving way in the second part of the sample period.

Around 2015, during the Obama administration in the US, a literature emerged arguing for increasing levels of concentration in the US (and especially compared to the EU). This literature measures concentration at the national level in broadly defined industries (see, for example, Kahle and Stulz (2017)). This approach differs from the approach in competition policy, which requires studying concentration and other measures of competition where it takes place: in the relevant market. Market concentration metrics, including the HHI index, were designed to study the distribution of market shares, not the size of firms within broadly defined

industries. Market-level concentration metrics have a tight link with competition outcomes, as is recognised in the literature. Industry-level concentration metrics have no such link.

This concentration debate quickly extended to South Africa. The World Bank published an influential report in 2016, detailing the sources and consequences of a range of competition problems in the South African economy (The World Bank, 2016). One of its core claims is that the economy is dominated by a few large corporates, which continues to undermine dynamism. At the same time, and subsequently, a narrative around 'deconcentration' emerged, which was key to the policy discussions that preceded the amendments to the Competition Act in 2018 (also see the 'Concentration Tracker' report of the Commission (The Competition Commission of South Africa, 2021)).

Subsequent literature in the US and EU have highlighted the limitations of the earlier concentration arguments. While there is some evidence that national-level concentration in US product markets have risen, there is little evidence of such increase at the local level (Rossi-Hansberg, Sarte, and Trachter, 2020). Former senior economists at US competition authorities have similarly found no evidence that competition in the US has declined at the product-market level (Shapiro, 2018; Werden and Froeb, 2018).

This work emphasised the difficulties of measuring economy-wide concentration levels – let alone arguing that these are rising. One of the arguments in this literature is that industry-level metrics – at least in other jurisdictions – fluctuate over time, with no clear trend. Another is that these metrics mask significant heterogeneity at the market level. They cannot, therefore, serve as short-hand metrics that apply to 'most' markets in an industry. Furthermore, the competition implications of trends in industry or sectoral levels of concentration are not clear. A balanced view of the research literature on industry-level concentration suggests that there is not sufficient empirical basis for concluding that the prior probabilities of merger harm (relative to benefit) have risen.

This does not negate the fact that a large number of South African markets are historically highly concentrated. However, the evolution of concentration is a quite different claim: the boundaries of markets evolve and several other factors shape the relative market positions of players. Furthermore, concentration is but one aspect of competition. Accordingly, there is limited basis to conclude that mergers have necessarily sustained or increased concentration levels in the economy.

Of course, one may well argue that the prior probability of merger harm may have risen for certain types of merger. For one, the literature on partial acquisitions may suggest that somewhat greater caution is required when dealing with such transactions. South African authorities have followed international trends in this regard. But this does not support concluding that the general probability of harm, across merger types, has risen.

One may also argue that there is a case to be made that promoting entry and dynamic competition is critical. Mergers, even if they do not appear harm static competition, might adversely affect dynamic competition. We return to this issue in the second claim. But there is a case to be answered here, to the extent that one might argue that 'harm' should be reformulated to a more dynamic version. However, the empirical evidence does not suggest that it is this concern that has been driving the more aggressive attitude toward mergers. Indeed, as noted earlier, authorities have not started treating competition concerns more harshly. The proportion of cases featuring competition concerns has been relatively stable, and so has the associated probability of conditional approval in the face of particular competition concerns.

(ii) The prior probability of mergers as detrimental to non-competition policy objectives has not changed

One may argue that the above argument does not consider that merger control now involves two decisions, one related to competition and the other related to public interest concerns. It may be argued that prior

probabilities of merger harm may have risen in respect of public interest concern. Yet there is no such evidence. In fact, quite the opposite: the major concern among practitioners is that the focus on public interest concerns (and associated conditions) are not merger specific, raising uncertainty (see Oxenham et al 2022).

Of course, as shown, it is true that most of the public interest concerns (in terms of number) centre on employment concerns. The question is whether there is evidence that M&A activity is an increasingly important driver of unemployment. There is no such body of literature.

One might consider the relationship between M&A activity and employment creation. There is indeed a literature that has questioned the extent to which efficiencies have materialised in mergers. Even if one wanted to draw a link between such lack of efficiencies and the creation of employment, the emphasis in the PI-concern dealing with employment is not employment creation, but the protection of existing jobs.

The analysis therefore suggests that neither the prior probability of competitive harm (relative to benefit) nor of harm to a public-interest concern has risen over the sample period. The rise in merger interventions must therefore be found elsewhere. It must reflect a change in policy preferences.

Loss function of policymakers (or policy preferences)

The preceding suggests that prior probabilities of competitive harm, derived from past cases and from research, may well explain the rise of interventions in respect of selected types of merger, such as partial acquisitions. Yet such changing prior probabilities do not explain the overall rise in merger interventions. This rise reflects a change in the policy preferences of South African competition authorities over the sample period, as captured by the loss function in a decision-theoretic framework.

There is also no prior evidence that individual mergers are adverse (or beneficial) to broader competitiveness, employment and empowerment concerns. These are often industry-level factors over which individual firms – including large firms - have limited control. So, like the competition rule, the changes in interventionism in respect of public interest, reflects a loss function change for which there is no prior evidence.

This suggests that the roles of evidence and economics-based considerations in merger decisions have weakened over time, giving way to changes in policy preferences, often dictated by politics, as the main driver. As argued later in this paper, this represents a dangerous road for competition policy and contrasts with a prior-driven approach, like the one more evident in anti-cartel enforcement.

4 Empirical Claim 2: Theories of harm in merger control have broadened over the past 25 years

The growth in merger interventions over the sample period has been accompanied by a broadening of the scope of merger concerns raised by competition authorities. As argued below, the theories of harm entertained in South African merger cases have broadened beyond the initial emphasis on unilateral horizontal effects to include a range of vertical and potential competition concerns. Strikingly, and different from the growth in merger interventions discussed in the previous section, this broadening appears to be more closely linked to developments in the academic literature and case precedent elsewhere.

4.1 Empirical evidence on conditional approvals

Changole (2022) studies the relative importance of three areas of concern in merger analysis in driving conditional (rather than unconditional) merger approvals: unilateral effects (focusing on concerns around the removal of an effective competitor), coordinated effects and vertical effects (Changole 2022: 53-54). Changole accounts separately for structural considerations, testing the extent to which these theories of harm have influenced decisions of conditional approval, separate from the impact of structural concerns (related to market share or concentration).

In terms of unilateral effects, Changole finds robust statistical evidence that the removal of an effective competitor – the principal horizontal theory of harm in his study – increases the probability of conditional merger approval by 45% over the sample period. Further, this increase is separate from other impact of structural concerns on merger approval probabilities. While the theory of harm and structural factors are likely intertwined (with higher concentration rendering the removal of an effective competitor more likely), it is nevertheless powerful evidence that economic analysis has remained paramount in horizontal merger analysis.

As far as coordinated effects are concerned, Changole finds that such concerns raise the probability of conditional approval by 35%. The South African experience – at least over Changole's sample period – differs from the experience in other jurisdictions considered to be comparable. In the EU, in particular, research on merger control over a similar period suggests more emphasis on unilateral than coordinated theories (see, for example, Bergman (2010)). In our view, this suggests an important role for priors: it is likely that the significant rise in cartel-related enforcement over the first half of the 25 years had an important impact on the evolution of merger control.

Finally, in terms of vertical effects, Changole finds robust evidence that vertical concerns (such as merger-related foreclosure effects) increased the probability of intervention by 23%. Again, the SA experience here is quite different from the international experience: for the EU, Bergman et al (2010) finds merger control to be decidedly more permissive of vertical effects.

Taken together, Changole's study suggests that the three types of theories (horizontal, vertical and coordinated) all significantly raised the probability of merger intervention: horizontal concerns raised the intervention probability by 45%, coordinated concerns raised it by 35% and vertical concerns raised it by 23%. As noted above, this is already markedly different from the EU experience.

The difference between the SA and EU experience is even more pronounced when the analysis distinguishes subperiods, rather than analysing the entire sample period as a pool. A study of merger decisions over sub-periods reveals a substantial shift in the role of competing theories of harm. Changole finds relatively similar estimates for pre- and post-2009 periods (he chooses 2009 as a half-way split of his sample) for unilateral

effects. However, and important for this paper, the impact of both coordinated effects and vertical effects theories on merger intervention grew significantly between the two periods (Changole 2022: 63).

Changole also finds statistical evidence that the coordinated and vertical effects results (whereby both factors grew in importance between the two sub-periods) are evident both at the Competition Commission and at the Tribunal level. He concludes that the merger review processes at both adjudicating bodies evolved in a similar way (Changole 2022: 65).

4.2 Evidence from prohibitions

The evidence above suggests that the grounds for intervention in proposed mergers have become broader over the sample period. South African competition authorities have become more likely to impose conditions, aimed at addressing not only horizontal concerns, but also perceived coordinated and vertical effects. The evidence from prohibition decisions – i.e. decisions to outright block proposed mergers – may be useful in understanding the extent of this broadening. As noted below, the broadening suggested by prohibition decisions reflects greater concern mostly with vertical effects and appears to have weakened over time. Furthermore, the evidence does not favour a similar conclusion for coordinated effects.

An analysis of blocked merger cases in South Africa up to 2022 finds that unilateral effects have been considerably more likely to lead to merger prohibition than coordinated effects (Changole 2022: 127). This result contrasts with findings for European merger control, where the probability of prohibition is found to be significantly higher when a proposed merger is perceived to raise the risk of collusion (Bernhardt, 2020). Of course, the small number of outright prohibitions over the sample period limits generalisation. Even so, this perplexing result – considering the significant expansion in anti-cartel enforcement described later in this paper – is a matter for further investigation.

In contrast, Changole (2022) finds compelling evidence that vertical concerns were important in prohibition decisions: foreclosure concerns feature in several of the blocked cases investigated, often as the principal concern. Even so, prohibition decisions citing vertical concerns are concentrated in the first quarter of the 25 years since the Act. Between 2006 and 2022, foreclosure and other vertical concerns were not key considerations in blocked merger decisions.

This result is not because of divergence between the main adjudicating bodies in merger control. The Competition Tribunal does not appear to have 'softened' prohibition recommendations by the Commission by accepting conditions. Changole finds that none of the merger cases that attracted vertical-related conditions were initially recommended for prohibition by the Commission. Therefore, merger adjudicating bodies were increasingly aligned in dealing with vertical concerns via the route of conditions. As discussed previously, mergers raising vertical concerns were increasingly likely to attract conditions over the second half of the sample period. Therefore, vertical-driven prohibitions appear to have become less prevalent than vertical-driven conditions in South African merger control.

The alignment of the adjudicating bodies on vertical concerns is noteworthy, when compared to the experience in relation to horizontal theories. Changole (2022: 136) finds that, for most mergers attracting conditions to address concerns around the removal of an effective competitor, the Commission had initially recommended prohibition.

4.3 Potential competition

A third set of evidence of the broadening of merger concerns relates to the rise of potential competition theories in South African merger control. In recent years, concerns around potential competition have gained prominence, particularly in digital markets. The Commission's revised small merger guidelines, introduced in 2021, explicitly address the risks posed by "killer acquisitions," where dominant firms acquire startups to pre-empt future competition. The 20-year review of the Commission highlights several small transactions in digital markets flagged for review despite falling below traditional financial thresholds, reflecting a proactive approach to preserving potential competition.

Potential competition concerns have played a significant role in conditional approvals. Mergers flagged for potential competition concerns had a significantly higher probability of being conditionally approved. Changole (2022) quantifies this effect, showing that mergers raising these concerns were 77% more likely to be conditionally approved than those without such concerns. Industries with high entry barriers, such as telecommunications, digital markets, and energy, were more likely to see conditions imposed when potential competition concerns were raised.

Potential competition concerns have also been central to prohibitions, particularly in cases where barriers to entry were considered high. In the 2006 Sasol/Engen case, the Tribunal prohibited the merger due to the risk that it would entrench existing market dominance and limit the entry of new competitors. In the 2007 Telkom/BCX case, authorities were similarly concerned that the merger would prevent the development of an independent competitor in the telecommunications sector. By 2015, however, competitive conditions had changed, leading to the approval of a similar transaction.

An analysis of these and other cases suggests that the type of potential competition concern associated with prohibited mergers has evolved. In the early 2000s, authorities focused on traditional sectors like petroleum and telecommunications, ensuring new entrants had opportunities post-deregulation. In the 2010s, more emphasis was placed on vertical integration risks for entry, particularly in technology and platform markets. From 2015 and beyond, digital market mergers have now been a major focus, as seen in the MIH/WeBuyCars prohibition. Increasing focus on digital markets from 2015 onwards, brought potential competition issues strongly to the fore, including the role of dominant firms acquiring nascent competitors.

In the 2020 MIH/WeBuyCars case, the Tribunal prohibited the acquisition of WeBuyCars by Naspers' subsidiary MIH eCommerce, citing the elimination of potential competition as a key theory of harm. This was the first prohibition in a digital market case in South Africa, indicating a shift toward preventing potential anticompetitive effects in emerging markets.

4.4 Decision-theoretic analysis

The decision-theoretic analysis in this part deals separately with the rise in vertical theories and the rise in potential competition theories. I note that there is, relatively, stronger evidence of policy preferences driving the increased adoption of vertical theories in merger decision and of prior probabilities driving potential competition theories.

There is a strong case against prior probabilities as the driver of more vertical effects theories in South African merger control. For one, the literature strongly supports a rule of reason approach to vertical restraints, in large part because of the mixed empirical evidence (even if a compelling theoretical one) on the competitive implications of vertical restraints. Furthermore, as discussed previously, the approach taken, especially in the EU, does not suggest an increasing focus on vertical effects in merger control. Accordingly, there is but weak

support in both literature and policy applications for the rise in conditional approvals to deal with vertical concerns in South Africa.

In contrast, there is a strong case for prior probabilities as the driver of more potential competition theories. First, the emergence of concerns around killer acquisitions in digital markets internationally has elevated theories of potential competition and how it might be harmed by mergers.

5 Empirical claim 3: Anti-cartel enforcement expanded rapidly and then stabilised

Collusion and other cartel-related offences are considered the most egregious forms of anti-competitive conduct. Anti-cartel enforcement has been a cornerstone of South African competition policy since the introduction of the Act: the competition authorities have successfully prosecuted cartel offences in a range of key input and consumer-facing industries. As argued below, the implementation of the corporate leniency policy (CLP) in 2004 combined with sustained agency efforts to aid the detection and prosecution of collusion. There is some evidence that these efforts appeared to have plateaued from 2019 onwards, reflecting both the success of policy efforts and the pursuit of other competition policy objectives following both the amendments to the Competition Act and the focus of enforcement during the Covid-19 pandemic.

The third empirical claim of this paper is therefore that anti-cartel enforcement activity has grown rapidly in the first two-thirds of the sample period but has stabilised in the last part. The first two subsections explore the empirical evidence on growing anti-cartel enforcement in greater detail, while the third subsection – in keeping with the approach taken for the merger-related claims above - evaluates this trend from a decision-theoretic perspective.

5.1 Evidence from authorities' self-assessment

The Commission's ten-year review highlights the impact of the CLP in increasing cartel detection: between 1999 and 2009, the Commission had referred 84 cartel cases to the Tribunal, with a marked increase in referrals following the CLP's introduction in 2004. The review emphasised that penalties imposed during this period amounted to over R500 million, a significant amount compared to the negligible fines imposed under the pre-1998 framework.

By 2014, the cumulative number of cartel cases had risen to 151, with penalties exceeding R1.5 billion. The 15-year review underscores the Commission's success in uncovering collusion in previously under-regulated industries. For example, the construction industry's fast-track settlement process, launched in 2011, resulted in the detection of over 300 instances of bid rigging. The Commission noted in the review that this initiative had not only accelerated case resolution but had also brought the role of industry associations in facilitating cartel-related conduct to the fore (and hence provided a route for cartel detection).

The 20-year review (in 2019) confirms a sustained rise in cartel enforcement, reporting a total of 215 cartel cases referred to the Tribunal since the Commission's inception, with penalties exceeding R2.5 billion. Over the five years between the 15- and 20-year reviews, an additional 64 cartel cases had been opened. Even so, the 20-year review already suggested that enforcement had started entering a stabilisation phase, noting the challenge of detecting more complicated forms of collusion, especially in sectors with complex supply chains.

5.2 Evidence from the academic literature

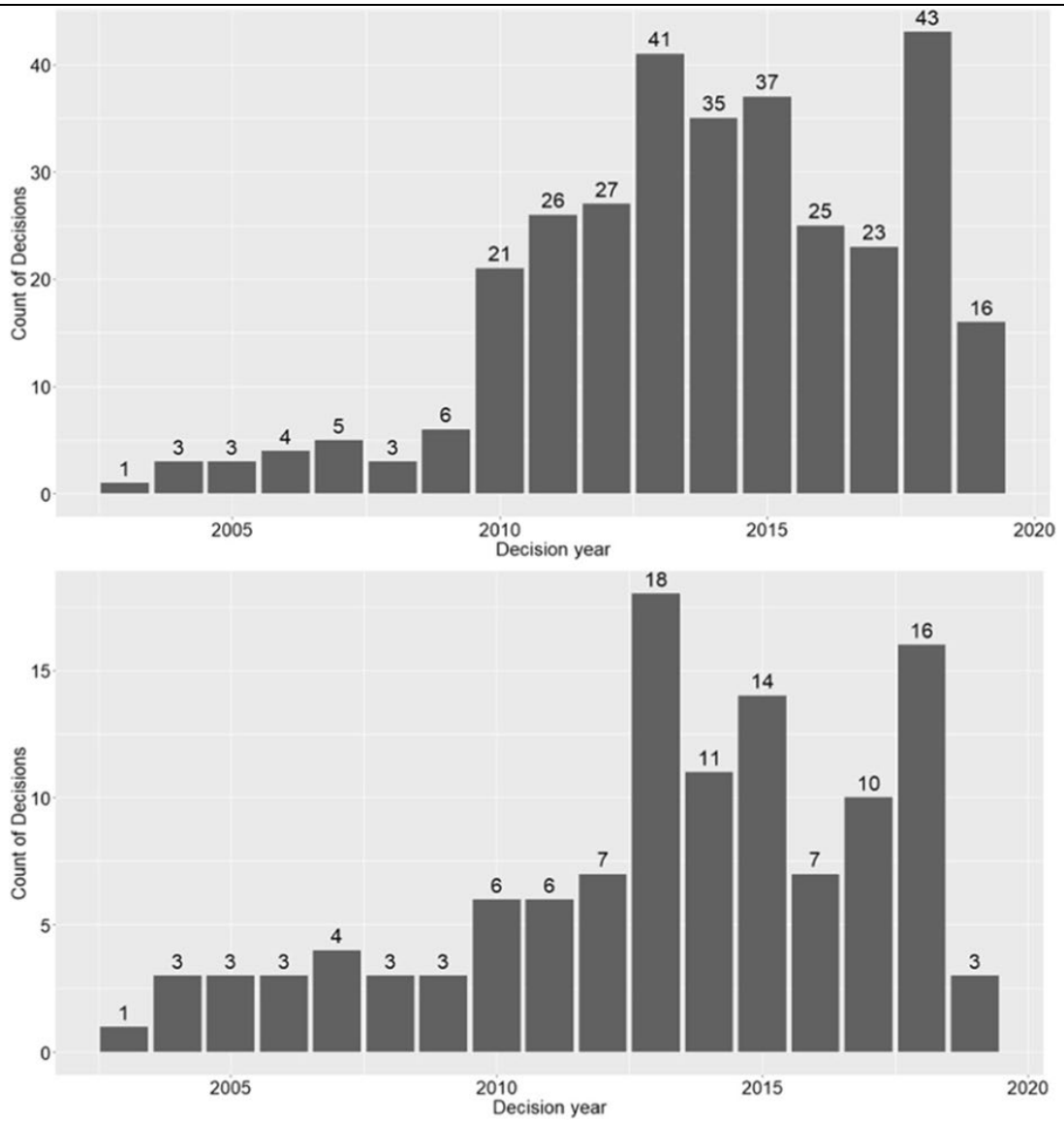
The reviews offer valuable contextual information – partly derived from investigations that may not have led to prosecution, or which may reflect policy views. Even so, these lack the rigour of an independent and systematic analysis. Systematic studies of anti-cartel enforcement are relatively limited (see Nkosi and Boshoff (2022) for a summary of the scholarly literature).

Nkosi and Boshoff (2022) compile a dataset of detected cartels in South Africa, based on publicly available Tribunal decisions. They compile the dataset from 319 cartel decisions, each with respect to a specific firm that had participated in a cartel. These are then combined into 118 cartel cases. Their dataset spans decisions

between 2003 and 2019. Figure 1 shows the number of cartel cases by decision year in their dataset. The number of decided cases saw a step change from 2010 onwards, but broadly confirms the inference, from the Commission's reviews, of increased enforcement activity.

Maphwanya (2017), studying a subset of these cases up to 2012, notes that the post-2010 sharp increase in the number of cartel cases is likely related to the construction fast-track process. Many applicants in the construction industry used the opportunity to settle cartel-related complaints with the Commission, as it offered lenient fines upon settlement. Therefore, one may wish to put less emphasis on the evident structural break suggested by Figure 5. A more important message from Figure 5 is that of a sustained rise in the cumulative number of cartel cases prosecuted over the period.

Figure 5: Number of firm-level decisions (top chart) and cartel-level decisions (bottom chart) by decision year, 2003 to 2019



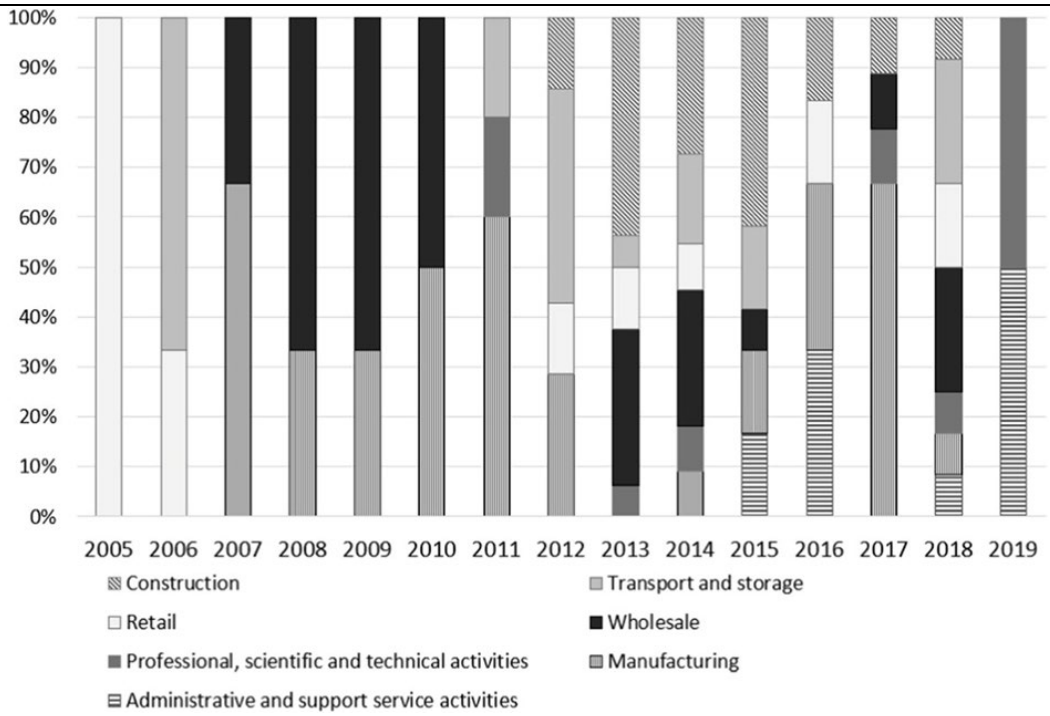
Source: Nkosi and Boshoff (2022: 334)

The expansion of anti-cartel enforcement is not only evident from the number of cartel cases. It is also evident in the broadening industry focus of these efforts. At the aggregate level, the distribution of prosecuted cartels in South Africa across different industries appear to align with that of prosecuted cartels

in the US and EU (Nkosi and Boshoff 2022: 340): over the sample period, 20% is in the manufacturing industry, 18% in wholesale trade, 16% in construction, 12% in transport and 9% in retail trade.

Even so, the scope of enforcement has greatly increased over the sample period. As shown in Figure 6, before 2011, the focus in cartel enforcement was on the manufacturing and wholesale trade. After 2011, the focus broadened considerably, to include consumer-facing industries. As discussed later, Nkosi and Boshoff (2022) suggest that this, in part, was a result of sector prioritisation by the Commission, with increased concern for cartel conduct that was considered to disproportionately harm poor consumers or hamper accelerated economic growth.

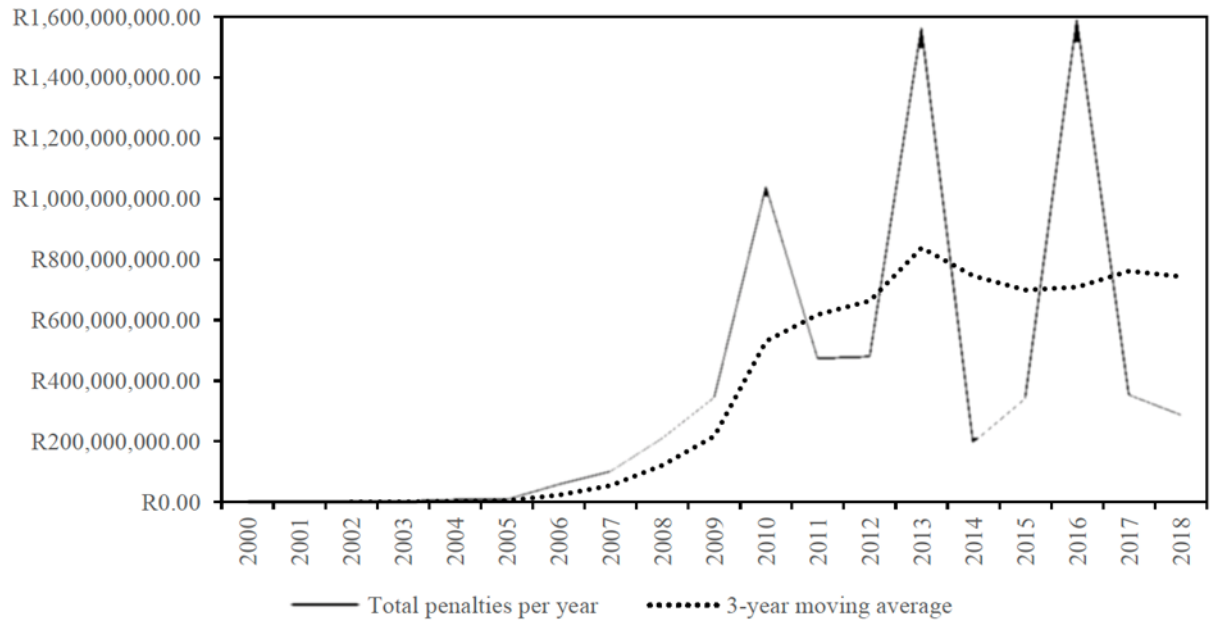
Figure 6: Proportion of cartel-level decisions by industry by decision year, 2003 to 2019



Source: Nkosi and Boshoff (2022: 340)

Muzata (2021) represents a second systematic study of anti-cartel enforcement, conducted over a similar sample period as that investigated by Nkosi and Boshoff (2022). Muzata (as well as Nkosi and Boshoff (2022)) offer a third set of evidence on the extent of anti-cartel enforcement activity, based on total penalties imposed on prosecuted cartels. Figure 7 shows a strong increase in the real value of total penalties from 2000 to 2013.

Figure 7: Evolution of penalties for cartel conduct (including three-year moving average), 2000 to 2018



Source: Muzata (2021: 107)

For this period, Muzata identifies three peaks in penalties: (1) an initial peak related to the penalisation of the bread and milling cartels and the scrap metal cartel, (2) large total penalties against construction firms, as part of the fast-track process discussed earlier, and (3) the sizeable penalty against ArcelorMittal for collusion in steel markets. Muzata argues further that the general level of penalties had risen over the sample period, though not to the level suggested by these three peaks. This is confirmed by Nkosi and Boshoff (2022).

Indeed, from 2013 onwards, both papers find a plateau in the total value of penalties. More recent evidence does not challenge these trends. Accordingly, systematic studies of anti-cartel enforcement in South Africa supports the third empirical claim in this paper, namely that of a rapid expansion in enforcement in the first two-thirds of the sample period followed by a stabilisation period over the last 10 years.

5.3 Decision-theoretic framework

The rapid expansion and subsequent stabilisation in anti-cartel enforcement can be interpreted by reference to a decision-rule framework like the one employed for merger control.

Prior probabilities

Changes in the prior probability of collusion played a key role in the evolution of anti-cartel enforcement in South Africa. We present two arguments with respect to prior probabilities, on which we base our argument for a causal link between priors and observed empirical behaviour. First, we argue that the prior probability of collusion rose over much of the sample period, consistent with the rise in enforcement. That is, we argue below that the prior expectation that observed market behaviour is indicative of collusion increased during the first two-thirds of the sample period, driving enforcement. Second, this prior probability stabilised in the last part of the sample period, as is reflected in the plateau in enforcement over the last few years.

The increase in cartel prosecutions in South Africa can be partially attributed to learning, which enabled authorities to better detect, and hence prosecute, collusion. Three factors played a key role in this learning process.

First, the CLP created incentives for the disclosure of collusive activities beyond the market under investigation. The implementation of the CLP in 2004, and its revision in 2008, significantly enhanced cartel detection. In keeping with the prediction of the academic literature, the policy incentivised firms to disclose cartel participation in exchange for immunity from prosecution. The benefit of disclosure depends on early disclosure, which raised the risk to individual cartel members of other members seeking leniency first and hence led to an increase in voluntary disclosures. The main benefit, in terms of learning, lies with the extent of information provided. Disclosures often provided authorities with leads on collusive activities in related markets (Mncube and Theron, 2021).

Second, the increase in proactive investigations boosted the knowledge base of South African competition authorities. The competition authorities increasingly moved away from a complaint-driven approach to initiating their own investigations. Initially, this was driven by the gains in knowledge gained from early cases and from CLP disclosures. Over time, the investigations also provided further information. The Competition Commission highlighted this leveraging of information from one cartel investigation to uncover others as a key driver of the growing crackdown on anti-competitive conduct in the first ten years (see the ten-year review).

Third, and tied to the second, the initial investigations often revealed the importance of industry associations in collusive conduct, which then led to a targeting of these institutions as possible facilitators of collusive conduct: the role of industry associations in facilitating collusion, the methods used for price-fixing, and the strategies firms employed to avoid detection became clearer. This learning enabled authorities to increase prosecution efficiency.

Over the sample period, the rise in cartel prosecutions reflects the growing ability of South African competition authorities to detect and dismantle collusion through accumulated experience and improved investigative tools.

Prior probabilities were also salient drivers of enforcement in the last third of the sample period, when enforcement stabilised. For one, it is likely that the unconditional probability of collusion started to decline because of the success of enforcement in the first two-thirds of the sample period.

The CLP appears to have played an important role in this regard. Nkosi and Boshoff (2022) report statistical evidence that cartels that were initiated in the period after the CLP was introduced had a lower expected duration compared to those cartels that were initiated prior to the CLP's introduction. It is likely that the obtained effects reflect broader enforcement efforts against collusion, rather than the leniency policy alone. Regardless, the findings are consistent with the international evidence that shows a marked increase in the likelihood of cartel breakdown following a rise in antitrust enforcement effort.

Both these forces reflect in lower priors: they suggest collusion – at least the hard-core direct forms - to have become less stable and, likely, less prevalent.

But there is also another learning-related reason for arguing that prior probabilities of collusion played a critical role in the stabilization of anti-cartel enforcement in recent years. The earlier experience in uncovering and prosecuting cartels in related markets increasingly led competition authorities to consider more complex forms of collusion.

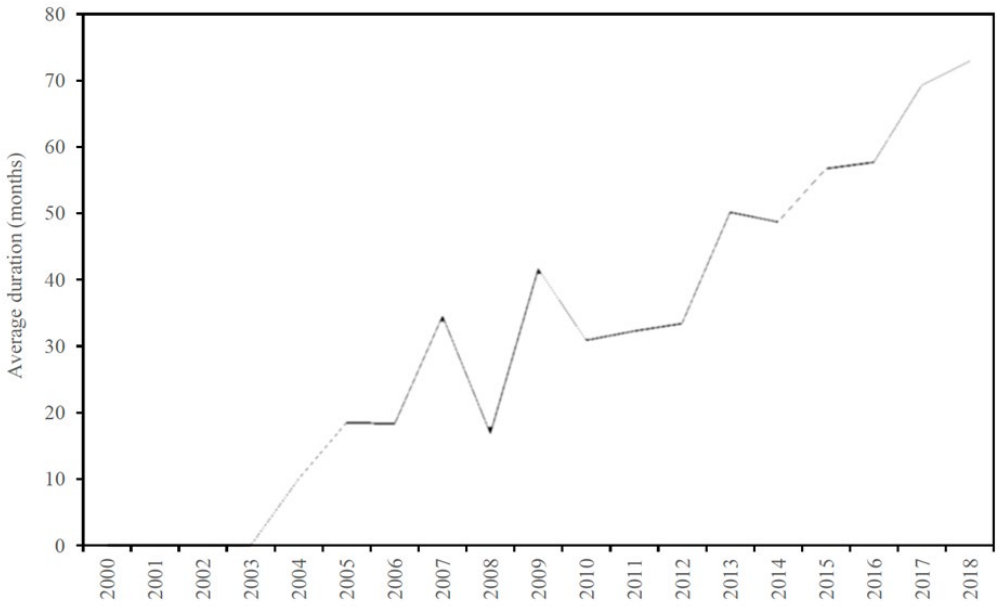
In the later part of the sample period, South African competition authorities appear to have expanded their focus beyond traditional price-fixing and market allocation cartels. Authorities started considering various forms of coordinated behaviour that were previously considered acceptable, or which may have gone unnoticed. Novel forms of collusion prosecuted included coordinated tendering and strategic information exchange. For example, in the construction and infrastructure sectors, firms engaged in "cover pricing,"

where competitors would submit non-competitive bids to help another firm win a contract, ensuring that market allocations were respected (see the Commission's ten-year review). Similarly, cartel enforcement began addressing vertical collusion, where upstream suppliers and downstream distributors colluded to manipulate market conditions, as seen in the cement and milling industries (see the Commission's fifteen-year review). These cases demonstrated that authorities started moving beyond explicit agreements to include informal coordination mechanisms, expanding the scope of prosecutable offences. We return to this issue in the next section.

The complex nature of these newer forms, including their specific market – and often value chain – conditions, implies that they are not ubiquitous. Put differently, they have a lower prior probability than the probability of mainstream or conventional forms of collusion. This would have reflected in a more judicious selection of cartel cases to prosecute.

Arguably more important, more complex forms of collusion are likely to require more agency resources, reducing the available resources for other cases and therefore the number of prosecutions. Muzata (2021) finds that the average duration of cartel cases rose considerably from 2014. Prior to 2014, the duration of cartel investigations and prosecutions averaged between 20 and 40 months. This duration started rising linearly from around 2014 to 2018 (the end of Muzata's sample period), as shown in Figure 8. Therefore, the lower prior probability of finding collusion in more complex circumstances served not only to limit the number of investigations directly. The lower prior probability implies a higher resource requirement for prosecuting complex cases, which also served to limit enforcement activity in the last part of the sample period.

Figure 8: Average duration of investigations and prosecutions of firms for collusion



Source: Muzata (2021: 131)

In sum, two different forces (the success of early enforcement and the implications of prosecuting more complex forms of collusion) both served to lower the prior probability of collusion and hence limited enforcement activity in the last part of the sample period.

Loss function

The apparent stabilisation in the extent of anti-cartel enforcement efforts likely does not indicate changes in policy preferences towards cartel conduct as a key driver. It points to declines in the number of horizontal restrictive practices in the economy, in part because of greater awareness among corporates of competition law and its powers. It also points to the pursuit of other types of collusive conduct that are generally less prevalent.

Even so, what was the role of the policymakers' loss function, i.e. their preferences? As argued earlier, prior probabilities compete with the loss function of policymakers as the principal determinants of competition law decisions. The previous subsection has made the case for priors as strong drivers of anti-cartel enforcement – quite different from the case for mergers, where policy preferences were instead the stronger force.

There is no policy evidence to suggest that policymakers changed their view of collusion in the last part of the sample period. Jurisdictions worldwide have long maintained that price-fixing and other forms of collusion are particularly egregious contraventions of competition policy.

Even so, in the last part of the sample period, one may argue that policy preferences indeed started shifting. An important reason for this is resource-related. From 2018 onwards, the competition authorities started experiencing significant financial strains, in part because of a sharp rise in the number of market inquiries launched. While this paper does not explore trends in this area of competition law enforcement, the knock-on effect on other areas with particularly demanding resources is clear: the investigation of cartels – especially of complex forms of collusion – requires substantial agency resources (Muzata, 2021).

It is inevitable that limited funds and resources would squeeze discretionary forms of competition policy enforcement, including collusion investigation. It affects even the non-discretionary activities – notably merger control – in the form of a substantial rise in the time period of merger adjudication. Changole and Boshoff (2021) find a significant increase in the number of days of merger adjudication over their sample period. While this is, in part, related to increased attention to non-merger-related issues, given the rise of public interest concerns, it also reflects the pressure on the competition agency. It is particularly poignant, given that the South African economy experienced relatively weak growth over a substantial portion of the sample period. Therefore, mergers and acquisitions, driven by economic considerations, could not have varied significantly. Instead, it appears to have been a supply (i.e. agency) related development.

5.4 Conclusion

In weighing up the comparative roles of prior probabilities and policy preferences, we find that it is the former that have played the decisive role in the case of anti-cartel enforcement. Put differently, while both anti-cartel enforcement and merger control suggests a substantial rise in enforcement activity and intensity, the evolution appears to be driven by quite different factors. We return to a fuller comparison in the last part of this paper.

One might nevertheless argue that this section oversimplifies the trend in anti-cartel enforcement, as it focuses on the overall level of enforcement. In doing so, it may well underplay the change in the composition of cartel cases, i.e. the shift in prosecuting a broader range of practices, as mentioned above. Accordingly, it may underplay the role of policy preferences. We return to this matter in the next, and final, empirical claim.

6 Empirical claim 4: Anti-cartel enforcement has recently broadened its scope

While increasing prior probabilities (of collusion) appear to have been the main drivers of overall anti-cartel enforcement activity, a countertrend suggests that, like in merger control, policy preferences may have started playing a more important role in cartel prosecution in recent years. The final empirical claim, studied in this section, captures this countertrend. It relates to anti-cartel enforcement in the last ten years, featuring several cases based on a broadening interpretation of the provisions of the Act pertaining to collusion. Specifically, there has been a marked shift at the Commission to a broad interpretation of what constitutes a collusive agreement, with apparently less consideration of the economic rationale for an agreement. The first subsection describes this trend and the second evaluates the trend against both prior probabilities and the loss function of policymakers, similar to the approach in previous sections.

6.1 Enforcement has expanded its scope, triggering the 'characterisation' debate

Cartel infringements are typically subject to per se prohibitions. Respondents in collusion cases enjoy limited scope in offering economic justifications for conduct that meets the requirements set out in the Competition Act's cartel provisions (see Section 4 of the Act). In The Competition Commission vs South African Breweries et al, the Competition Appeals Court emphasised that the per se prohibitions are "the most serious legislative prohibitions" against a respondent in South African competition policy.

Even so, certain conduct may, on a narrow textual reading, meet the legal definitions of collusion (including price fixing), but may be aimed at a pro-competitive end. Consequently, competition law requires an investigation of the "character" of an agreement prior to concluding that it is collusive in nature. That is, South African competition law upholds the principle of "characterisation", to ensure that only those agreements for which no defence should be tolerated are held to be within the scope of the prohibition (Schmidt 2022).

The purpose of this paper - which is concerned with an economic analysis of South African competition policy trends - is not to offer an exhaustive summary of the case law in this regard. The principle of characterisation of cartel conduct was established by the Supreme Court of Appeal in its 2005 decision in American Natural Soda Ash Corporation and Another v The Competition Commission. The issue was not particularly prominent until around 2015. As shown for the previous empirical claim, this arguably reflects that the Commission was engaged on various fronts in prosecuting what might be called 'straightforward' cartel cases.

Characterisation emerged as a significant issue again in The Competition Commission v South African Breweries and Others, with the Competition Appeal Court developing the principle further, requiring that parties are horizontal competitors .

From an economics perspective, it is noteworthy that the CAC deemed that, when determining whether conduct is of a character for which no defence can be entertained, competition economics has an important role to play.

From 2018 to 2021, several cartel cases pursued by the Commission involved issues around characterisation:

- Dawn Consolidated Holdings and Others v The Competition Commission (2018): In this case, the CAC developed principles for characterising the relationship between competitor firms (in this case, in the context of non-compete clauses);

- A'Africa Pest Prevention CC and Others v The Competition Commission (2019): In this case, the CAC developed the principle of characterisation with respect to collusive tendering where the alleged colluding parties were in fact the same natural person;
- The Competition Commission v Irvin & Johnson and Another (2020): In this case, the Tribunal further confirmed the characterisation principle, emphasising that it is required to study whether an agreement has as its object or purpose participation in a cartel to divide a market.

In its anti-cartel enforcement, then, the Commission in the last eight to ten years of the sample period appears to have turned increasingly to the prosecution of a wider set of agreements based on a narrow legal, or textual, interpretation of the Competition Act. Even so, the broader system – including the Tribunal and the CAC – appears to have been less responsive to such an interpretation.

6.2 Decision-theoretic analysis

This empirical observation, which contrasts with the earlier claim of effectively an economics-driven anti-cartel enforcement, requires explanation.

The prior probability of collusion, for the types of agreement investigated in the cases cited above, is unlikely to have risen. Suppose that the type of agreement considered in these cases did indeed relate to a complex form of collusion. As already discussed in the previous section, the prior probability of collusion arising in a more complex setting is relatively low (and lower than the prior probability of collusion arising in settings which meet the typical facilitating conditions for collusion). It is neither higher nor increasing. Consequently, an increase in such prosecutions cannot be explained by reference to rising prior probabilities.

The international literature on mechanisms for collusion continues to evolve. Yet the cases described above do not involve behaviour of the type considered in the more recent academic literature. Accordingly, the decision to prosecute agreements of a certain form does not appear to have taken its cue from research or policy developments elsewhere. Instead, one may argue that it was a revealed policy preference to prosecute agreements on a narrow legal interpretation. The particular driver of this policy preference is unclear. In part, the stabilisation of overall cartel activity, as described in the previous section, may have incentivised authorities to highlight their continuing efforts to fight collusion in other ways.

As will be clear from the synthesis presented in the next section, Empirical Claim 3 can be considered the dominant trend in cartel enforcement. Nevertheless, Empirical Claim 4 does suggest that anti-cartel enforcement is not a poster child for prior-driven policy – in the same way that merger control is not one for preference-driven policy. Nuanced interpretation, including accounting for countertrends such as the one in Empirical Claim 4, is necessary for an appropriate assessment of the long-run direction of South African competition policy. Even so, the 'countertrend' identified here is not pervasive, as neither the Tribunal nor the CAC appears to have accepted a textual interpretation and, in fact, has further developed the characterisation doctrine.

7 Synthesis: Two alternative approaches in South African competition policy and the implications

The four empirical claims presented in this paper, read with the decision-theoretic analyses, sketch two alternative - and arguably diverging - approaches in South African competition policy.

7.1 Merger and anti-cartel enforcement suggest two different paths

The merger-related empirical claims suggest enforcement that has grown more interventionist since the implementation of the Competition Act in 1999. These claims also suggest that enforcement has grown more concerned with coordinated and especially vertical effects, as well as the impact on potential competition.

The decision-theoretic analysis presented earlier strongly suggests that the increase in merger interventions does not necessarily enjoy support from the broader competition policy literature or policy experience elsewhere. There is certainly a case to be made for 'learning' in the initial years. Yet the sharp increase in interventions occurs later in the sample period, which suggests that prior odds of merger harm and benefit were not driving these increases. Instead, the analysis suggests that the increase in intervention was driven by changing policy preferences (or, in the language of economics, loss functions). When evaluating mergers, South African policymakers appear to have become more willing to tolerate errors in judging harm than to tolerate errors in judging benefit.

As far as different theories of merger harm are concerned, the decision-theoretic analysis indicates that the moderate rise in interventions because of mergers judged to have coordinated effects was probably motivated by prior probabilities: the anti-cartel enforcement success of the authorities has certainly shaped how coordinated effects are assessed. Yet the more aggressive stance towards vertical effects is not supported by such priors. As argued earlier, the vertical literature and international policy experience do not suggest an increasing consensus that vertical mergers are problematic. Therefore, one might conclude that changing policy preferences have been at least an important driver of merger interventions in this area. In contrast, there is a stronger case for a prior-driven enforcement approach in dealing with potential competition issues.

In sum, then, shifting loss functions appear to have played a decisive role in shaping merger control – especially in terms of interventions – and, arguably, more so than prior odds. Simplistically, one might say that politics, rather than economics, have shaped the path of merger control. This inference finds somewhat weaker support when it comes to explaining the broadening of theories of merger harm, though the increased emphasis on vertical concerns certainly appears to be driven by policy preferences.

In contrast, the cartel-related observations suggest a policy environment that remained, by and large, tethered to the economics literature and policy approaches of the past and of elsewhere. The empirical claims suggest anti-cartel enforcement that has grown more aggressive during the first half or longer of the sample period, but which subsequently stabilised. The decision-theoretic analysis strongly suggests that the overall rise in cartel prosecution over this first part of the sample period was strongly driven by learning effects. Authorities uncovered a range of price-fixing and other practices in the earlier parts of the sample period. These typically then gave rise to multi-year investigations and prosecutions. In this sense, prior probabilities of judging conduct to be collusive rather than competitive grew significantly and likely determined the path of enforcement activity.

The decision-theoretic analysis suggests that the increasing concern with alternative forms of collusion in the last part of the sample period is less well explained by the evolution of the academic literature or of policy

approaches taken elsewhere. The 'characterisation' debate, in our view, reflects the rise in policy preferences also in anti-cartel enforcement. While policy preferences likely also played a role in the willingness to prosecute complex cartel activity, shifting loss functions do not appear to have played a dominant role in driving the evolution of anti-cartel enforcement.

With due regard to a variety of nuances that should accompany such a generalisation, the experience of merger control and anti-cartel enforcement suggests two alternative paths for competition policy. One is a path where competition enforcement activity and intensity are allowed to evolve based on changes in priors (in other words, in keeping with the changing conclusions in the literature and broader policy approaches elsewhere). Another is a path where competition enforcement activity is decisively shaped by the preferences – i.e. the error costs embedded in the loss function – of policymakers.

One immediate criticism of my relying on the divergence between merger control and anti-cartel policy to identify competing approaches is that merger control differs from anti-cartel policy. Critics might hold that merger control is prospective in nature and, therefore, inherently more uncertain. The forward-looking prediction involved in judging a merger case may be more difficult and prone to error. Even so, the forecast errors cut both ways: it is not only difficult to judge future benefit, but also to judge future harm. Mergers often occur in markets undergoing structural change: as one cannot merely rely on a static analysis of current competition, it may be challenging to judge the counterfactual world. As discussed earlier, what matters to a rational decision is the relative weighting of different errors and not their actual size. Therefore, the approaches in merger control and anti-cartel enforcement are comparable.

7.2 Can competition policy sustain two competing approaches?

It is likely challenging for competition policy to accommodate both a prior-based model and a preference-driven model in the long run. For one, merger control dominates the competition policy enforcement landscape. From an effects perspective, it is the most consequential, because of its direct impact on the market for corporate control and the attendant implications for investment and growth in the larger economy. Even more important, it commands large resources. Where merger control goes, other areas of competition policy enforcement may follow.

For another, there is evidence that the tensions inherent to these two alternative approaches to competition policy are also evident in the other major area of competition policy enforcement, namely, abuse of dominance.

The variety of provisions related to abuse of dominance precludes a comprehensive review like that attempted for mergers and cartels in this paper. Even so, there has been a marked increase in pursuing cases involving abuse of dominance over the sample period. From a decision-theoretic perspective, the rise in the number of cases involving exclusivity concerns or concerns dealing with forms of vertical restraint may indeed reflect developments in literature: the academic literature dealing with particular forms of unilateral conduct is quite complex and suggests that the likelihood of certain practices in generating anti-competitive effects depends on various conditions. It is therefore not surprising that enforcement has developed slowly. In this sense, the slow rise in abuse of dominance enforcement may be a reflection of a prior-driven model.

But there are also indications that, at least for some forms of abuse of dominance, changes in policy preferences may also be driving increases in enforcement activity. The recent amendments to the Competition Act have introduced a reverse onus on respondents in several abuse-related provisions, which likely lowers the internal burden of proof. It may well be easier to prosecute (i.e., conclude anti-competitive behaviour): while the broader error cost to society of incorrectly concluding anti-competitive behaviour remains the same, a narrower reading of error costs limited to the agency suggests limited consequences to

at least initiating investigations. In this narrow reading, the balance between the error costs shifts. There is no clear indication from the literature or policy experience elsewhere that there should be such a shift, suggesting that it reflects policy preferences. It is noteworthy that at least some of the provisions for which a reverse onus now applies are related to non-competition goals (price discrimination or buyer power abuses against small or HDI-owned players). This link between the burden of proof and non-competition considerations also has similarities with merger control: increased concerns with the relationship between a particular competition policy matter (a merger or an abuse investigation) and impacts on selected groups in society.

The recent rise in 'interim relief' orders granted by the Competition Tribunal also offer evidence that changes in policy preferences may be an increasingly important factor in the enforcement of abuse of dominance provisions.

Prior to the recent amendments to the Competition Act, the Tribunal had granted but two interim relief orders, of which one was subsequently overturned. Indeed, between 2001 and 2018, the Tribunal heard only 18 interim relief applications – 16 of which it dismissed. In contrast, from 2019 to late 2024, the Tribunal had already heard 9 interim relief applications (Tshabalala, 2024: 3). More importantly, it had granted relief in 5 of these applications.

This apparent structural break in the extent of enforcement can be linked to the 2019 amendments of the Competition Act, which had expanded the definition of an exclusionary act (i.e. an abuse of dominance that is aimed at harming competitors): the amended Act defines an exclusionary act as one that impedes or prevents a firm from "participating" in a market, referring to the "ability of or opportunity for firms to sustain themselves in the market". This opaque formulation represents a marked shift away from the earlier definition, where behaviour was deemed exclusionary if it "impedes or prevents a firm from entering into, or expanding within, a market". And it effectively lowered the legal requirements for a business practice to be deemed anti-competitive.

But more is at play. The broader definition reflects a greater competition policy concern for particular market participants. In keeping with the decision rule employed for other competition policy decisions, one may also view a decision about granting interim relief as one that requires balancing the error cost of not granting the relief when it is justified (i.e. the error cost is related to the harm suffered by an applicant and which remains unaddressed) against the error cost of granting such relief when it is not justified (i.e. the error cost is related to the harm inflicted on a respondent firm by inappropriately granting relief). The change in the Act strongly suggests an increased concern with the position of smaller firms, who are likely to be plaintiffs in interim relief applications. Hence, the change in the Act strongly suggests an increased concern with the first error cost.

Commentators have noted that the Tribunal's historical hesitancy in granting such orders in much of the sample period was derived from a view of the early 2000s. This policy view supported limiting the strategic use of competition policy as the new competition authorities became settled, including limiting inappropriate interim relief applications by competitors. Dingley (20xx), for example, note that the "more cautious approach … centred on the concern that [imposing] restrictive measures on the business of a firm (which has not been found in contravention of the Competition Act) may result in a respondent's business being at risk of being unfairly and punitively constrained during the interim period". This, in turn, drew on the popular policy approach in the early 2000s (see, for example, a peer review report of the Organisation for Economic Co-operation and Development (2003)). Put differently, the Tribunal's past behaviour suggests a greater concern with the second error cost above (i.e. the cost of erroneously granting an order).

Accordingly, the recent rise in the use of interim relief suggests a shift in the relative weights assigned to the two error costs, arguably in favour of the error cost of not granting an order.

There is limited economic research to suggest that there are economics-based reasons - i.e. changing prior probabilities - which could explain the granting of more interim relief orders over the past few years. Accordingly, one might conclude that policy preferences have been the driving factor. In this sense, there is evidence that the experience in merger control – and the elevated role of policy preferences – is being replicated in other areas of competition policy enforcement.

7.3 Is there a preferable model?

Finally, it is useful to reflect on whether the rising spectre of a competition policy strongly dominated by policy preferences, rather than prior odds, is preferable. This question requires much further reflection than is offered in this review, but it is worth noting the following:

From an economics perspective, it is preferable for enforcement of competition policy to adjust in line with changes in prior odds. Competition law enforcement that accounts for the evolution of the economics literature and for policy decisions of the past and in other jurisdictions has a better likelihood of ultimately advancing competition.

A prior-driven model does not require policy preferences – in other words, the loss function – of competition authorities to be overly accommodative of competition risks. In particular, the prior-driven model should not be confused with an approach that emphasises static price benefits for consumers. Whether competition policy targets consumer welfare or total welfare (i.e. including the welfare of competitors) is less important for the purposes of this paper. Either welfare standard can be accommodated when error costs are treated in a balanced fashion. While the predictions from prior literature and other cases may be different if the focus is on a different welfare outcome, they all agree in their linkage to the body of academic research and local and international policy experience. Irrespective of whether policymakers adopt a consumer or total welfare approach, the unbalanced treatment of error costs necessarily results in favouring sub-optimal outcomes. Assigning similar error costs in both directions best allows prior literature and policy experience to shape case decisions going forward.

The pragmatist may argue that, in the South African setting, competition policy cannot settle purely on competition issues (whether consumer-focused or more broadly). Yet this need not undermine the case for a prior-based model of enforcement. A circumscribed set of broader aims, appropriately tied to competition and market-based analysis, can fit into a systematic model for competition policy. A model that includes selected non-competition aims certainly does not require an unbalanced view of competing error costs. Instead, it requires a more careful assessment of the conditions under which such a small set of broader objectives might indeed be undermined by a proposed merger or practice.

Nevertheless, it is also clear that a prior-based model cannot accommodate the massive proliferation of non-competition objectives, part of which has been described in the merger control assessment above. The economics literature has long recognised the problem of competing objectives. Under the so-called Tinbergen (1956) rule, optimal policymaking requires one policy instrument for every policy goal. A competition policy decision (whether a merger, cartel-related or abuse-related decision) involves a single instrument. Requiring it to achieve multiple policy goals – especially goals that may be directly conflicting with competition – necessarily undermines the efficacy of competition policy. It is for this reason that non-competition goals must be pared to a smaller set of objectives that have closer alignment to competition issues.

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