Sustainability Elements Reported on by JSE-listed Companies that are Affected by Pandemics

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Abstract: COVID-19 exemplified how pandemics cause major shocks to companies' sustainability, a vital matter to stakeholders. This study aimed to determine the sustainability elements reported on by companies listed on the Johannesburg Stock Exchange (JSE) that are affected by pandemics. The study followed a qualitative approach, whereby the annual reports of 45 JSE-listed companies one year prior and one year into COVID-19 were thematically analysed in Atlas.ti 9™. A comprehensive list of 54 elements affected by pandemics from all four components of sustainability (financial, environmental, social and governance) is provided. We also found that companies comprehensively included pandemic-related disclosure during an outbreak, but prior to such an outbreak, disclosure is inadequate. Our work encourages companies towards comprehensive pandemic-related disclosure regarding current, but also future pandemics, given its likelihood. Pandemic-related disclosure regarding future pandemics would inform companies' stakeholders of companies' preparedness for such a pervasive risk, further informing the stakeholders of sustainability. While previous literature on pandemics' effect on companies' sustainability is limited to a pandemic's effect within a specific industry, this study considers annual report disclosures from all JSE-listed industries. The list can be used by companies as a pandemic-related reporting guideline to inform stakeholders of their sustainability, especially as current sustainability frameworks do not specify pandemic-related disclosure requirements.

Keywords: COVID-19, Pandemic, Sustainability reporting, Listed companies.

INTRODUCTION

Pandemics have been occurring for centuries. Cirillo and Taleb's (2020) research data includes a list of 72 major epidemic and pandemic diseases, stretching from as early as 429 B.C. It would be reasonable to assume that pandemics' effects come as no surprise, yet the severe impact and unpredictable nature of COVID-19 left the world stunned (Seetharaman, 2020). However, COVID-19 was neither the first nor the last global pandemic (Barry, 2010; Jones et al., 2008; Oppenheim et al., 2019; Osterholm, 2005). The drive towards commodity production leads to deforestation and a loss in biodiversity, which is a key driver of emerging zoonotic diseases (Poudel, 2020). Consequently, the mere issue that has been neglected thereby leading to pandemics, is what should be focussed on: sustainability (McKinsy & Company, 2022a).

Previous research has considered the effects of pandemics on people's health (i.e. Banerjee & Bhattacharya, 2020; Cirillo & Taleb, 2020; Johnson & Mueller, 2002; Littman & Littman, 1973), the wide global impact of a specific pandemic (i.e. Brainerd & Siegler, 2003; Hiscott et al., 2020) or the impact of a specific pandemic on a specific industry (i.e. Gow & Grant, 2010; Van der Merwe et al., 2021), but does not provide an extensive overview of how sustainability reporting is affected by pandemics. Countries' circumstances, economies, legislation and regulations are different. Furthermore, each countries' responses to pandemics differ (International Monetary Fund (IMF), 2021). In South Africa, the *Disaster Management Act* 57 of 2002 specified the regulations to manage COVID-19. Among others, the Act specified that, during the lockdown, only businesses engaged in essential goods and services, may continue to operate. This led to initial estimates indicating a contraction of the South African gross domestic product (GDP) of between five to 23.5% (PwC, 2020). Moreover, some industries were affected more than others (Susskind & Vines, 2020).

The World Economic Forum (2021)'s global risks reports are informed by perception surveys of business, and since 2006 these reports have repeatedly emphasised pandemics and infectious diseases as a global risk. Considering the pervasive effect that pandemics have on companies' sustainability, pandemics could be considered a material risk, requiring pandemic-related corporate reporting. Given that this is a South African study, the researchers examined the disclosure

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requirements of three widely recognised South African sustainability frameworks (the International Integrated Reporting Framework, the King Code and the Financial Times Stock Exchange/Johannesburg Stock Exchange (JSE) Responsible Investment Index Series) and six international sustainability frameworks (Global Reporting Initiative Standards, the Dow Jones Sustainability Indices, the Organisation for Economic Co-operation and Development Guidelines, the Communication on Progress, ISO 26000 and International Financial Reporting Standards 7) for pandemic-related disclosure requirements. Though these sustainability frameworks provided comprehensive disclosure requirements regarding sustainability, these did not relate to pandemics. Consequently, this study aimed to determine the sustainability elements reported on by JSE-listed companies that are affected by pandemics and the researchers were able to generate a comprehensive list of elements, which could be valuable as a reporting guideline.

LITERATURE REVIEW

On the last day of 2019, the World Health Organisation (WHO) was informed of an unfamiliar outbreak of pneumonia in Wuhan, China, later to be identified as COVID-19 (WHO, 2020a, 2020b). On 30 January 2020, this outbreak was declared a public health emergency of international concern (WHO, 2020c) and soon thereafter COVID-19 became a devastating global reality (Chamola et al., 2020). Prior to COVID-19, the IMF predicted a 3.3% growth in global GDP, which was subsequently altered to a 3% contraction (IMF, 2020). Several governments declared a national state of disaster and responded by introducing measures such as lockdowns and quarantines (PwC, 2020).

Similarly, governments have introduced restrictions to manage previous pandemics' effects as well. Quarantine was introduced in 1374 when cases of plague was suspected, and isolation and other restrictions to limit the freedom of movement was implemented in the 16th century (Alfani & Murphy, 2017). Similar interventions to COVID-19 were implemented during the 1918 Spanish flu (Correia et al., 2020) and travel and trade restrictions were implemented during the H1N1 outbreak (Barry, 2010). Pandemics, therefore, dually threaten the lives, as well as the livelihoods of people around the world (McKinsey & Company, 2022a; Susskind & Vines, 2020) and businesses are required to focus on recovering from the economic impact (Seetharaman, 2020).

While research is clear as to the detrimental effects of COVID-19 on companies, studies also highlight the opportunities it brought (McKinsey & Company, 2022b; Seetharam, 2020). This includes improved supply chains (Mittra, 2020) and changing operations that were previously detrimental to the environment (Laverty et al., 2020). Similarly, previous pandemics had positive and negative effects, sometimes lasting over 20 years (Jordá et al., 2020; Littman & Littman, 1973; Quantec, 2020).

Stakeholders no longer merely focus on profit but want to be associated with companies that make a positive impact (McKinsey & Company, 2022a). Sustainability reporting is considered key in contributing towards corporate sustainability (Lozano & Huisingh, 2011) and is being increasingly used by companies (KPMG, 2020). This trend towards sustainability reporting is supported by the stakeholder theory, as well as the legitimacy theory. In essence, according to the stakeholder theory, companies are required to consider the interest of all stakeholders during decision-making (Roberts, 1992) and according to the legitimacy theory, companies need to earn access to resources to fulfil their objectives (Deegan, 2019). Subsequently, the stakeholder engagement that companies need to achieve sustainable development, requires the communication of sustainability-relevant matters (Herzig & Schaltegger, 2006). In addition, to be socially accepted to gain resources from the stakeholders, communication of its contribution to society and the effects of its operations are required (Herzig & Schaltegger, 2006).

Stakeholders require communication on both financial and non-financial matters to provide a complete outlook on sustainability (Kannenberg & Schreck, 2019). While environmental, social and governance (ESG) matters focus on non-financial matters (Hayat & Orsagh, 2015), it requires the addition of financial matters to achieve comprehensive sustainability reporting.

METHODS

In this study, a qualitative analysis was performed of selected JSE-listed companies' annual reports immediately prior to and one year into COVID-19. The latest available annual reports of the selected companies as at 31 December 2019 were scrutinised, as this was the date that COVID-19 was reported to the WHO and, therefore, immediately before COVID-19 became a global pandemic (WHO, 2020b, 2020c). To analyse the changes in reporting of pandemic-related information, the latest available annual reports of these companies on 31 December 2020, were also scrutinised.

Given the lack of pandemic-related reporting requirements in sustainability frameworks, the largest companies were focussed on as these companies generally have increased voluntary disclosures (Abhayawansa & Adams, 2022). Hence, the sampling frame of this study is a list of the top 100 JSE-listed companies according to market capitalisation for the week ending 03 July 2020, which was received directly from the JSE (personal communication, JSE, 2020). Non-probability, purposive sampling was used to enable the researchers to select the best suited companies to provide the required information (Kumar, 2019; Leavy, 2017). To enable this sampling method, the sector classification used by the JSE (the ICB, which consists of 11 industries) was considered (Table 1).

On 06 July 2020, there were 335 companies listed on the JSE's main board, of which 19 were suspended, resulting in 316 active companies (JSE, 2020a). Following Marx (2008) and Coetzee (2010), the top 40 JSE-listed companies were selected to represent the largest companies on the JSE, as well as a broad range of stakeholders' interests. These 40 companies represent 75% of the total market capitalisation (R16 865 210 000 000), eight of the 11 industries of the JSE, and 12.7% of the number of companies listed on the JSE for the week ending 03 July 2020 (personal communication, JSE, 2020). As COVID-19 had an impact on numerous industries (Chamola et al., 2020), the researchers supplement-

Table 1. ICB Industry Classification and Sample Selected by Researchers.

Index Name	ICB Industry Code	Number of Companies within the Top 100	Number of Companies within the Top 40	Sample Selected by Researchers
Additional	A001	1	0	1
Basic materials	1000	22	15	15
Consumer goods	3000	8	3	3
Consumer services	5000	14	4	4
Financials	8000	41	12	12
Health care	4000	5	1	2
Industrials	2000	4	1	2
Oil and gas	0001	0	0	2
Technology	9000	2	2	2
Telecommunication	6000	3	2	2
Utilities	7000	0	0	0
Total number of companies		100	40	45

Source: JSE, 2020b; personal communication, JSE, 2020; personal communication, JSE, 2021.

ed these 40 companies by ensuring that at least the two largest companies, with available information, per industry (according to market capitalisation) are included in the sample. However, the JSE confirmed that the "additional" industry consisted of preference shares issued by companies (personal communication, JSE, 2022). Only one company was listed under the "Additional" industry with no other listing in one of the other 10 industries. This is because the company had no ordinary share capital, but only preference shares (Zambezi Platinum (RF) Limited, 2020) and therefore the researchers only included this one company in the sample. The JSE also confirmed that there were no companies listed in the "utilities" industry at the time of the data collection (personal communication, JSE, 2021). The resultant sample size was, therefore, 45 companies and represented 76% of the total market capitalisation of the JSE as at 3 July 2020 (Table **1**; Appendix A).

Prosus was only listed during 2019, and it was confirmed directly with Prosus via e-mail on 22 September 2021 that there are no annual reports available for the 2019 financial year. Appendix A, therefore, sets out the reports analysed. Some companies had reports other than the annual report for the financial year, such as an ESG or sustainability report. The researchers worked through 12 of these reports (27% of the selected companies) and compared the pandemic-related content to that of the annual report, which was found to be a reiteration of what was already mentioned in the annual reports. Therefore, the researchers only included the annual reports in the sample.

Consequently, a total of 89 reports were qualitatively analysed by means of thematic analysis using Atlas.ti 9™, a prominent qualitative research tool (Friese, 2019; Hwang, 2008). Thematic analysis assists with data interpretation and allows the researchers to identify the key themes present in the data (Alhojailan, 2012; Joffe, 2012).

A total of 21 of the 89 reports (24%), were analysed thoroughly, specifically focussing on the reports' information related to epidemics, pandemics and COVID-19 (pandemic-related disclosure). After these reports were analysed, data saturation was reached. Data saturation is achieved when no or minimal new information, codes or themes emerge and is necessary for content validity of qualitative research (Braun & Clarke, 2021; Fusch & Ness, 2015; O'Reilly & Parker, 2012). Though data saturation is often used as part of sampling considerations (Braun & Clarke, 2021), this study did not stop data collection when data saturation was reached, but continued scanning the rest of the sampled reports for new information or codes to ensure comprehensive findings in the numerous industries. Only minimal new information was identified by the researchers, thereby confirming the achievement of the study's data saturation.

A combination of deductive and inductive coding was used. The initial narrative literature review conducted revealed various ways that companies are affected by pandemics and these were used as deductive codes to analyse the sustainability frameworks to identify pandemic-related disclosure. New information indicated new codes were needed, which were added inductively.

Trustworthiness of qualitative data analysis

This study applied peer coding after the qualitative data analysis to ensure rigorous findings. After the qualitative data analysis, an expert in the field independently coded the same data (Guzman & Maalej, 2014), to ensure rigorous findings (Morrell et al., 2020). The inter-rater reliability was measured using a calculated Cohen's kappa, as advocated by Sun (2011) and Warrens (2011). Coders have an almost perfect level of the coding agreement if the kappa statistic is higher than 0.8. Geisler and Swarts (2019) suggest that at least 10% of the data should be coded to determine inter-rater reliability (Landis & Koch, 1977; Terry et al., 2017). In line with Terry et al. (2017) and Van den Berg et al. (2020), the developed code book was shared with the independent coder and an overview of the identification and meaning of each code and code creation practice was provided.

Nineteen % of the annual reports analysed in detail were independently coded. The resultant percentage of agreement was 98.4% and a kappa statistic of 0.97, thereby indicating an almost perfect level of coding agreement.

To further reliability, findings were triangulated with studies not included in the selected reports and have been discussed as part of the results section of this study.

RESULTS AND DISCUSSION

A total of 89 annual reports were analysed. The first part of the findings introduces the characteristics of the annual reports, followed by a discussion of the sustainability elements reported on.

Characteristics of Selected Companies

The sample selected is mainly represented by the basic materials (33.3%) and financials (26.7%) industries (Table **2**), which were both declared essential services during the South African lockdown. Services necessary to maintain a functional financial system were declared an essential service on 20 March 2020 and could continue to operate throughout lockdown (Department of Health, 2020), whereas mining companies (which largely represent the basic materials industry – see Appendix A) could resume at 50% capacity from 16 April 2020 (Cavvadas & Morolong, 2020). In fact, the only specific South African ban related to the companies selected, was the ban on tobacco (British American Tobacco South Africa, 2022), affecting British American Tobacco PLC and the ban on alcohol (Smit, 2021), affecting Anheuser-Busch InBev. These international companies fall in the consumer goods industry (which merely represents 6.7% of the sample) (Appendix A).

Most (54%) of the companies with financial year-ends before December had no pandemic-related reporting during the 2019 financial year (Table **3**). As COVID-19 was not yet a reality at the time, the pandemic-related reporting that some (46%) of the companies with year-ends prior to December 2019 reported on, were mainly HIV/AIDS, tuberculosis and malaria. It is noteworthy that, for these companies, only one of the selected companies discussed pandemics as a "watch list" risk to their operations, whereas the other companies' risk assessments were unaffected.

Most of the companies (20) have a December year-end, and as COVID-19 was declared a global pandemic shortly thereafter, 95% commenced reporting on COVID-19 in their December 2019 annual reports as a non-adjusting subsequent event.

In contrast, all companies reported on COVID-19 in their 2020 annual reports. Most companies either listed COVID-19 as a separate key risk (i.e. Barloworld Limited, 2020; Exxaro Resources Limited, 2020; Mediclinic International PLC, 2020) or the pandemic affected the company's risk assessment by increasing existing risks and affecting the existing risks' order (i.e. Anglo American Platinum Limited, 2020; Nedbank Group Limited, 2020). Disclosure regarding COVID-19 was made throughout companies' annual reports and some companies supplemented this with a dedicated section on COVID-19 (i.e. MTN Group Limited, 2020; Naspers Limited, 2020). The increase in reporting is evidenced by the increase in the quotation count: 90 in 2019 to 2144 in 2020.

Table 2. Characteristics of Companies whose Annual Reports were Analysed.

Category	Number of Companies	% of Total
Total	**45**	**100%**
Industry		
Additional	1	2.2%
Basic materials	15	33.3%
Consumer goods	3	6.7%
Consumer services	4	8.9%
Financials	12	26.7%
Health care	2	4.4%
Industrials	2	4.4%
Oil and gas	2	4.4%
Technology	2	4.4%
Telecommunication	2	4.4%
Financial year-ends		
February	2	4.4%
March	7	15.6%
June	14	31.1%
August	1	2.2%
September	1	2.2%
December	20	44.4%

Table 3. Diseases Reported on by Companies During their 2019 and 2020 Financial Years.

Prior to the outbreak of COVID-19					
2019			**2020**		
2019 financial year ending January to November:	24	100%	N/A		
None	13	54%			
One	6	25%			
More than one	5	21%			
After the outbreak of COVID-19					
2019			2020		
2019 financial year			2020 financial year ending January to		

ending December:	20	100%	December:	45	100%
None	1	5%	None	0	0%
Only COVID-19	9	45%	Only COVID-19	26	58%
COVID-19 and one	2	10%	COVID-19 and one	5	11%
COVID-19 and more than one	8	40%	COVID-19 and more than one	14	31%

Sustainability Elements Reported on

The qualitative analysis indicated that pandemics affect all four components of sustainability: financial, ESG. Table **4** sets out the themes (the four components of sustainability), codes, quotation count and related discussion, in order of quotation count. The code names also specify whether the change was positive (+), negative (-) or neutral (#).

Most (31) of the codes indicated that pandemics have a negative effect on companies' sustainability, with nine positive and 11 neutral effects. Three of the codes indicated both a positive and negative effect, depending on the circumstances. The pandemic-related reporting focussed on the affected financial (37.1%) and social (37.2%) sustainability elements and how this influenced the company's governance (24.1%). Though companies' description of the environmental effect was very limited (2%), it was clear that companies realised the importance of this sustainability component.

Table 4. Themes, Codes, Quotation Count and Discussion.

Themes, Codes, and Quotation Count				
Themes and Codes (Effect) **(+) – positive** **(-) – negative** **(#) – neutral**	**Quotations** **A**	**Contribution to Theme** **B** **A/Total for theme**	**Contribution to the Study** **C** **A/Overall total**	**Discussion**
Financial	**1307**	**100%**	**37,1%**	
Disruptions to operations (-)	344	26.3%	9.8%	Government-imposed lockdowns severely pressured operations. The restriction on the movement of goods and people (i.e. BID Corporation Limited, 2020) disrupted companies' supply chains leading to unanticipated delays and costs (i.e. Renergen Limited, 2020) and caused an inability to render optimal services by restricting capacity (i.e. Standard Bank Group Limited, 2020:48). Companies faced temporary shutdowns followed by swift restarts, had to delay certain projects (i.e. Glencore PLC, 2020), site visits (i.e. Mondi PLC, 2020) and external audits (i.e. Kumba Iron Ore Limited, 2020). At the peak of lockdowns, 90% of jewellery stores were closed (Anglo American PLC, 2020). Production was severely constrained, sometimes as much as 98% (i.e. BHP Group PLC, 2020). Consequently, a severe drop in supply was experienced during the lockdowns (i.e. Anglo American PLC, 2020), sometimes to such an extent that critical goods and services were unavailable (i.e. Exxaro Resources Limited, 2020).
Pressures financial performance (-)	129	9.9%	3.7%	Companies experienced a decrease in sales (i.e. Shoprite Holdings Limited, 2020), profit (i.e. Compagnie Fin Richemont, 2020), headline earnings (i.e. Remgro Limited, 2020) and share price (i.e. Reinet Investments S.C.A., 2020). This was regardless of companies being classified as essential (Montauk Holdings Limited, 2020).
Pressures economy (-)	113	8.6%	3.2%	While companies understood that the measures taken by governments to manage the pandemic were necessary, they recognised the severe pressure it caused on the global economy (i.e. BHP Group PLC, 2020). FirstRand Limited (2020) noted that the GDP contraction in South Africa was the worst since the Second World War. Companies also recognised that the effects will most probably not be short-lived (i.e. Prosus, 2020).

Product/service demand decrease (-)	104	8.0%	3.0%	A drop in demand for products and services was experienced, including reduced transactional activity and branch-originated unsecured lending for banks (i.e. Standard Bank Group Limited, 2020), energy, diamonds and metal products (i.e. Glencore PLC, 2020), jewellery (i.e. Anglo American Platinum Limited, 2020), vehicles (i.e. Bidvest Limited, 2020), medicines related to elective surgeries (i.e. Aspen Pharmacare Holdings Limited, 2020), food products used in discretionary spend sectors such hotels and restaurants (i.e. BID Corporation Limited, 2020), and paper used for office printing papers (i.e. Mondi PLC, 2020).
Increased provisions/impairments/uncertain asset value (-)	96	7.3%	2.7%	Companies considered the increased fear and uncertainty created by COVID-19 on judgements made by the company, including in determining the collectability of receivables, inventory obsolescence, the value of non-current assets (such as goodwill, intangible assets and investments (Prosus, 2020) and property, plant and equipment (PPE) (Mondi PLC, 2020)) and the ultimate assessment of the company's ability to continue as a going concern (i.e. BID Corporation Limited, 2020). Some companies concluded that the impact of COVID-19 did not materially affect their assessments, whereas most increased provisions and impairments significantly (i.e. Barloworld Limited, 2020).
Health care cost increase (-)	94	7.2%	2.7%	Companies spent unanticipated amounts on health care, including substantial health care donations (related to PPE, ventilators and hospital infrastructure) (i.e. Absa Group Limited, 2020) and were required to meet governmental requirements related to their own employees and contractors (such as PPE, sanitising, screening, testing and isolation) (i.e. Montauk Holdings Limited, 2020).
Increased cost (-)	76	5.8%	2.2%	In addition to costs discussed elsewhere (see i.e., *health care cost increase*, *human resource cost increase*), depreciation (i.e. Sasol Limited, 2020) and unit costs (as a result of pressure on production) grew (i.e. Anglo American PLC, 2020). Discovery Limited (2020) estimated COVID-19's future impacts on the company as R3.4 billion and reserved the amount for future claims and lapses. Many companies recorded COVID-19-related costs as an exceptional item (i.e. Anheuser-Busch InBev, 2020).
Opportunities expanded (+)	65	5,0%	1,8%	Despite the financial pressures, companies were attentive to the opportunities COVID-19 presented, especially relating to fast-tracked digitalisation. The forced digital adoption enabled companies to accelerate productivity (i.e. Quilter PLC, 2020) and increase their online distribution capacity (i.e. Clicks Group Limited, 2020). Companies digitised existing service delivery to enable operations to continue without the need for physical interaction (i.e. Mediclinic International PLC, 2020). Virtual training broke previous boundaries between operations, areas and levels (i.e. Sibanye-Stillwater Limited, 2020). New COVID-19 prevention or treatment product lines were produced or sourced for an increased customer base (i.e. Clicks Group Limited, 2020).
Product prices decrease (-) (+)	54	4,1%	1,5%	Commodity demand decrease created oversupply, driving down prices (i.e. Sasol Limited, 2020). Substantial drops were experienced in especially energy and metal prices,

				such as oil (i.e. Glencore PLC, 2020), coal, copper (i.e. BHP Group PLC, 2020) and diamonds (i.e. Anglo American PLC, 2020). This was negative for companies producing the goods, but positive for those that required it as input.
Product/service demand increase (+)	40	3,1%	1,1%	During the lockdowns, people stockpiled food out of panic (i.e. BID Corporation Limited, 2020), increased data and other communication services usage (i.e. MTN Group Limited, 2020) and increased subscriptions to video entertainment (MultiChoice Group Limited, 2020). The low-interest rates fuelled mortgage disbursements (i.e. Standard Bank Group Limited, 2020), companies' produce was used in the prevention and treatment of COVID-19 (i.e. Aspen Pharmacare Holdings Limited, 2020) and investors regarded gold as a safe investment (i.e. AngloGold Ashanti Limited, 2020). Online sales surged (i.e. British American Tobacco PLC, 2020), which led to an increase in the demand for related packaging (Mondi PLC, 2020).
Pressures liquidity/credit risk (-)	36	2,8%	1,0%	Companies refinanced and extended their credit facilities (i.e. Mediclinic International PLC, 2020) and received additional loans or overdraft facilities (i.e. Bidvest Limited, 2020). Consequently, companies' credit risk exposure increased significantly (i.e. South32 Limited, 2020) and some even suffered credit rating downgrades (i.e. Sasol Limited, 2020). Even though these measures pressured companies' leverage, their focus shifted from deleveraging to ensuring adequate liquidity to continue with operations (i.e. Northam Platinum Holdings Limited, 2020).
Human resource cost increase (-)	35	2,7%	1,0%	Human resource costs increased due to COVID-19 special leave arrangements at full remuneration (i.e. Barloworld Limited, 2020), additional allowances paid to health care personnel (i.e. Kumba Iron Ore Limited, 2020), and bonuses paid to customer-facing staff (i.e. Clicks Group Limited, 2020) and personnel that worked during the hard lockdown (i.e. Exxaro Resources Limited, 2020). Long-planned redundancies were also delayed, considering that those workers would have difficulty finding employment during the lockdowns (i.e. Quilter PLC, 2020).
Cash preservation measures (-)	25	1,9%	0,7%	To preserve cash and remain liquid, companies, where possible, cut costs (i.e. Harmony Limited, 2020), delayed or reduced capital expenditure (i.e. Barloworld Limited, 2020) and declared force majeure on certain supplier agreements (i.e. Harmony Limited, 2020). Further measures included retrenchments (see *loss of labour/expertise*) and salary cuts (see *salaries decrease*) (i.e. BID Corporation Limited, 2020).
Adjusted payment/repayment terms (-)	17	1,3%	0,5%	Companies' customers that were pressured by the pandemic, requested more lenient payment terms (i.e. Exxaro Resources Limited, 2020). Hence, companies provided payment or contribution holidays (i.e. Discovery Limited, 2020) and extended payment relief (i.e. Nedbank Group Limited, 2020). Companies accelerated supplier payments to alleviate their financial pressures (i.e. BHP Group PLC, 2020).
Lowered dividends (-)	17	1,3%	0,5%	Boards were generally prudent and elected not to pay dividends (i.e. Glencore PLC, 2020).

Product prices increase (-)(+)	13	1,0%	0,4%	Supply shortages (see *disruptions to operations*) drove some prices up, including manganese ore (i.e. Anglo American PLC, 2020) and gold (i.e. AngloGold Ashanti Limited, 2020). The gold price was also increased as investors saw this as a safe haven (i.e. Sibanye-Stillwater Limited, 2020). This was a positive factor for companies producing these goods, but a concern for those that required it as input.
Stockpiled (-)	12	0,9%	0,3%	Supply shortages (see *disruptions to operations*) urged companies to stockpile goods critical to their operations (i.e. AngloGold Ashanti Limited, 2020), while the p*roduct/service demand decrease* caused other companies to stockpile their produce, to such an extent that they risked running out of storage space (i.e. Sasol Limited, 2020).
Improved financial performance (+)	11	0,8%	0,3%	In the face of COVID-19, some of the companies' commodity lines displayed weaker financial performance, whereas other lines reflected improved financial performance. For example, in the basic materials industry, while energy was down, the metal component grew (i.e. Gold Fields Limited, 2020). COVID-19-related products and services flourished (i.e. Bidvest Limited, 2020). Furthermore, COVID-19-related savings was experienced, though it was realised that it is improbable to be sustained (i.e. Kumba Iron Ore Limited, 2020).
Product price volatility (-)	11	0,8%	0,3%	Companies experienced extremely volatile financial and commodity markets, mainly driven by the impacts of the imposed lockdowns and macroeconomic uncertainty (i.e. Anglo American PLC, 2020).
Improved entity operations (+)	5	0,4%	0,1%	Companies focussed on eliminating inefficient activities, (i.e. BID Corporation Limited, 2020) and shortened and improved supply chains (i.e. Standard Bank Group Limited, 2020).
Resources reallocated (#)	5	0,4%	0,1%	Companies reallocated resources from costs like administration and marketing (i.e. AngloGold Ashanti Limited, 2020) to protecting their employees (i.e. Anglo American PLC, 2020) (see *improved focus on health and safety*).
Investment in technologies increase (+)	3	0,2%	0,1%	To support the growing digitalisation trend (see *increased digitisation of operations*), companies invested in new IT infrastructure and software (i.e. BID Corporation Limited, 2020).
Increased digitised competition (-)	2	0,2%	0,1%	The increase in e-commerce caused an escalation in digitised competition (i.e. Standard Bank Group Limited, 2020).
Environmental	56	100%	2%	
Focus on environment increase (+)	26	46,4%	0,7%	While environmental sustainability was already at the top of pressing global concerns, COVID-19 reinforced companies' awareness of their dependence on nature (i.e. Anglo American Platinum Limited, 2020). Other environmental issues, such as climate change, were brought to the forefront (i.e. BID Corporation Limited, 2020). Companies' mindfulness of opportunities to restart operations with a greater focus on environmental sustainability increased (BHP Group PLC, 2020). During COVID-19, some companies published new (or altered existing) environmental policies (i.e. Exxaro Resources Limited, 2020).

Positive environmental impact (+)	22	39,3%	0,6%	Reduced economic activity (see *disruptions to operations*) led to decreased emissions (i.e. NEPI Rockcastle PLC, 2020).
Threats to environment (-)	8	14,3%	0,2%	*Disruptions to operations* caused delays in the construction of green plants (i.e. Anglo American Platinum Limited, 2020), and waste removal and recycling reduced (i.e. Kumba Iron Ore Limited, 2020). Furthermore, companies are aware of the substantial capital investment required to achieve noteworthy energy savings, which is constrained by COVID-19's impact (i.e. Impala Platinum Holdings Limited, 2020).
Social	1312	100%	37,2%	
Improved focus on stakeholders (and engagement) (+)	371	28,3%	10,5%	The annual reports displayed an intensification of focus on stakeholders and collaboration with them (i.e. Glencore PLC, 2020). Companies highlighted the crucial role of employees, investors, society and other stakeholders as part of business continuity and long-term success (i.e. Anglo American PLC, 2020). Companies emphasised that they understood that all stakeholder groupings are pressured by the pandemic (i.e. Zambezi Platinum (RF) Limited, 2020). Previously built relationships were reassuring during the trying times as they were able to collaborate and find solutions (i.e. Anglo American PLC, 2020).
Increased need for support from stakeholders (#)	252	19,2%	7,2%	The crisis was viewed as an opportunity to display companies' commitment to help stakeholders overcome COVID-19's negative effects (i.e. Exxaro Resources Limited, 2020). Collaboration with key stakeholders intensified (i.e. British American Tobacco PLC, 2020), which assisted companies in providing much-needed support. Collaboration between businesses and governments allowed companies to support employees, suppliers and communities (i.e. Naspers Limited, 2020). Examples include internet-enabled devices donated to assist tertiary students to continue with online learning (Aspen Pharmacare Holdings Limited, 2020), zero-rated offerings to schools and tertiary institutions (Vodacom Group Limited, 2020), and an initiative aimed at assisting Grade 12 learners was aired, in partnership with the Department of Education and the South African Broadcasting Corporation Limited (Bidvest Limited, 2020). Collaboration with clients provided companies with insight to support the clients' businesses (i.e. Standard Bank Group Limited, 2020). Where inventories would have been wasted due to lockdown restrictions, it was bought back, revamped and sold, with proceeds donated to small local businesses (Anheuser-Busch InBev, 2020). Generous donations were made, including PPE, hospital infrastructure, food and water and fuel for emergency vehicles to assist communities (i.e. Bidvest Limited, 2020). Companies shortened payment terms to support selected suppliers and funded vaccine- and pandemic-related research (i.e. Prosus, 2020). Companies provided financial relief to their clients through insurance policy cash backs and premium payment relief on policies (i.e. Standard Bank Group Limited, 2020). Several directors contributed 30% of their salaries or fees for three months (i.e. FirstRand Limited, 2020), and relief funds were established to provide financial assistance to staff (MTN Group Limited, 2020). Planned redundancies were delayed, as it would be difficult to find

				new employment during the pandemic (Quilter PLC, 2020).
Legal issues increase (-)	175	13,3%	5,0%	Failure to comply with government-imposed COVID-19 regulations could be detrimental to companies, leading to lawsuits, penalties or fines, as well as reputational damage (i.e. BHP Group PLC, 2020). Consequently, to promote health and safety, and to meet these increased require-ments, companies appointed COVID-19 compliance of-ficers (i.e. Sanlam Limited, 2020), implemented extensive cleaning and sanitation processes (i.e. Montauk Holdings Limited, 2020), distributed sanitiser and PPE (i.e. Standard Bank Group Limited, 2020), facilitated social distancing and monitored and recorded employees' health (i.e. Glencore PLC, 2020), identified potentially vulnera-ble employees (i.e. Impala Platinum Holdings Limited, 2020) and empowered employees to work from home (i.e. Old Mutual Limited, 2020). As companies required sensi-tive health information from employees, companies' legal liability regarding the safekeeping of this information, also increased (i.e. BID Corporation Limited, 2020). Fur-thermore, existing legal proceedings were delayed as a result of COVID-19 (i.e. BHP Group PLC, 2020).
Improved focus on health and safety (+)	104	7,9%	3,0%	Companies reiterated that their first priority at the onset of and throughout COVID-19 was the health, safety and well-being of their employees, clients and communities (i.e. Glencore PLC, 2020), and consequently, resources were reallocated towards this (i.e. AngloGold Ashanti Limited, 2020) (see *health care cost increase*). A range of well-being interventions was launched, including health awareness and support programmes, counselling, and online webinars on various pandemic-related topics, such as mental well-being, home-schooling and parenting, and remote working (i.e. Anglo American Platinum Limited, 2020). Companies were focussed on establishing COVID-19 safe environments for employees and customers, and invested heavily in this area (i.e. Shoprite Holdings Limited, 2020).
Loss of labour/expertise (-)	75	5,7%	2,1%	COVID-19-related deaths, illness and restrictions led to high levels of staff absenteeism (i.e. Montauk Holdings Limited, 2020). Workforces at operations were signifi-cantly reduced (i.e. Standard Bank Group Limited, 2020), and quarantine, self-isolation and travel restrictions led to compromised staff availability and expertise shortages (i.e. Harmony Limited, 2020). Labour losses were fur-thered by companies implementing job losses and reduced working hours (i.e. Barloworld Limited, 2020).
Increased need for communication (#)	68	5,2%	1,9%	COVID-19 drove an increased need for communication and companies responded by providing regular and con-sistent communication. Companies communicated with stakeholders on the impact of COVID-19 on the company, as well as their related responses (i.e. Sibanye-Stillwater Limited, 2020). They provided stakeholders with guidance on prevention measures and misinformation (i.e. Vodacom Group Limited, 2020). Communication with employees was deemed fundamental (i.e. NEPI Rockcastle PLC, 2020) and consequently two-way con-versations between the board and employees took place (Mondi PLC, 2020). The feedback between the leadership team and the board increased (i.e. Prosus, 2020) and ongo-

				ing feedback was provided to crisis management teams on the implemented protocols (i.e. AngloGold Ashanti Limited, 2020). Communication between board members also increased (i.e. South32 Limited, 2020) (see c*hange in board meetings*). Communication with suppliers regarding increased COVID-19 regulatory requirements took place (i.e. Anglo American PLC, 2020).
Threats to human rights (-)	56	4,3%	1,6%	The economic effects of COVID-19 and the related government-imposed measures, amplified existing inequalities globally, threatening human rights and socio-economic targets (i.e. Kumba Iron Ore Limited, 2020). Unemployment doubled in some countries, and domestic and gender-based violence increased (i.e. Anglo American PLC, 2020). Health, food and water security were affected (i.e. Sibanye-Stillwater Limited, 2020).
Increased health and safety risk (-)	45	3,4%	1,3%	COVID-19 posed a direct health, safety, and well-being threat to companies' employees and customers (i.e. Montauk Holdings Limited, 2020). COVID-19 restrictions increased the intricacy of managing existing safety controls (i.e. Mondi PLC, 2020), including hindering emergency services to optimally respond to workplace incidents (BHP Group PLC, 2020) and modifying the composition of mining teams (Sibanye-Stillwater Limited, 2020).
Salaries decrease (-)	40	3,0%	1,1%	Due to COVID-19's financial impact and uncertainty, some companies were pressed to reduce the salaries of employees (i.e. Barloworld Limited, 2020) and directors (i.e. Discovery Limited, 2020), whereas most companies did not implement any salary increases for directors (i.e. Prosus, 2020).
Employee productivity decreases (-)	35	2,7%	1,0%	Decreased productivity was experienced (i.e. Aspen Pharmacare Holdings Limited, 2020), especially by the basic materials companies (requiring on-site staff) (i.e. AngloGold Ashanti Limited, 2020).
Threats to stakeholder engagement (-)	33	2,5%	0,9%	COVID-19 restrictions led to engagement activities and initiatives with employees, contractors, suppliers, shareholders, consumers and communities being suspended, delayed or changed from in-person engagement to virtual engagement (i.e. Harmony Limited, 2020). Companies realised that serious and emotional matters are not easily discussed in virtual format (Anglo American PLC, 2020).
Increased stakeholder demands (#)	24	1,8%	0,7%	COVID-19's economic burdens increased stakeholder demands. Communities increasingly expected companies to alleviate their hardships through the provision of financial or other support (i.e. Gold Fields Limited, 2020). Stakeholders generally required companies to meet ESG standards (i.e. Sibanye-Stillwater Limited, 2020) and deliver socio-economic benefits (i.e. Impala Platinum Holdings Limited, 2020).
Increased employee issues (-)	5	0,4%	0,1%	Companies had to manage the increase in personal employee issues, including employees being disengaged, and threats to their mental and physical well-being and productivity (i.e. Prosus, 2020). Companies adequately responded through an *improved focus on health and safety*.
Consumer behaviour changes (#)	15	1,1%	0,4%	COVID-19 brought disruption to pre-existing trends, which led to changes in consumer behaviour. Consumers increased their focus on higher-quality products (i.e. BHP

				Group PLC, 2020), whereas the focus changed to affordability and better value alternatives for discretionary spend sectors (i.e. Anheuser-Busch InBev, 2020). Consumers visited stores less often and rather sought convenience and digital solutions, creating a notable surge in e-commerce, allowing companies to seize productivity benefits (i.e. Quilter PLC, 2020). Some industries experienced a shift in customer base (from individuals to hospitals and buying group contracts) and a change in products sold (increase in sales of sanitisers and supplements) (i.e. Clicks Group Limited, 2020).
Threatened skills development (-)	8	0,6%	0,2%	COVID-19 restrictions resulted in challenges for training programmes, causing them to be suspended, delayed or cancelled (i.e. Aspen Pharmacare Holdings Limited, 2020), reducing companies' training expenditure substantially (i.e. Harmony Limited, 2020). Where possible, companies reverted their training programmes to online platforms (i.e. Sanlam Limited, 2020) (see *increased digitisation of operations*).
Increased retention and attraction risk (-)	6	0,5%	0,2%	COVID-19's impact increased companies' retention risks, requiring companies to re-evaluate compensation (i.e. FirstRand Limited, 2020). The increased competition for expertise was addressed by approving short-term critical skills and circumstantial allowances (i.e. Kumba Iron Ore Limited, 2020), or by reinstating normal salaries subsequent to salary cuts (i.e. Barloworld Limited, 2020). Furthermore, difficulties in recruitment were experienced (i.e. Vodacom Group Limited, 2020).
Governance	849	100%	24,1%	
Change in strategy (#)	277	32,6%	7,9%	Several adjustments to companies' strategies are discussed elsewhere (see i.e., *improved focus on health and safety*, *resources reallocated, cash preservation measures, increased need for communication*). Additionally, companies focussed on their board's succession planning (i.e. Absa Group Limited, 2020), and closely monitored their risks and updated their risk registers (i.e. Mondi PLC, 2020). Companies adjusted leadership practices, internal structures and goals and the nature of work (i.e. Anglo American PLC, 2020). Internal reporting systems were shortened and accelerated (AngloGold Ashanti Limited, 2020). Companies engaged in formal scenario-planning and balance sheet stress-testing (i.e. BHP Group PLC, 2020), and established new task teams and response plans (i.e. Remgro Limited, 2020). Companies used COVID-19 as an opportunity (see *opportunities expanded*) to restructure their operations (see *improved entity operations*) and re-engineer their strategy for the better (i.e. Sasol Limited, 2020).
Increased digitisation of operations (#)	161	19,0%	4,6%	Another major *change in strategy*, was increased digitisation. COVID-19 accelerated the world's transition to online platforms and *opportunities expanded* (i.e. Naspers Limited, 2020). In fact, digitisation was necessary, not just to reduce cost and enhance productivity and financial performance, but also to support remote working conditions (i.e. Quilter PLC, 2020). Virtual engagement sessions with employees and external stakeholders were held (i.e. British American Tobacco PLC, 2020), interviews, employee induction programmes and other training were digitised (i.e. Mondi PLC, 2020), and site visits and safety

				days were conducted online (i.e. BHP Group PLC, 2020). Companies capitalised on digitisation opportunities by developing new product offerings to address customers' needs (i.e. Mediclinic International PLC, 2020), including launching a cyber-insurance product to address the increased cyber risks experienced by companies (Standard Bank Group Limited, 2020). Companies launched chatbots, apps and online information hubs to keep clients and employees updated (i.e. Glencore PLC, 2020). Self-screening and COVID-19 contact tracing apps were developed (i.e. Bidvest Limited, 2020). An app was even developed to address food shortages by linking farmers and charity organisations (Standard Bank Group Limited, 2020). The accelerated digitisation also enabled companies to improve decision-making, including increasingly making use of data analytics (i.e. Vodacom Group Limited, 2020).
Increased fear/uncertainty (-)	149	17,6%	4,2%	Uncertainty was a key term used by companies when reporting on the impact of the pandemic. Companies experienced immense volatility and disruption to the economic environment and their operations and the resulting stresses throughout society, influencing all stakeholder groups (i.e. Glencore PLC, 2020). Companies experienced the pandemic crisis as both unpredictable and as the single largest shock to the global economy and society in recent times (i.e. BHP Group PLC, 2020). This uncertainty was highlighted when discussing risks, forecasts, assumptions and other disclosures (i.e. Renergen Limited, 2020). Concerns about civil riots, a rise in criminal acts, geopolitical tension and uncertain policy settings were stressed (i.e. Discovery Limited, 2020).
Implemented disaster management (#)	99	11,7%	2,8%	An increased focus on sustainability was necessary, and companies implemented disaster recovery and business continuity plans (i.e. Old Mutual Limited, 2020).
Threats to sustainability/strategic risk (-)	37	4,4%	1,0%	Companies' business models were tested, causing a direct strategic risk and threatening their overall sustainability (i.e. British American Tobacco PLC, 2020).
Government intervention (#)	33	3,9%	0,9%	Companies experienced increased government intervention, as the private and public sectors took hands to address COVID-19's consequences (see *increased need for support from stakeholders*). Government action increased as they imposed regulation and provided fiscal support (i.e. Glencore PLC, 2020). Tax authorities granted tax deferrals (i.e. Sasol Limited, 2020) and the South African government introduced the Temporary Employer/Employee Relief System (TERS), providing support to employees that could not work during the lockdown (i.e. Bidvest Limited, 2020). The Reserve Bank of India had cut its repo rate, while the country provided liquidity support, credit guarantees and deferred new bankruptcy actions (i.e. Sanlam Limited, 2020). The Dubai Electric and Water Authority granted a 10% discount to companies on utility costs (i.e. BID Corporation Limited, 2020). Governments provided funding to small businesses, allowing them to buy stock at reduced prices to address the food shortages in remote communities and townships and companies partnered with this initiative (i.e. Standard Bank Group Limited, 2020). As a result of the digitisation, governments aimed to widen people's access to digital

				services (i.e. Standard Bank Group Limited, 2020). Regulatory fee caps and waivers were imposed (i.e. Standard Bank Group Limited, 2020) and the telecommunication industry was requested to track the movement of people (i.e. Vodacom Group Limited, 2020). As governments redirected public funds to address the pandemic, it created severe budget constraints, which had an impact on deal closures of projects (i.e. Standard Bank Group Limited, 2020).
Change in board meetings (#)	33	3,9%	0,9%	Board meetings transitioned to a virtual format, and occurred more frequently to address the challenges brought forth by COVID-19 (i.e. South32 Limited, 2020).
Increased cyber risk (-)	28	3,3%	0,8%	Companies were required to provide IT systems that would support operational resilience, while addressing the increased data and cyber security risks (i.e. Bidvest Limited, 2020) as a material increase in cybercrime was noted during the pandemic (i.e. Glencore PLC, 2020).
Change in shareholder meetings (#)	17	2,0%	0,5%	Shareholders were encouraged to submit questions and participate in writing or where shareholder meetings were in-person, shareholders were encouraged to make use of proxies (i.e. Zambezi Platinum (RF) Limited, 2020). Other companies hosted their annual general meeting virtually (i.e. MTN Group Limited, 2020).
Increased reputational risk (-)	8	0,9%	0,2%	*Increased stakeholder demands*, and opinions of companies' responses to COVID-19's challenges being inappropriate, led to reputational risk (i.e. Mondi PLC, 2020). Furthermore, brand-building activities were restricted (i.e. Discovery Limited, 2020) and insurance companies received negative publicity regarding COVID-19 business interruption claims (i.e. Old Mutual Limited, 2020).
Increased fraud risk (-)	5	0,6%	0,1%	Phishing fraud attacks increased during COVID-19, and COVID-19-related donations presented opportunities for bribery and collusion (i.e. Glencore PLC, 2020).
Revealed vulnerabilities (-) (+)	2	0,2%	0,1%	COVID-19 revealed vulnerabilities, but companies used it as an opportunity to address it promptly (i.e. Standard Bank Group Limited, 2020).
Totals	3524		100%	

CONCLUSION

Stakeholders are increasingly concerned with sustainability reporting for decision-making (Hughen et al., 2014). Given the chaos that pandemics cause, pervasively threatening companies' sustainability, it is to be expected that companies' disclosure would include narratives of how pandemics affected the company and how the company responded thereto. Yet none of the numerous available South African and international sustainability frameworks specifically require pandemic-related disclosure. The lack of pandemic-related disclosure requirements may be one of the reasons that, prior to the outbreak of COVID-19, pandemic-related reporting was found to be very limited. Considering that pandemics are significant global risks, pervasively threatening companies' sustainability, such inadequate reporting is improper and may indicate companies' unpreparedness for such risks (Abhayawansa & Adams, 2022). This study, therefore, encourages pandemic-related reporting during, but also in the absence of a pandemic, to highlight the companies' awareness and preparedness therefor.

After the outbreak of COVID-19, and regardless of this lack of reporting guidelines, companies extensively reported on the effect COVID-19 had on its sustainability, including the society and nature forming part of their contexts. No specific disclosure structure was followed, though most companies dedicated a section to COVID-19 and its effects and furthermore intertwined disclosure in the rest of their annual reports where relevant. The detailed disclosure allowed the researchers to establish a comprehensive list of 54 sustainability elements that JSE-listed companies reported on that are affected by pandemics.

Companies' pandemic-related disclosure regarding the social component of sustainability, slightly exceeded the financial component, indicating the growth in non-financial disclosure. Companies highlighted their focus on stakeholders and engagement with them during COVID-19 and displayed their awareness of the increased needs of stakeholders in the pandemic-environment, as well as their responses to address these needs. Financial pandemic-related reporting mainly explained the disruptions to operations, pressures on financial performance and economy, the decrease in the demand for commodities and the increase in various costs. Entities emphasised how they needed to be governed towards amended strategies and appropriately responding to the effects of COVID-19, especially regarding digitisation. Companies reported on the uncertain nature of the pandemic-environment and based on the threats to companies' viability, explained that a focus on managing the disaster was necessary. Environmental pandemic-related disclosure was the least, yet it was clear that companies realised their interdependence with both nature and society. The thorough non-financial pandemic-related disclosure may be due to companies realising that such reporting may ensure their survival from future pandemics, as suggested by Hassan et al. (2021). While the focus on non-financial matters has increased, the financial paradigm of reporting remains crucial (Atkins et al., 2018; Tregidga et al., 2014).

The pandemic-related reporting by the companies may be considered as mere impression management, but, following Atkins et al.'s (2018) argument, several factors indicate otherwise. Firstly, COVID-19-related reporting was not limited to specific companies within specific industries. All companies were affected to differing extents and in different manners. Secondly, companies disclosed more than a basic narrative. The effect that COVID-19 had on the company itself, its operating environment and its stakeholders were integrated with the company's risk management. Companies explained how COVID-19 and the responses instituted by governments to manage its effects altered their strategy, detailing specific actions implemented towards ensuring the company's sustainability, including addressing the consequent needs of its stakeholders. Financial resources were devoted to support surrounding communities with food parcels and health care. This was complemented by collaboration with other organisations and the public sector to support individuals and small businesses. Therefore, it is deduced that COVID-19-related disclosure stemmed from a genuine interest of companies to be transparent regarding the pandemic's effects and the companies' responses thereto, supporting the comprehensiveness of the disclosure and consequently the list generated by this study.

This study was limited to top JSE-listed companies. Including unlisted public companies' annual reports may have resulted in more sustainability elements that were affected by pandemics. Furthermore, the study did not separate the effects due to the pandemic itself and due to the government-imposed restrictions to manage the pandemic, which is likely higher (Ajam, 2020). Despite these obstacles, the study provides a comprehensive list of sustainability elements of companies affected by pandemics. Future research may focus on conducting quantitative research on the impact of pandemics on companies' sustainability. Conducting this research on separate industries may provide valuable insight.

LIST OF ABBREVIATIONS

ESG	=	Environmental, social and governance
GDP	=	Gross domestic product
IMF	=	International Monetary Fund
JSE	=	Johannesburg Stock Exchange
PPE	=	Property, plant and equipment
WHO	=	World Health Organisation

CONFLICT OF INTEREST

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APPENDIX A – ANNUAL REPORTS ANALYSED AND CHARACTERISTICS

Index Name	Company Name	Type of Company as per Annual Report	Company Market Capitalisation as at 3 Jul. 2021 (R)
Additional	Zambezi Platinum (RF) Limited	Empowerment vehicle for Northam Platinum Limited	12 312 719 881
Basic materials	BHP Group PLC	Mining	742 731 167 781
	Anglo American PLC	Mining	539 440 348 979
	Glencore PLC	Mining	532 688 026 410
	Anglo American Platinum Limited	Mining	334 071 133 101
	AngloGold Ashanti Limited	Mining	210 484 825 600
	Mondi PLC	Packaging and paper	152 133 710 350
	Kumba Iron Ore Limited	Mining	150 481 787 913
	Gold Fields Limited	Mining	143 356 196 636
	South32 Limited	Mining	120 090 518 141

	Sibanye-Stillwater Limited	Mining	100 350 070 725
	Impala Platinum Holdings Limited	Mining	93 079 487 784
	Sasol Limited	Chemicals and energy	82 911 997 260
	Northam Platinum Holdings Limited	Mining	58 849 143 113
	Harmony Limited	Mining	47 159 728 182
	Exxaro Resources Limited	Mining	46 176 320 442
Consumer goods	British American Tobacco PLC	Cigarettes and cigarette alternatives	1 618 847 166 342
	Anheuser-Busch InBev	Alcohol and alcohol alternatives	1 442 642 316 912
	Compagnie Fin Richemont	Luxurious goods	573 730 200 000
Consumer services	BID Corporation Limited	Food services	95 952 436 969
	Shoprite Holdings Limited	Consumer goods retailer	63 840 904 676
	Clicks Group Limited	Consumer goods retailer	53 825 516 570
	MultiChoice Group Limited	Video entertainment	48 056 876 831
Financials	FirstRand Limited	Various financial services	217 704 229 319
	Standard Bank Group Limited		170 400 364 855
	Sanlam Limited		133 529 385 504
	Capitec Bank Holdings Limited		100 038 160 073
	Absa Group Limited		71 940 122 620
	Discovery Limited		69 449 672 648
	Old Mutual Limited		60 034 059 025
	Reinet Investments S.C.A.	Investment company	59 013 596 517
	NEPI Rockcastle PLC	Owner and operator of shopping centres	56 552 687 827
	Quilter PLC	Various financial services	55 453 924 128
	Remgro Limited	Investment company	53 355 658 646
	Nedbank Group Limited	Various financial services	52 760 906 985
Health care	Aspen Pharmacare Holdings Limited	Pharmaceutical	66 614 537 894
	Mediclinic International PLC	Hospitals	43 932 358 638
Industrials	Bidvest Limited	Various goods and services	50 721 294 015
	Barloworld Limited	Various goods and services	13 211 405 455
Oil and gas	Montauk Holdings Limited	Gas	4 737 210 420
	Renergen Limited	Gas	1 668 643 624
Technology	Prosus	Internet and technology	2 591 320 051 650
	Naspers Limited	Internet and technology	1 389 288 985 241
Telecommunication	Vodacom Group Limited	Communication	227 757 407 062
	MTN Group Limited	Communication	107 874 443 646
Market capitalisation of selected companies as at 3 July 2020			12 805 173 236 186
Total market capitalisation of JSE as at 3 July 2020			16 865 210 000 000

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