

# Are secondary equity offerings of Black Economic Empowerment (BEE) REITs less underpriced than non-BEE REITs?

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## Abstract

**Purpose** – The purpose of this paper is to contribute to the literature on secondary equity offerings (SEOs) by examining the impact of the Black Economic Empowerment (BEE) policy on secondary equity offering (SEO) pricing dynamics of South African Real Estate Investment Trusts (REITs).

**Design/methodology/approach** – With a sample of 152 SEOs of South African REITs from 2010 to 2020, ordinary least squares (OLS) models, fixed effect models, parametric and non-parametric tests were applied to test for the impact of BEE on the underpricing of SEOs.

**Findings** – Significant underpricing is discovered in highly compliant (BEE) REITs; in other words, SEOs pricing of BEE compliant REITs are more underpriced compared to non-compliant BEE REITs. With this, BEE compliant REITs and more so, highly compliant BEE REITs in particular leave more money on the table.

**Practical implications** – The government is therefore aware of the impact policy interventions play when REITs raise financing through SEOs. With these, highly compliant BEE REITs will need to be more strategic when making BEE compliance decisions as this is shown in our study to impact the underpricing of SEOs.

**Originality/value** – This is the first study to investigate SEO underpricing for the BEE policy using the South African REITs context.

**Keywords** Economic policy, Black Economic Empowerment, Secondary equity offerings, Underpricing, REITs

**Paper type** Research paper

## 1. Introduction

Secondary equity offering (SEOs) are stocks offered by publicly traded companies. Lorenz (2019) found that SEOs help listed companies develop sustainably and profitably. Since Real Estate Investment Trusts (REITs) are increasingly employing SEOs to raise funds, it is critical to assess their pricing. According to Chen *et al.* (2017), nations with more economic freedom have fewer major SEO underpricing issues. As recently noted by Ho *et al.* (2020), South Africa has a high index of economic freedom, therefore it will be fascinating to empirically assess the degree of underpricing in such a market. This study will be the first to examine the relationship between BEE and underpricing of SEOs of REITs in emerging nations using South Africa as an example. The threat of SEO underpricing is a contentious issue (Ngo *et al.*, 2019). With the ubiquity of SEO activity, listed firms should be able to access



the capital market; however, this might not be the case. Underpricing happens when the offer price of allocated shares is much lower than the offer day price (Lorenz, 2019). This may be due to timing (Naveen Kumar *et al.*, 2018; Ngo *et al.*, 2019), knowledge asymmetry, or overvaluation (Naveen Kumar *et al.*, 2018). Existing literature also suggests public policy interventions may contribute to SEO underpricing. There is some evidence of this in both developed and developing countries, with the problem more pronounced in the latter (Gounopoulos *et al.*, 2020; Liu *et al.*, 2020). Furthermore, we find inconsistencies in these studies; on public policy impact on stock market returns and pricing, Su *et al.* (2002) noted a positive relationship (Hong Kong); Prasad *et al.* (2006) revealed a negative relationship (Malaysia); and Gounopoulos *et al.* (2020) recently provided evidence on a negative relationship (China). In a situation like this, we are motivated to better understand the impact of public policy on SEO pricing in such settings.

In South Africa, Kok (2001, 2008), Oosthuizen and Naidoo (2010) and Jain *et al.* (2012) all posited that the government enacted a host of policies such as the Employment Equity Act (1998) [1, 2]; the Promotion of Equality and Prevention of Unfair Discrimination Act (2000) [3, 4] with a view toward ending white domination and encouraging black participation in the economy (Ponte *et al.*, 2007). The Black Economic Empowerment (BEE) has been a crucial economic measure for the post-apartheid era. The policy is governed by the *Broad-Based Black Economic Empowerment Act (2003)*, in which organizations are awarded points for voluntarily complying with codes of good practice [5]. We find that the BEE policy is documented to have been politicized; for instance, Tangri and Southall (2008) noted that leaders of the ruling African National Congress (ANC) party appear to have ensured that only politically-connected individuals benefit from the policy. This in turn has created controversies for different sectors in which investors now behave differently and highly underprice SEOs of non-BEE REITs based on sentiments arising from the economic policy uncertainties (Ariff *et al.*, 2007). Extant studies (mining sector – Sennanye, 2014; REITs Sector – Akinsomi *et al.*, 2016; non-traded options sector – Kuys, 2012; and transport Sector – Maphanga, 2003) have all reported empirically about the challenge around reconciling the intent of the BEE policy and its actual impact; enhancing black participation versus curbing white domination respectively. In light of the above and based on past literature (general stocks: Ariff *et al.*, 2007; and REITs: Evans *et al.*, 2016), we therefore hypothesize that the more a REITs firm is BEE compliant, the higher its SEOs are underpriced.

### 1.1 Top South African REITs: market capitalization and sector

For the period 2021 and since evolution (REITs regime) in 2013, the top 10 South African REITs are shown in Table 1. A look at the top ten REITs shows that retail is the most common sector they (REITs) invest in, with commercial the second most prevalent. The largest South African REIT, Growthpoint Properties Ltd, has 432 properties. Growthpoint, Redefine, Resilient and Fortress Income A are South Africa's top four REITs by market capitalization and they comprise four of the top five components of the FTSE EPRA/NAREIT Emerging EMEA Index (Hodges *et al.*, 2022). Growthpoint Properties and Redefine Properties are two South African REITs in the Top 10 constituents of an emerging market index that includes Asian nations, the FTSE EPRA/NAREIT Emerging Index. The South African REIT market trails only China. This discussion of developing market indices demonstrates the global dominance of South African REITs inside emerging markets.

### 1.2 Black Economic Empowerment (BEE)

As a case study policy, we used Black Economic Empowerment in our essay. As previously noted, BEE is thought to be a source of pricing inefficiencies for SEOs. According to Horwitz and Currie (2007), the ANC leadership has given up and compromised the policy's goal to a

Name	Market cap (ZAR)	Market cap (USD)	Sector	Properties
Growthpoint Properties	R 46,315,625,391	\$ 3, 057, 520, 440	Retail Commercial	432
Redefine Properties	R 25,537,127,335	\$ 1, 685, 830, 390	Industrial Retail Commercial	133
Resilient REIT	R 23,287,347,983	\$ 1, 537, 311, 476	Industrial Retail	16
Fortress Income (A)	R 15, 204, 754, 395	\$ 1, 003, 740, 03	Industrial Retail Commercial	101
Hyprop Investments	R 11, 920,764,948	\$ 786, 947, 864	Residential Retail Commercial	16
Vukile Property Fund	R 11, 857, 210, 187	\$ 782, 752, 304	Retail	74
Investec Property	R 9, 667, 070, 512	\$ 638, 170, 497	Retail Commercial Industrial	25
SA Corporate	R 6, 110, 798, 991	\$ 403, 403, 660	Industrial Retail Commercial	166
Emira Property	R 6, 083, 846, 755	\$ 401, 624, 411	Residential Industrial Retail Commercial	146
Arrowhead Properties	R 6, 031, 841, 833	\$ 398, 191, 313	Commercial Commercial Industrial Retail Residential	185

**Table 1.**  
Top 10 South African REITs by market capitalization (February 2022)

privileged few (White dominance). Similarly, Neocosmos (2008) highlighted how a small minority undermined policy goals. As in any other business, knowledge disparities have resulted in poor REIT SEO decisions (Ling *et al.*, 2021; Feng *et al.*, 2007; Downs *et al.*, 2000). The Broad-Based Black Economic Empowerment Act of 2003 (as amended) governs the activities and operations of firms listed on the Johannesburg Stock Exchange (JSE). While listed firms are encouraged to follow these criteria, it is optional. There are five (5) generic codes of good practice [6] with which listed firms are expected to voluntarily comply with. The Broad-Based Black Economic Empowerment (BBBEE) status measures a listed firm's score based on the five (5) generic elements (codes of good practice). The score points are measured in line with sub-requirements subsumed under each of the specific (five) elements. This is done annually by an agent that has been verified by the government; the agent is also empowered to issue a BBBEE certificate which confirms the listed firms' status. The ranking and procurement acknowledgment (by government) a firm receives is determined based on the levels of BEE compliance [7]. If a REIT's points are less than 30, such is regarded as non-compliant and no procurement acknowledgment is accorded.

### 1.3 The BEE scorecard explained

In South Africa, the BEE scorecard in Table 2 is an essential component of any industry, Table 2 shows the BEE calculator template for firms who decide to be BEE compliant. It is recommended that business owners (REITs inclusive) recognize the scoring system for their own benefits. This is because the higher your BEE ranking, the more likely your firm is to benefit from various opportunities [8] (Sibeta, 2013; Leenheer, 2009). The scores are accorded

	Percentage ownership	Target	Points scored
<i>OWNERSHIP</i>			
<i>Voting Rights held by</i>			
* Voting Rights held by Black people as a percentage of the total			
Black people		25	
Black women		10	
<i>Economic Interest held by</i>			
* Rights to distributions held by Black people as a percentage of the total			
Black people		25	
Black women		10	
Designated Groups		3	
Broad-based schemes			
Employee share ownership programmes			
Co-operatives			
New Entrants		2	
<i>Net Value Transfer</i>			
* The lower score of: Formula A: (value of shares held by Black people – funding cost)/enterprise value/target and Formula B: (economic interest held by Black people/target for Ownership)			
Percentage of target		100	
<i>MANAGEMENT CONTROL</i>			
* Measured against the demographics of a company's employees			
Total points		19	
<i>SKILLS DEVELOPMENT</i>			
* Measured against a company's annual payroll and the number and demographics of its employees			
Total points		25	
of which Bonus points		5	
<i>ENTERPRISE AND SUPPLIER DEVELOPMENT</i>			
* This element provides several kinds of support for small and medium black owned businesses			
<i>Preferential Procurement</i>			
* Measured against a company's Total Measured Procurement Spend (TMPS)			
of which Bonus points		2	
<i>Enterprise Development</i>			
* Contributions to a beneficiary that is not currently a supplier of the company			
Total points		5	
<i>Supplier Development</i>			
* Contributions to a beneficiary that is a supplier of the company			
Total points		10	
E&SD Bonus points		2	
<i>SOCIO-ECONOMIC DEVELOPMENT</i>			
* Contributions to organizations broadly defined as promoting employment of black people in South Africa			
Total points		5	

**Table 2.**  
BEE calculator  
template

based on various weighted elements including management, employment equity, skills development, enterprise development, preferential procurement and socio-economic development and ownership. Exempted Micro Enterprises (EMEs) owned by black people

are categorized as level 1, implying a 135% BEE procurement recognition (Black is classified as any African, Indian, Colored and Chinese, South- African Citizen). A company is classified as a Qualifying Small Enterprise (QSE) if its annual turnover is between R10 million and R50 million. The score and procurement recognition a firm receives determines whether or not it is BEE compliant. It details the BEE contribution level, scorecard points and procurement recognition percent.

- (1) Level 1–100 points and above - 135% procurement
- (2) Level 2–85 to 99.99 points - 125% procurement
- (3) Level 3–75 to 84.99 points - 110% procurement
- (4) Level 4–65 to 74.99 points - 100% procurement.

The above levels are considered to be BEE fully compliant.

- (1) Level 5–55 to 64.99–80% procurement
- (2) Level 6–45 to 54.99–60% procurement
- (3) Level 7–40 to 44.99–50% procurement
- (4) Level 8–30 to 39.99–10% procurement

The above levels are considered to be BEE partially compliant. A firm is non-compliant if the points are below 30 and as such no procurement recognition is availed to such.

In South Africa, the BEE scorecard is an integral component of every firm. It is recommended that business owners grasp the score system for their own benefit. This is because the better a firm's BEE score; the more likely the firm is to benefit from various options. The scores are awarded based on many weighted variables, as previously stated; in [Tables 3 and 4](#), the average scorecards for all REITs between 2010 and 2020 are presented and subsequently classified accordingly (level of compliance) and respectively. Apart from ownership, management, employment equity, skills development, company growth, preferential procurement and socio-economic development are also investigated. In 2013, a new BBBEE level was established. Although there are minor differences, the fundamentals stay the same. For example, to achieve a recognition level of 135%, a BBBEE level 1 contributor must have received 100 points on the general scorecard (the highest recognition level as established by the government). Each of these indicators is assigned a number of points and objectives and your scores are computed depending on how near your company is to each target. If an EME, for example, reaches or surpasses a specific objective, it can claim the entire amount of points allotted to it. By deduction, an EME's level of BBBEE contributor is determined by the total number of points scored over the full scorecard.

Given the aforementioned, some believe the generic codes will impact SEO price. Many international multinational investors (individuals and businesses) have expressed worry about the BEE scorecard criteria. These researchers emphasized the policy's virtues, stating that the lack of clarity and uniformity in BEE charters and laws appeared to be causing concern. Scholars are concerned about whether black equity ownership or involvement will become required. In China, for example, the government influences company policies that impact equity issues. With public policy induced SEO underpricing, there is a likelihood that a good indicator of company quality will be declining. The Chinese government's interference tends to force enterprises (though willingly) to meet social and political goals, such as social responsibility, social stability and territorial growth ([Chen et al., 2011](#)). Conflict between state and minority investors diminishes investment and hence corporate value. Underpaying SEOs in government-linked enterprises is seen as a way to compensate for future failures rather than

Company names	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average	BEE level
<i>Compliant REITs</i>													
Calgro M3 Holding Ltd	103.74	104.78	104.78	104.78	103.21	103.21	103.21	105.27	105.27	105.27	106.01	104.48	1 (High)
Redefine Properties Ltd	80.15	80.95	80.95	80.95	79.74	79.74	79.74	81.33	81.33	81.33	81.90	88.81	4 (High)
Investec Property Fund Ltd	57.08	57.65	57.65	57.65	56.79	56.79	56.79	57.92	57.92	57.92	58.33	63.23	7 (Low)
Dipula Income Fund Ltd	49.91	50.41	50.41	50.41	49.65	49.65	49.65	50.65	50.65	50.65	51.00	55.30	7 (Low)
Equities Property Fund Ltd	55.44	55.99	55.99	55.99	55.15	55.15	55.15	56.26	56.26	56.26	56.65	61.43	7 (Low)
Emira Property Fund Ltd	40.38	40.78	40.78	40.78	40.17	40.17	40.17	40.98	40.98	40.98	41.26	44.74	8 (Low)
Sa Corporate Real Estate Ltd	56.79	57.36	57.36	57.36	56.50	56.50	56.50	57.63	57.63	57.63	58.03	62.93	7 (Low)
Vukile Property Fund Ltd	75.22	75.97	75.97	75.97	74.83	74.83	74.83	76.33	76.33	76.33	76.86	83.35	4 (High)
HPF Properties (Pty) Ltd	72.67	73.40	73.40	73.40	72.30	72.30	72.30	73.74	73.74	73.74	74.26	80.53	4 (High)
Growthpoint Properties Ltd	72.12	72.84	72.84	72.84	71.75	71.75	71.75	73.18	73.18	73.18	73.70	79.91	5 (Low)
Fairvest Property Holding Ltd	48.13	48.48	48.48	48.48	47.75	47.75	47.75	48.71	48.71	48.71	49.05	53.20	8 (Low)
Fortress A Income Fund Ltd	61.12	61.73	61.73	61.73	60.81	60.81	60.81	62.02	62.02	62.02	62.46	67.73	8 (Low)
Resilient Property Income Fund Ltd	59.12	59.71	59.71	59.71	58.82	58.82	58.82	59.99	59.99	59.99	60.41	65.51	7 (Low)
Accelerate Property Fund Ltd	80.44	81.24	81.24	81.24	80.03	80.03	80.03	81.63	81.63	81.63	82.20	89.13	4 (High)
Delta Property Fund Ltd	76.83	77.60	77.60	77.60	76.43	76.43	76.43	77.96	77.96	77.96	78.51	85.13	4 (High)
Dipula B Dipula Income Fund Ltd	73.34	74.07	74.07	74.07	72.96	72.96	72.96	74.42	74.42	74.42	74.94	81.26	4 (High)
Fortress B Fortress Reit Ltd	56.26	56.82	56.82	56.82	55.97	55.97	55.97	57.09	57.09	57.09	57.49	62.34	7 (Low)
Gemgro Properties Ltd	73.42	74.15	74.15	74.15	73.04	73.04	73.04	74.50	74.50	74.50	75.02	81.35	4 (High)
Hammerson Plc	81.23	82.04	82.04	82.04	80.81	80.81	80.81	82.43	82.43	82.43	83.00	90.01	3 (High)
Hyprop Investments Ltd	68.24	68.92	68.92	68.92	67.89	67.89	67.89	69.25	69.25	69.25	69.73	75.62	5 (Low)
Indulpace Properties Ltd	63.46	64.09	64.09	64.09	63.13	63.13	63.13	64.40	64.40	64.40	64.85	70.32	6 (Low)

Source(s): Researcher's Compilation

**Table 3.**  
BEE compliant REIT firms, average scorecards and classification/level of compliance (2010–2020)

**Table 4.**  
Highly compliant BEE  
REITs versus lowly  
compliant BEE REITs

S/no	REITs	Average BEE score	Level
<i>Highly Compliant REITs</i>			
1	Calgro M3 Holding Ltd	104.48	1
2	Redefine Properties Ltd	88.81	4
3	Vukile Property Fund Ltd	83.35	4
4	Hpf Properties (Pty) Ltd	80.53	4
5	Accprop Accelerate Property Fund Ltd	89.13	4
6	Delta Property Fund Ltd	85.13	4
7	Dipula B Dipula Income Fund Ltd	81.26	4
8	Gemgrow Properties Ltd	81.35	4
9	Hammerson Plc	90.01	3
<i>Lowly Compliant REITs</i>			
1	Investec Property Fund Ltd	63.23	7
2	Dipula Income Fund Ltd	55.30	7
3	Equities Property Fund Ltd	61.43	7
4	Emira Property Fund Ltd	44.74	8
5	Sa Corporate Real Estate Ltd	62.93	7
6	Growth Point Properties Ltd	79.91	5
7	Fairvest Property Holding Ltd	53.20	8
8	Fortress A Income Fund Ltd	67.73	7
9	Resilient Property Income Fund Ltd	65.51	7
10	Fortress B Fortress Reit Ltd	62.34	7
11	Hyprop Investments Ltd	75.62	5
12	Indiuplace Properties Ltd	70.32	6

**Source(s):** Researcher's Compilation

a way to assess corporate sustainability and quality. Also, government-linked corporations underprice their stocks through SEOs to gain political and financial advantage over future capital raising. SEO underpricing may be more prevalent in emerging markets because of knowledge gaps, weak institutional frameworks and absence of measures that help listed businesses perform better (Marquis and Raynard, 2015; Cobbinah *et al.*, 2015). There remain inconclusive findings on public policy influence on stock market returns and pricing.

We examine whether BEE compliance increases the probability of SEO underpricing for REITs listed on the JSE using data from the Stock Exchange News Service (SENS) and the I-Net (BFA) McGregor database. Compliance is expected to reduce information asymmetries by making educated investors underprice stocks of government-regulated listed companies (Gounopoulos *et al.*, 2021; Gounopoulos *et al.*, 2020). The research issue is whether the stock price of BEE compliant REITs are underpriced relative to non-BEE compliant REITs. Our study adds to the REIT literature in two ways. First, it shows the influence of public policy on REITs SEO pricing. Secondly, our study investigates the role of SEO underpricing of the REITs market in a developing country. The findings spur interest for both listed firms and governments hoping for efficient real estate capital markets. Specifically, we find a positive association between REIT SEO underpricing and BEE compliance. By implication, BEE compliant REITs leave more money on the table; hence, the high rate of underpricing is not in their best interests from a capital raising perspective. Government can therefore assist BEE-compliant firms with incentives including grants and incentives; state facilitated lending; project financing; venture capital. With these, BEE compliant firms will not have concerns about the impact of underpricing with government's intervention. Following the literature review are the empirical implications. The data and methods used to address the study questions are presented next, followed by summary statistics and empirical findings. The last section summarizes the study's findings and practical consequences.

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## 2. Literature review and hypotheses development

### 2.1 REITs market in South Africa

While South Africa (SA) is considered an emerging market, [Das \(2016\)](#) characterizes an emerging economy as one that displays considerable increase in short-term output while also exhibiting indicators of financial and economic instability. In 2006, the BRIC (Brazil, Russia, India and China) was founded as a diplomatic-political grouping of these four nations. In 2011, South Africa became a member of this group and the abbreviation was subsequently changed to BRICS. Because the economies of the BRICS countries are predicted to rise at a rapid pace in the near future, the organization was founded ([Anuoluwapo et al., 2018](#)). The fact that the BRICS nations have extended their engagement in international markets since its creation shows that this diplomatic-political body has grown in prominence and overall visibility. Emerging markets are expected to develop rapidly in the next few years, making them attractive investment targets for both international and domestic investors. As a result, the creation of REITs has opened up new opportunities for investors to diversify their portfolios by investing in property in emerging nations. Because of this interest in REITs in emerging economies like Turkey and Bulgaria, research has been conducted on this topic ([Kanaryan et al., 2015](#)). Adding real estate to an investment portfolio may increase the overall performance of the portfolio while providing alternatives to direct-asset investing and the possibility to avoid the liquidity difficulties that normally confront investors in the Real Estate business ([Aktan and Ozturk, 2009](#)).

According to [Akinsomi et al. \(2016\)](#), South Africa is now designated as an emerging market for REITs due to its participation in the BRICs in 2011 and the REIT structure adoption in 2013. Property Loan Stock Companies (PLS) and Property Unit Trusts (PUT) were the only two publicly listed property investment companies in South Africa before 2013. (PUT). PLS and PUT are real estate-focused mutual funds. To address issues with the previously used property investment vehicles, PLSs and PUTs, REITs were introduced in South Africa in 2013. Years ago, PUTs and PLS were imposed double taxes on investors; these difficulties were resolved by converting selected and existing PLS into firm REITs; and PUTs into trust REITs when South Africa adopted the REIT structure. PUTs and PLS are not recognized worldwide and so do not attract foreign investment; these two companies are subject to distinct regulations and legislation despite both dealing in property shares and the confusing tax problems involving PLS prompted their conversion into REITs ([Anuoluwapo et al., 2018](#)). Introducing the REIT structure in South Africa is expected to solve these concerns. In terms of taxation, REITs are attractive to investors because they are simple to understand and because they are comparable to international structures ([Anuoluwapo et al., 2018](#)), making them more attractive to global investment. Furthermore, this structure makes it easier to compare the performance of SA REITs with that of other worldwide REITs. The large percentage of qualified JSE listed real estate investment organizations sought for REIT registration after the creation of REITs in South Africa in 2013. Attracted by the flexibility and tax certainty given by REITs as opposed to PUTs and PLSs ([Anuoluwapo et al., 2018](#)).

### 2.2 IPOs-SEOs pairing and underpricing

The problem of underpricing initial public offerings (IPOs) is well-known. As [Ling and Ryngaert \(1997\)](#) demonstrate, real estate investment trust initial issues are not resistant to the influence of increasing institutional ownership of these shares as ownership (institutional) of these shares rises. Exactly what motivates managers to underprice their initial stocks is still up for dispute. High-quality firms may underprice their initial public offerings (IPOs) because they hope that the market will eventually recognize their true worth and that they will be able to recover the shortfall through higher-priced SEO. However, there is a mixed bag of evidence

to support this notion; for example, because REITs are required to distribute 95% of their income as dividends in order to maintain their tax-exempt status, management may be more anxious to acquire capital through seasoned equity than other types of investors. If the hypothesis is right, real estate investment trusts (REITs) may be the ideal venue to test its validity. The signaling theory is supported by a large body of empirical evidence. In addition, investors who underprice their initial public offerings (IPOs) are more likely to sell their matured securities before the market opens. An IPO-SEO combination mixed with an underpriced IPO results in a higher total amount of money raised for the REIT as a whole. In contrast, it does not appear that IPO underpricing is effective in mitigating the loss of value associated with seasoned securities. According to Ghosh *et al.* (2000a, b), underpricing of initial public offerings (IPOs) and underpricing of SEO are highly correlated. According to the findings of their research, investors will be encouraged to return to the capital market if a company's initial public offering (IPO) is underpriced and seasoned issues are priced competitively. The research into the pricing and investing of REIT stocks is growing at a rapid pace. The influence of REIT IPOs and SEOs on stock prices and appraisals appears to be consistent with the widely recognized viewpoint.

### *2.3 Impact of public policy*

However, there appears to be a connection between public policy and SEO pricing. On the other hand, Simiyu (2008) found higher/greater underpricing in state-owned listed corporations (government intervened listed firms). They claim that the Malaysian government's regulatory policy increased underpricing by 61%. Simiyu (2008) observed similar outcomes in a different market. To test the premise that government-linked SEOs are underpriced relative to non-government-linked SEOs, Ariff *et al.* (2007) provided evidence. Since issuance prices are substantially below ordinary stock trading prices, they are underpriced (greatly/extremely underpriced). According to Chi and Padgett (2005), the Chinese government directly or indirectly influences the issue price of SEOs. These interventions encourage more underpricing to optimize market feedback. This impacts REIT policy, especially in emerging markets. Ariff *et al.* (2007) reported a range of 14–133.5% underpricing in three sectors due to apparent specific incentives for government organizations to purposefully underprice Government-Linked Company SEO concerns (the United Kingdom, Singapore and Malaysia). The research also urges governments to engage with important REIT SEO industry players. Inaction may impact REIT SEO price. From 1992 to 2004, Tian and Megginson (2007) found a 247% underpricing of SEO in the Chinese market. SEO risk is essential as a reason for excessive underpricing, despite government price restrictions being assumed to be the major culprit. In South Africa, for example, whereas blacks make up 80.2% of the population, their proportion of private capital in the economy is less than 10% in 2020 (Getachew and Turnovsky, 2020). The then-ruling administration wanted to expand the number of black South African merchants, managers, executives and professionals by increasing their percentage of the total share capital. This BEE public policy was designed to reconstruct society to erase the connection of economic functions with race and absorb all other policies in South Africa.

### *2.4 BEE compliance and SEO underpricing*

There is an average positive initial return for IPOs, indicating the offer price set by the company and underwriters is below the market price. There are two ways to explain the IPO underpricing mystery: the traditional information asymmetry argument (the underpricing is pre-market chosen) as well as the behavioral reasoning (underpricing being "stirred" by market sentiment). An IPO involves investors, underwriters and issuers (REITs). The

information asymmetry theory (Rock, 1986) states that some investors know more about a firm's value than others. The underwriters' rationing prevents uninformed buyers from obtaining shares at a bargain; for this reason, the initial offer is underpriced – also, underpricing is linked to increased underwriting costs (Dimovski *et al.*, 2017) due to the “risk associated” with government-linked SEOs (politicization). This literature (Beatty and Ritter, 1986) gave rise to the winner's curse; while Benveniste and Spindt (1989) developed the information extraction theory implying that if offered shares, investors would conclude they were overpriced and undesired by other informed investors. Further, a good-quality firm can bear the cost of underpricing in seasoned offerings, but a bad-quality firm cannot (Allen and Faulhaber, 1989). Behavioral arguments according to Loughran and Ritter (2002) are being used more in public disputes. Increasing investor confidence may lead to significant early returns fueled by after-market demand.

Previous studies such as (Ooi *et al.*, 2010; Harrison *et al.*, 2011; Cline *et al.*, 2014; Deng and Ong, 2018; Zhu *et al.*, 2010; Hardin and Wu, 2010; Alcock *et al.*, 2014); and many other empirical studies assist in predictions with respect to the relationship among some variables and SEO price dynamics of REITs. In Table 5, we predict a relationship between SEO pricing and our adopted variables based on a number of literature as seen below.

In our paper, we explore the influence of BEE compliance on SEO underpricing. Other than profit maximization, government and quasi-government shareholders may be motivated. State-owned enterprises (SOEs) help stabilize society, reduce unemployment and redirect economic progress. Less SEO underpricing in government-controlled institutions and corporations. According to Gounopoulos *et al.* (2020), investors fear wealth confiscation in compliant firms; also, a big number of government-allocated shares suggests pricing worries (Chen *et al.*, 2004). This means that persuading investors to buy government-backed shares in IPOs or SEOs undervalues new and established secondary offerings. According to Mok and Hui (1998), strong government policy compliance leads to lesser underpricing. BEE and underpricing of IPOs are predicted to be positively related; indeed, BEE policy's (government intervention/policy) objective is with a view to ensuring that IPOs of compliant firms are “purchased/patronized” more than IPOs of their

S/ No	Variable	Paper	Relationship with SEO pricing and returns
1	Leverage (Debt/Equity)	Ooi <i>et al.</i> (2010), Harrison <i>et al.</i> (2011), Cline <i>et al.</i> (2014), Deng and Ong (2018), Zhu <i>et al.</i> (2010) Hardin and Wu (2010), Alcock <i>et al.</i> (2014), Letdin <i>et al.</i> (2019), Chikolwa (2009)	+ –
2	Dividend Yield	Ong <i>et al.</i> (2011), Elliott <i>et al.</i> (2009), Elton and Gruber (1970) Christie (1990), Asquith and Mullins (1986)	– +
3	SEO Size	Ghosh <i>et al.</i> (2000a, b) Ooi <i>et al.</i> (2011) Howe and Shilling (1988), Mikkelson and Partch (1985)	+ –
4	Market to Book Value Ratio	Aras and Yilmaz (2008), Lau <i>et al.</i> (2002) Friday and Sirmans (1998), Mikkelson and Partch (1985)	+ –
5	Return on Assets	Lorenz (2019), Chen <i>et al.</i> (2019) Nguyen and Nguyen (2020)	+ –
6	Inflation Adjustment Return	Schwert (1981), Chatrath and Liang (1998), Glascock <i>et al.</i> (2002) Chan <i>et al.</i> (1990), Glascock <i>et al.</i> (2002), Gyourko and Linneman (1988)	+ – –

**Table 5.**  
Relationships among  
variables: REITs and  
stocks

counterparts (Govindjee, 2012); still, IPOs of the former on the JSE are highly underpriced while getting this objective achieved as they are observed to “leave more money on the table” (Govindjee, 2012); the study had reported significant underpricing of 10.1% and 8.5% documented on the first day and during first week subsequent to the IPO respectively. We therefore make a prediction that it would be the same case for SEOs. Using this logic, we hypothesize:

*H1A.* BEE Compliance is positively correlated with SEO underpricing.

*H1B.* BEE Compliance is negatively correlated with SEO underpricing

### 3. Data sources variable definitions

#### 3.1 Data sources

From January 1, 2010 to December 31, 2020, we used 170 SEOs from 21 REITs according to the Johannesburg Stock Exchange’s Stock Exchange News Service (JSE). As a result of the volatility (post) crises and impacts of the global economic crisis, REITs throughout the globe were forced to participate in frequent external financing through SEOs and IPOs, which began in 2010. All REIT SEO categories were used in our analysis and our sample spans ten (10) years. The INET-BFA McGregor database includes the financial ratios and stock prices (now called IRESS Expert). To compare the influence of the BEE phenomenon on REIT SEO price, 21 SAREITs were further classified into BEE compliant and non-BEE compliant REITs (using SEN information). 9 BEE REITs are highly compliant, while 12 are not. To compute UNDERPRICING, we utilize the OLS specification with UNDERPRICING (calculated below).

$$UP = \frac{P_1 - OP}{OP}$$

P refers to the Closing Price

OP refers to the Offer Price

$$UP_0 = \alpha_0 + \alpha_1 * DE - \alpha_2 * DY - \alpha_3 * SIZE - \alpha_4 * MBVR + \alpha_5 * INFLAdR + \alpha_6 * ROA + \alpha_7 * TA + \alpha_8 * BEE$$

The independent variables are time-varying covariates. It is assumed that there are unobserved firm characteristics such as management quality, staff performance that are not included in the estimation over time.

#### 3.2 Control variables

To achieve the paper’s objectives, we reviewed existing research, focusing on factors used to control for price dynamics. Based on this, we adopt a set of control variables for each REIT firm from the IRESS database in Table 6. Debt/Equity Ratio (DE) measures how much of a firm’s profits are financed by debt rather than equity. In a crisis, it indicates the willingness of shareholders to pay all debts (Harrison *et al.*, 2011; Cline *et al.*, 2014; Deng and Ong, 2018; Zhu *et al.*, 2010). To calculate Dividend Yield (DY), a firm’s annual dividend payout ratio (dividend/price) is multiplied by the stock price (Christie, 1990; Asquith and Mullins, 1986; Ong *et al.*, 2011; Elliott *et al.*, 2009). The relative SEO bid (number of shares sold × offer price) scaled by the issuing firm’s market size (Ghosh *et al.*, 2000a, b; Ooi *et al.*, 2011; Brounen and Eichholtz, 2001; Altinkiliç and Hansen, 2003). The Market to Book Value Ratio (MBVR)

Dependent variables	Definition
UP	Underpricing: calculated as the percentage difference between the offering price and the closing price for an SEO on the first trading day relative to simultaneous market return (Chan <i>et al.</i> , 2004)
<i>Independent variables (Firm Level)</i>	
BEE	Black Economic Empowerment: The BEE scorecard for both classifications of REITs between 2010 and 2020 is calculated and modeled alongside other independent variables <ul style="list-style-type: none"> <li>• Level 1–100 points and above - 135% Compliance</li> <li>• Level 2–85 to 99.99 points - 125% Compliance</li> <li>• Level 3–75 to 84.99 points - 110% Compliance</li> <li>• Level 4–65 to 74.99 points - 100% Compliance</li> <li>• Level 5–55 to 64.99–80% Compliance</li> <li>• Level 6–45 to 54.99–60% Compliance</li> <li>• Level 7–40 to 44.99–50% Compliance</li> <li>• Level 8 – below 40%–0% Compliance</li> </ul>
DE	Debt/Equity ratio: Book value of total liabilities divided by book value of equity, computed by using data from the year preceding SEO announcement
DY	Dividend yield: The financial ratio (dividend/price) which indicates how much a firm pays out in dividends per year in relation to the stock price and calculated as a percentage
Total Assets	Total Assets: measures the efficiency of a company's assets in generating revenue or sales. It compares the dollar amount of sales (revenues) to its total assets as an annualized percentage
SIZE	Number of SEOs during the Study Period: Monetary Value of Capital raised from of SEOs during the Study Period
MBVR	Market to Book value Ratio: The measure is used to equate a company's available net assets to the price at which the stock is sold
ROA	Return on Assets: Net income divided by book value of assets, computed by using data from the year preceding SEO announcement
INFLAdR	Inflation adjusted return: the rate of return that takes into account the inflation rate over the time frame. The inflation-adjusted return metric's aim is to expose the return on an investment after taking inflation into account

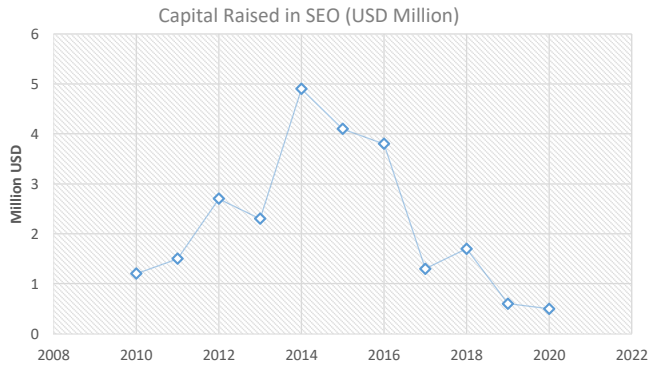
**Table 6.**  
Model specifications

compares the market value of a company to its book value. In other words, it equates a company's net assets to the stock price (Friday and Sirmans, 1998; Mikkelson and Partch, 1985; Aras and Yilmaz, 2008; Lau *et al.*, 2002). ROI is determined by dividing net profits and interest after taxes by the average property value (Al-Omouh and Al-Shubiri, 2013). Business owners use assets to enhance earnings. In this situation, the ROA helps understand future SEO performance (Ghosh *et al.*, 2000; Chan *et al.*, 2013). Inflation-adjusted return (Ahmad-Zaluki and Abidin, 2011; Sah and Seagraves, 2012).

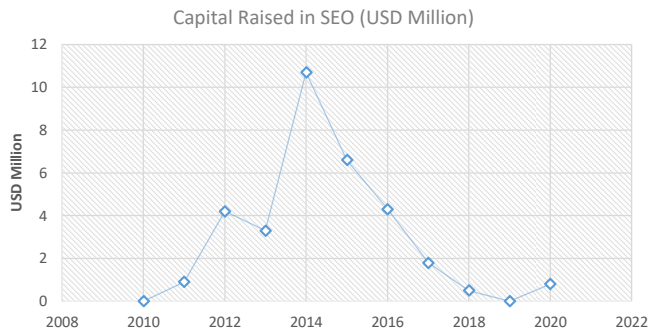
### 3.3 Capital raised from SEOs of BEE REITs and non-BEE REITs: 2010–2020

With Figures 1 and 2, we present a range of activities in which REITs have been involved in SEOs between 2010 and 2020. Upon observations, the volumes of SEOs raised between 2007 and 2009 increased steadily until 2010 when SEO volumes experienced a sharp fall; in the same year (2010), we also observed that the political uncertainty in South Africa could have had an adverse effect on SEO activities. The following year (2011) began to witness a steady increase in SEO of REITs, peaking in 2014 resulting in ZAR70.1 million (\$4.9 million) (low compliant/non-BEE REITs) and ZAR152.7 million (\$10.7 million) (high compliant/BEE REITs); we perceive this may have been influenced by the change in regime and structure of the property stocks in South Africa from Property Unit Trusts (PUTs); and Property Loan

**Figure 1.**  
Capital raised from  
non-BEE REITs:  
2010–2020



**Figure 2.**  
Capital raised from  
BEE REITs:  
2010–2020



Stocks (PLSs) to Real Estate Investment Trusts with a view to aligning with global standards and ethics. It is seen that after 2014, SEO activities began to steadily decrease over the subsequent years and bottomed out in 2019. It is also believed that the unprecedented effects on business operations of firms may have spurred them to raise funds in 2020 through SEOs.

#### 4. Data and summary statistics

##### 4.1 BEE and REIT firm summary statistics

Table 7 shows the summaries and variable descriptions for all variables. A lot of SEOs are highly underpriced before issuance, since the mean pre-SEO underpricing level is 7.14; Underpricing has long been linked to an information imbalance, which is now widely accepted (Li *et al.*, 2018). Information asymmetries in an imperfect market for data serve to highlight the asymmetrical distribution of important information that exists. BEE complying Firms' SEOs are on average underpriced. Given the relatively high payout ratio (*DIVIDEND*), it is not a surprise that REIT firms use equity issues as a way to raise money, which drives up the frequency of stock offers (mean *SEO* score is 16.58) and boosts the leverage ratio (mean *DEBT/EQUITY* is 29.7). The high concentration of BEE REITs reflects the South African government's intervention in the capital market and offers a unique and necessary experiment to examine whether the political factor impacts not just firms' behavior when

Table 7.  
Descriptive statistics

Variable	Obs	Mean	Std. Dev	Min	Max
BEE	170	58.845	13.882	29.44	82.2
Debt Equity	170	0.297	1.053	-0.819	1.864
Dividend	170	5.795	2.105	3.334	10.146
Inflation Adjusted Return	170	9.757	2.953	5.043	15.293
MBVR	170	7.212	0.166	6.828	7.413
Return on Asset	170	8.676	2.315	4.573	12.626
Total Asset	170	0.098	0.007	0.087	0.109
Underpricing	170	7.141	0.296	6.336	7.425
SEO Size	170	16.58	0.313	15.802	16.964

Note(s): \*Significant at the 10% level

\*\*Significant at the 5% level

\*\*\*Significant at the 1% level

seeking external financing; but also investors' attitude towards BEE and non-BEE REIT SEOs.

#### 4.2 Annual time series of REITs SEOs

Table 8 shows the annual time series; this is inherent with information on yearly SEO occurrences contained in our sample. Following the growth of the South African REITs market and subsequent regulatory policies, there is considerable variance in SEO volume. REIT SEOs stopped in 2019 and did not resume until September 2020, possibly as a result of the pandemic placing a freeze on them during that time period. Apart from this, SEO occurrences appear to have plummeted downward unlike previous years; in 2013 and 2014, REITs are observed to have issued the highest number of SEOs with the former as the peak year. We assert this could perhaps be as a result of the conversion of the former regime (PUTs and PLSs) into REITs. On average, it appears SEOs of highly compliant BEE REITs receive higher proceeds than their counterparts.

4.2.1 Parametric and non-parametric tests results for South African REITs 2010–2020. On independent samples, using the parametric *t*-test and the nonparametric Mann–Whitney [Wilcoxon Rank-Sum] method, BEE-compliant REITs exhibit a greater degree of underpricing

Year	High compliant (BEE) REITs (1–4)			Low compliant (BEE) REITs (5–8)		
	No. of SEOs	SEO proceeds (\$m)	Money on the table (\$m)	No. of SEOs	SEO proceeds (\$m)	Money on the table (\$m)
2010	0	0.000	–	4	1.232	0.712
2011	6	0.911	0.523	2	1.491	0.751
2012	3	4.233	3.114	4	2.710	2.016
2013	17	3.301	4.130	5	2.284	2.009
2014	23	10.721	12.315	15	4.915	3.013
2015	13	6.572	5.201	6	4.147	2.719
2016	7	4.291	3.014	8	3.761	3.102
2017	11	1.763	1.215	11	1.314	0.831
2018	7	0.525	0.231	3	1.731	0.413
2019*	0	0.000	–	2	0.614	0.401
2020	4	0.821	0.412	1	0.524	0.317
Total	91	33.138	30.155	61	24.723	16.284

Table 8.  
Annual time series of REITs SEOs (2010–2020)

than their non-BEE-compliant counterparts. The Mann Whitney [Wilcoxon Rank-Sum]  $U$  tests yield consistent outcomes. When we break the sample down into BEE and non-BEE compliant REITs, we also obtain initial returns that are positive and significant, in the mean and median. Specifically, in the year the REITs regime was established in South Africa (2013) and generally, the mean value (0.0520) of BEE compliant REITs exceeds the mean value (1.0141) of non-BEE compliant REITs; the year ending 2020 was inherent with inconsistent data and was subsequently excluded. Such differences between BEE and non-BEE compliant REITs are significant when the relevant parametric and non-parametric test is used; by implication, Hypothesis 1B, that BEE compliance is negatively correlated with SEO underpricing, is rejected, as the  $p$ -value is less than the standard level of significance. According to this result, BEE-compliant firms (REITs) continue to underprice during SEO. Also in 2013, when the underpricing through the “money left on the table” is measured by the annual time series (Table 8), it is evident the BEE compliant REITs left more money on the table (almost 50%) compared to their counterparts. This result is consistent with the evidence (Erol *et al.*, 2020; Castaño *et al.*, 2019; Arslanli *et al.*, 2011); however, it is contrary to the results found in these studies (Aggarwal *et al.*, 2002). In Table 9, the parametric and non-parametric results reportedly indicate a positive impact on initial returns. The results equally reflect the nature of underpricing despite the compliance of REITs with the BEE policy.

4.3 Correlation matrix on independent variables

Table 10 shows the correlation matrix of the independent variables employed in our model, consistent with Rajan and Servaes (1997), SEOs are observed to be positively related to

Year	Initial return Individual test Hypotheses Test statistics	Test groups			
		Parametric test <i>t</i> -test		Non-parametric test Mann-Whitney <i>U</i> test	
		$Mean_n = Mean_f$ $t$ (Prb > $t$ ) mean	T	$Median_n = Median_f$ $z$ (Prb > $z$ ) mean rank	$z$
2010	Compliant REITs	0.0341	0.017	(-0.023)**	0.032
	non-Compliant REITs	0.4248		(-0.009)	
2011	Compliant REITs	0.0323	0.041	0.032	0.001
	non-Compliant REITs	2.1307		0.937	
2012	Compliant REITs	0.0413	0.035	(-0.006)**	0.005
	non-Compliant REITs	2.3150		(-0.017)	
2013	Compliant REITs	0.0520	0.034	(-0.047)*	0.003
	non-Compliant REITs	1.0141		(-0.021)	
2014	Compliant REITs	0.0215	0.014	(-0.022)	0.348
	non-Compliant REITs	3.7231		(-0.003)	
2015	Compliant REITs	0.0492	0.047	2.108***	0.014
	non-Compliant REITs	2.1412		-0.722	
2016	Compliant REITs	0.0283	0.013	(-0.408)	0.017
	non-Compliant REITs	3.1142		0.153	
2017	Compliant REITs	0.0130	0.027	0.049	0.003
	non-Compliant REITs	2.3017		1.025	
2018	Compliant REITs	0.0621	0.039	(-0.291)	0.032
	non-Compliant REITs	3.0147		0.141	
2019	Compliant REITs	0.0392	0.044	0.424	0.041
	non-Compliant REITs	0.2317		-0.068	
Cumulative Period (2010–2020)	Compliant REITs	0.027	0.010	0.009	0.031
	non-Compliant REITs	0.103	0.181	0.106	0.129

**Table 9.**  
Parametric and non-parametric tests results for South African REITs 2010–2020

**Table 10.** Correlation matrix on independent variables

	UP	BEE	D/E	Dividend	SEO	InflAdj	TotalA	MBVR	ROA
UP	1.0000								
BEE	-0.0098	1.0000							
D/E	0.0295	-0.0145	1.0000						
Dividend	0.3885	0.0271	-0.7849	1.0000					
SEO	0.0417	-0.0150	0.2678	-0.4755	1.0000				
InflAdj	0.4928	-0.0255	0.2310	-0.6742	0.4212	1.0000			
TotalA	-0.0116	0.0068	0.5411	-0.4592	0.0553	0.0591	1.0000		
MBVR	0.1631	0.0059	-0.5300	0.3761	-0.3964	0.2305	-0.5890	1.0000	
ROA	0.7588	-0.0260	0.2302	-0.6519	0.4707	0.4878	-0.0300	0.2676	1.0000

**Note(s):** This table displays the pairwise Pearson correlation coefficients between the independent variables. The symbol \* indicates that the correlation is different from 0 at the significance level of 5%

underpricing. This finding is also consistent with [Chemmanur \(1993\)](#), who predicts that equilibrium offer prices may involve underpricing in order to maximize outsider information production. By implication, this emphasizes the benefits to issuing REITs managers from underpricing; apart from this, underpricing seems, at least in part, an effort to attract interest. Return on Asset (ROA) and Inflation Adjusted Return (InfAdR) are strongly (positive) correlated ( $r = 0.48$ ); it is not surprising that both variables are strongly correlated; investors planning to make an investment anytime soon consider both before making a decision. Uninformed investors often make rash investment decisions by getting swayed away by “promises” of doubling or tripling their money. It is also understandable because both are critical to factor in the time their (investors) money will stay invested in an instrument and how two external factors — namely tax and inflation — will impact their investment returns. Evaluating both puts investors in a better position while laying out their investment strategy to meet our short and long-term financial goals in time. Unfortunately, this finding is not consistent with extant studies ([Glascock et al., 2002](#); [Yobaccio et al., 1995](#)). Also, underpricing and inflation adjusted return are strongly related (0.49).

#### 4.4 Hausman test: model choice

Next, we adopt the Hausman test to confirm the endogenous regressors (predictor variables) in the regression model as seen in [Table 11](#). This revealed that the Prob ( $\chi^2$ ) is not statistically significant; hence, the Hausman test accepts the random effect. Standard errors are in parentheses: \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ . We understand that though firm-specific effects are common in non-experimental studies, they are also observed in experimental studies ([Le and Phan, 2017](#)). When such conditions are met, it is more beneficial to employ firm-level Random Effects (RE) and Fixed Effects (FE) models than to utilize pooled OLS only since they account for specific error components. We adopt the Hausman specification test with a view to selecting the most suitable regression model for a study of this nature: RE or FE. After controlling for multicollinearity in the model, the Hausman test accepts a random effects.

#### 4.5 BEE and SEO underpricing using OLS regression, firm level-fixed and random effects

[Table 12](#) presents the estimation of a positive relationship between BEE and underpricing using pooled OLS; in other words, it is observed that the relationship is significant. Based on the discussion above, Hypothesis 1B posits that BEE compliance is positively correlated with SEO underpricing. As described, we adopt OLS methodology to calculate the extent to which SEOs of BEE REITs are underpriced; with this, we subtract the first day’s closing price from the offer price and divide the result by the offer price ([Lorenz, 2019](#); [Dimovski et al., 2017](#)).

Variables	Coefficients			sqrt(diag(V_b-V_B) S.E.
	(b) Fixed4	(B) Random4	(b-B) difference	
BEE	0.0031033	0.003653	4.79e-15	6.44e-11
SEOSize	0.0004103	0.0005138	-2.42e-15	8.72e-11
Dividend	0.0030211	0.0051447	3.99e-15	4.59e-11
TotalAssetT	0.3911045	0.5124639	-9.78e-13	1.20e-08
Debt/Equity	0.0033841	0.0031037	3.013e-15	2.31e-11
MBVR	0.0094210	0.0043928	-2.09e-13	1.71e-10
ROA	0.0040194	0.0093810	-3.01e-15	2.31e-11
InflAdj	0.0051927	0.0071923	3.11e-13	1.43e-10
yeardummy2	0.0041642	0.0067981	1.27e-14	1.54e-10
yeardummy3	0.0209412	0.012078	3.66e-15	6.75e-11
yeardummy4	0.0052331	0.0087806	1.66e-14	1.98e-10
yeardummy5	-0.2419451	-0.2592725	-2.02e-13	2.32e-09
yeardummy6	-0.0000319	-0.0000289	1.42e-15	5.19e-11

**Note(s):** b = consistent under H1A and H1B; obtained from xtreg  
 B = inconsistent under H1B, efficient under H1A; obtained from xtreg  
 Test: H1A: difference in coefficients not systematic  
 $\chi^2(8) = (b-B)[(V_b-V_B)^{-1}](b-B) = 0.00$   
 Prob >  $\chi^2 = 1.0000$

**Table 11.**  
Hausman test:  
hypothesis choice

Variables	(1)	(2)	(3)
	Pool OLS Underpricing	Fixed effect Underpricing	Random effect Underpricing
BEE	0.391** (0.0420)	0.110** (0.0515)	0.00365*** (0.000118)
Debt Equity	-0.120*** (0.0165)	-0.147*** (0.0211)	-0.00120 (0.0718)
Dividend	0.0120 (0.0144)	-0.0239 (0.0225)	0.00514*** (5.00e-05)
SEO (or SIZE)	0.367*** (0.0447)	0.254*** (0.0703)	0.000514*** (0.000252)
Inflation adjusted return	-0.368*** (0.0209)	-0.368*** (0.0215)	-0.00334 (0.187)
Total Asset	28.77*** (1.461)	20.32*** (4.243)	(5.00e-05) 0.512***
MBVR	0.219** (0.101)	-0.134 (0.196)	-0.00323 (1.129)
Return on Asset	0.547*** (0.0297)	0.563*** (0.0315)	0.00166 (0.305)
Constant	-4.520*** (1.349)	-5.659*** (1.490)	4.002 (10.07)
Observations	170	170	170
R-squared	0.957	0.959	0.791
sigma_u		1.581	0.265
sigma_e		0.0654	0.000468
rho		0.998	1

**Table 12.**  
Relationship between  
BEE Compliance on  
SEO Underpricing  
using OLS, Firm-Fixed  
and Random Effects

**Note(s):** Above also presents the estimation of the impact of BEE compliance on SEO underpricing using pooled OLS, fixed and random effects. Using ordinary least squares (OLS), column (1) shows that BEE has a positive relationship with underpricing. Column (2) also shows that BEE has a positive impact on underpricing using a fixed effect approach. The random effect estimation in column (3) presents that increase in BEE is likely to increase in underpricing

We then analyze the relationship between BEE compliance and underpricing of SEOs from REITs in the following multivariate model:

$$UP = \frac{P_1 - OP}{OP}$$

$$\begin{aligned}
 UPO = & \alpha_0 + \alpha_1 * DE - \alpha_2 * DY - \alpha_3 * SIZE - \alpha_4 * MBVR \\
 & + \alpha_5 * INFLAdR + \alpha_6 * ROA + \alpha_7 * TA + \alpha_8 * BEE + \varepsilon_i, \\
 t = & 1, 2, 3..T
 \end{aligned}$$

An increase in a unit of inflation-adjusted return leads to less underpricing by 36.8%. However, the total asset explains the improvement in underpricing. Also, the *MBVR* and *ROA* have a positive and significant relationship with underpricing. The scorecard calculation's direct measure of BEE is next to zero and significant; meaning that a rise in compliance leads to a rise in underpricing, which is consistent with Hypothesis 1A. These findings, according to two recent studies (Prasad *et al.*, 2006; Ariff *et al.*, 2007), imply that when a government sets out to regulate (through policies) for the greater good, it seems to end up affecting the market in ways that promote overall higher first-day underpricing. Apart from this, not only are governmental-linked firms underpriced, but the magnitude of the underpricing gap between the two groups is higher when compared to non-governmental-linked firms. These aforementioned studies have already provided compelling evidence in favor of BEE, a government policy that is being tested in this study.

It also presents a positive and significant effect of BEE on underpricing in column (2) using fixed effects. Consistent with the extant findings (Marcato *et al.*, 2018) and for REITs, the high underpricing of their SEOs is with a view to encouraging more SEOs; however, they (REITs) continue to leave more money on the table (a loss). It remains worrisome in being able to rationalize why issuers willingly "leave money on the table" (Saengchote and Charoenpanich, 2021). For investors, it is a gain for them; the high underpricing of REITs SEOs increases demand due to the share prices being offered at their (investors) "preferred/expected values". In a case such as this, policy makers (government) can ensure market efficiency by increasing incentives for BEE compliant REITs. The reasoning here is that targets/objectives (underpinning principles of the BEE) of government have to be sustained, opening up a win-win situation between REITs and investors. Apart from this, debt-equity has a significant negative effect on underpricing. Similarly, the inflation adjusted return reduces the underpricing. The *SIZE*, *TOTALASSETS*, *ROA* all have a positive significant effect on the underpricing using the fixed-effect approach.

#### 4.6 Robustness test: highly compliant BEE REITs

Table 13 reports the robustness test regression results for "SEO Underpricing and other control variables using South African listed REITs" data over the period 2010–2020. The variable (highly compliant BEE) is dummied and set equal to one if the REIT is compliant and zero otherwise. The standard errors reported in parentheses are adjusted for heteroscedasticity. All three estimations have significant coefficients (at the 5% significance level) and indicate that regardless of their degree of compliance, REITs with high compliance considerably underprice their SEO. Therefore, we reject hypothesis 1B. When we estimate the average marginal effect of SEO underpricing for highly compliant BEE REITs, we find that each additional one-unit rise in BEE compliance adds a 3.6% chance of SEO underpricing. This added effect is not negligible when considering that the SEO underpricing in South African REITs is highly underpriced. The results show that highly-compliant BEE REITs have a positive and significant effect on the underpricing on all the columns. Interestingly, Column (2) and (3) like (1) display that BEE has a positive significant effect on SEO underpricing. With this, REITs with high compliance are still faced with leaving more money on the table"- we can conclude that SEO underpricing is "not good" for South African REITs.

Variables	(1) Pool OLS Underpricing	(2) Fixed effect Underpricing	(3) Random effect Underpricing
Highly Compliant BEE REITs (1/0)	0.231** (0.0391)	0.418*** -0.00323	0.0301*** (0.00141)
Debt Equity	-0.319*** (0.1710)	0.129** (0.1406)	-0.226*** (0.0371)
Dividend	0.056** (0.0311)	0.317** (0.3102)	0.403*** (0.0932)
SEO (or SIZE)	-0.151*** (0.0525)	-0.0271*** (0.0310)	-0.0374** (0.0501)
Inflation adjusted return	-0.0179*** (0.0513)	-0.0120*** (0.2318)	-0.0151*** (0.2014)
Total Asset	0.421*** (0.0465)	0.414*** (0.0385)	0.491*** (0.0411)
MBVR	-0.251*** (0.171)	-0.314*** (0.153)	-0.329*** (0.1921)
Return on Asset	19.24*** (0.316)	18.04*** (0.192)	19.71*** (0.310)
Constant	-3.311*** (1.630)	-5.301*** (2.181)	3.212 (2.017)
Obs	91	91	91
R <sup>2</sup>	0.913	0.910	0.971
sigma_u		1.301	0.410
sigma_e		0.0417	0.000327
rho		0.931	1

**Note(s):** Above also presents the estimation of the impact of BEE compliance on SEO underpricing using Pool pract, fixed and random effects. Using dummy variable OLS regression (DV), column (1) shows that BEE has a positive relationship with underpricing. Columns (2 and 3) also show that BEE has a positive impact on underpricing using fixed and random effect approaches respectively. The variable under examination/ observation (high compliant BEE) is a dummy variable that equals one (1) for REITs that are compliant and zero (0) otherwise. Standard errors robust have been corrected for heteroscedasticity. \*\*\*, \*\* and \* indicates significance at the 1%, 5% and 10% level respectively

**Table 13.**  
Robustness test: highly compliant BEE REITs

## 5. Conclusion

This analysis demonstrates for the first time a link between REIT SEO underpricing and the BEE phenomenon. The particular institutional context of South Africa serves as the basis for a natural experiment. It enables the examination of whether underpricing is useful or detrimental to the operation and efficiency of markets and it facilitates the disclosure of information in the South African REIT market. We give empirical evidence for a positive association between REIT SEO underpricing and BEE compliance. This supports [Prasad et al. \(2006\)](#) and [Ariff et al. \(2007\)](#) in that they confirm that the government ultimately benefits from SEOs of compliant firms which aids the implementation of both economic and political objectives. REITs on the other hand leave more money on the table; hence, the high rate of underpricing is not in their best interests. Government can therefore assist compliant firms with incentives including grants and incentives; state facilitated lending; project financing; venture capital. With these, BEE compliant firms will need not have concerns about the extent of underpricing with Government's intervention. Additionally, we examine the impact of BEE on two levels in our study, namely high and low BEE compliance.

Then, we observe that more REITs are not complying with the entirety of BEE requirements. Additionally, it is worrisome that such firms within this category or subgroup are large firms with a high market capitalization; their perceived 'unconcerned' attitude appears to be induced by their unwillingness to spend additional significant monies on skills development, economic development and socioeconomic development, particularly during this period of risky economic climate (COVID-19). Our work contributes significantly to the field of REIT SEOs in emerging markets. It contributes significantly to our knowledge of the impact of BEE compliance by REITs. We find significant evidence of "more money left on the table". Additionally, our study on REITs SEOs bolsters the view that government policy objectives and action have an effect on firms' equity market

capitalization strategy. The findings imply critical ramifications for government, policymakers and practitioners. While the huge discount on their SEOs is designed to increase stock purchase, they (REITs) continue to lose money as a result of this strategy (a loss). For investors, this is a win-situation because the significant underpricing of REITs SEOs stimulates demand by offering shares at their (investors') "preferred/expected values." To achieve market efficiency in this scenario, government (policymakers) can increase incentives for all BEE-compliant REITs. Because the government's targets/objectives (as well as the underlying ideas of BEE) can be maintained, a win-win scenario for REITs and investors should be established. Specifically, this paper also presents practical implications for the South African government, REITs and relevant stakeholders within the REITs and general stock market. Government can integrate and promote its BEE initiatives effectively with these stakeholders including investors; eliminating the barrier among BEE stakeholders is one way to do this.

Additionally, determining if a new or improved approach is needed to increase the longevity, contribution to the economy and sustainability of the BEE policy should be done by measuring their success. It could be premature to consider an exit plan for the BEE policy owing to the concerns on its effectiveness and politicization, but considering the widening inequity gap (Webster and Francis, 2019), it might be worthwhile to see if it is worth pursuing. From our results, SEOs of compliant REITs are highly underpriced regardless of the level of compliance; with these, it is important and crucial for government to engage increase incentives for compliant firms and ensure BEE goals and objectives are reassessed to verify that goals have been reached as it had been documented that investors' sentiments towards the BEE policy appears to be worrisome (Dreyer *et al.*, 2021). Consistent with Akinsomi *et al.* (2016), results from their study documented several implications for government agencies by noting a need to re-calibrate the BEE policy. Further research can be conducted to determine whether alternative measures, such as the political connections of underwriters and board members, would generate different results. For future research, it would be pertinent to examine influencing factors bothering on underpricing of BEE compliant SEOs of South African (emerging market) REITs; an example is to examine environmental, social and governance (ESG) factors.

## Notes

1. See Oosthuizen and Naidoo (2010).
2. See Jain *et al.* (2012).
3. See Kok (2008).
4. See Kok (2001).
5. Ownership, Management Control, Skills Development, Enterprise and Supplier Development, Socio Economic Development.
6. *Socio-Economic Development* – 5 (Maximum Number of Weighting Points Available); *Skills Development* – 20 (Maximum Number of Weighting Points Available); *New Enterprise and Supplier Development* – 40 (Maximum Number of Weighting Points Available); *Management Control* – 15 (Maximum Number of Weighting Points Available); *Ownership* – 25 (Maximum Number of Weighting Points Available).
7. Level 8–30 to 39.99–10% Compliance; Level 7–40 to 44.99–50% Compliance; Level 6–45 to 54.99–60% Compliance; Level 5–55 to 64.99–80% Compliance; Level 4–65 to 74.99 points - 100% Compliance; Level 3–75 to 84.99 points - 110% Compliance; Level 2–85 to 99.99 points - 125% Compliance; Level 1–100 points and above - 135% Compliance.
8. Grants and Incentives; State facilitated lending; Project financing; Venture capital.

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**75**

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