

## **New FTSE/JSE Africa Indices**

### **The New Capped and Shareholder Weighted Benchmarks**



Quantitative Research  
Umbono Indexation Team  
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## A. Introduction

*Capped and  
Shareholder  
Weighted Indices  
launched on 1<sup>st</sup> of  
July, 2003*

In March of 2002, Umbono and Deutsche Securities surveyed the investment houses, institutional pension funds and the asset consultants. The aim of the survey was to highlight the most important issues facing the formation of an official pension fund benchmark. This survey, together with research done by the JSE Advisory Committee, concluded that there was strong market demand for a benchmark where the **weighting of the larger companies is limited**. The market, however, was divided on the most appropriate benchmark construction methodology to use. Eventually, the FTSE/JSE decided to add two new indices to the Africa Index Series. The Capped Index and the Shareholder Weighted Index were officially launched on the **1<sup>st</sup> of July 2003**. Both benchmarks have a Top 40 and an All Share equivalent.

As an indexation house, one of Umbono's services is the evaluation of a client's current equity benchmark and, if found to be inappropriate, the recommendation of a more appropriate benchmark that will subsequently be tracked. In this paper, a number of Umbono's benchmark evaluation techniques have been used to analyse the two new indices. This analysis will include a **sector, risk, correlation, back-tested return and churn-rate study**.

## B. Construction Methodology

### 1. The Capped Index

*Anglo's  
weighting was  
reduced from  
17% to 10%*

This index uses a mathematical formula to cap all companies with a weighting of greater than 10%. In the case of the Top 40 Index and the All Share Index, both Anglo and Billiton were capped. Initially, only Anglo's weighting had to be reduced from approximately 17% to 10% (Top 40), using a Capping Factor. This extra 7% was then apportioned across the rest of the portfolio. However, as the second largest counter, Billiton (9.5%), was allocated the highest percentage of Anglo's residual 7%.

Billiton's new weighting subsequently breached the 10% level and necessitated a **secondary capping** to reduce its adjusted weight back down to 10%.

It is important to understand that the Capping Factor is used to determine each counters' Free Float Shares In Issue (FF SISS). A share's index weighting cannot be ascertained until its FF SISS has been calculated. (Please see [Appendix 1](#) for a detailed explanation of how the Capping Factor is calculated).

It stands to reason that the larger a counter's index weighting, the more it will benefit in absolute terms. For example, Richemont's weighting in the Top 40 has increased by 0.8%, from 6.7% to 7.5% (Please see [Appendix 2](#) for a comparative analysis of the Top 40 weighting changes). We were initially concerned that the increased weighting of the smaller counters would create a liquidity problem. However, our research has shown that this is 'at the margin' and that reduced **liquidity is not material**.

### When to Re-cap?

It is worth pointing out that the re-capping of these indices is done quarterly, in conjunction with the futures close-out. This poses an interesting challenge for any intra-quarter index changes. (e.g. inclusion of a new share).

*Quarterly capping has created an unusual index*

Umbono was mandated to track a customised capped benchmark prior to the launch of the FTSE/JSE indices. In preparation for this mandate we conducted research that focused on how to deal efficiently with intra-quarter index changes. Unlike a normal index, the underlying shares within a capped index will only adjust dynamically according to the ‘ebb and flow’ of the market between quarters. At the quarterly close-out, the benchmark is **re-adjusted back to a new starting point** using the Capping Factor (Anglo’s and Billiton back to 10%).

The challenge, intra-quarter, is to decide on which Capping Factor to use. In consultation with the JSE, it was decided that the most consistent way to calculate a new counter’s FF SISS is to use the previous quarter’s Capping Factor. (Please see [Appendix 1](#), as this is best explained via an actual illustration).

## 2. Shareholder Weighted Index (Previously known as the ‘PENI’)

At the risk of digressing, we have had a number of clients ask us why the name was changed. Rumour has it that, the JSE Advisory Committee felt that the name ‘PENI’ was too diminutive and could be confused with ‘penny stocks’! Hence the new, far longer name - Shareholder Weighted Index.

*The SW Index could be classified as a “Proudly SA Index”*

For the purposes of this paper, we will refer to it as the SW Index, although, in time, it will probably be known as the **S.A. Index** as it can be argued that it is the most representative South African index. In the SW Index, constituent weights have been adjusted for foreign shareholdings. In other words, these counters’ free float shares have been reduced to reflect only the locally held free float. However, at this stage, only the dual listed companies have been adjusted downwards as the data on foreign free float holdings, for all shares, is not readily available. (Please see [Appendix 3](#) for a list of these dual listed stocks).

As discussed above, a counter’s index weighting can only be determined once it’s Shares in Issue (SISS) have been calculated. This is done using **banding levels**. In the case of the SW Index there are two levels – The Free Float banding level and the Local Ownership banding level.

Shares in Issue are calculated using the following **rules of thumb**:

- ❑ If the Local Ownership banding level is **less than** the Free Float banding level then the Local Ownership banding is used. For example, Anglo’s has a Free Float banding level of 100% but a Local Ownership banding level of only 30%. Therefore, Anglo’s SISS will be multiplied by a factor of 0.3, resulting in a massive down weighting of Anglo in the SW Index. Anglo’s weighting in the SW Top 40 dropped from approximately 17% to 8%.

*Anglo’s Local Ownership Banding Level is only 30%*

- ❑ If the Free Float banding level is **less than** the Local Ownership banding level then the Free Float banding is used. For example, Amplats has a Local Ownership banding level of 100% but a Free Float banding of only 50%. Therefore, Amplats SISS will be multiplied by a factor of 0.5. This results in an up weighting of Amplats in the SW Top 40, from 2% to 3.2%.

## C. Benchmark Evaluation Techniques

### 1. Sector Analysis

From the above section it is clear that, in both indices, there have been significant weighting adjustments to the large stocks. This has resulted in some **material** changes to the sector weightings.

**Table One - Comparative Sector Analysis**

	Resources	Industrials	Financials
<b>All Share Index</b>	43.02%	31.24%	25.72%
<b>All Share Index (Half-weight Resources)</b>	21.54%	39.62%	32.92%
<b>All Share Capped Index (CAPI)</b>	39.35%	33.27%	27.34%
<b>Shareholder Weighted Index</b>	31.53%	31.95%	36.51%
<b>Median Manager*</b>	40.46%	35.06%	24.48%

*The Resource – Financial differential creates the swing factor*

\*The Median Manager data is an **estimate** that has been derived from the Managed Prudential Unit Trusts. (Source: Standard and Poor’s Fund Services)

Source: Umbono

#### 1.1 The Capped Index

It is interesting to note that the sector weightings of the Capped Index are relatively similar to those of the Median Manager. This would make sense because most fund managers would not hold more than 10% in Anglo. In essence, the active houses have therefore imposed their own “Cap”. However, this does not necessarily mean that these two indices are very similar as their underlying holdings need to be compared. This is elaborated upon in the **Tracking Error Comparison** section on page 13.

#### 1.2 The SW Index

This index has a far lower Resource weighting relative to the All Share. The Resource down-weighting has, in effect, been transferred to the Financials, creating a more **equal weighting** between the 3 sectors.

The resultant risk, return and liquidity implications, from these sector changes, are discussed below.

## 2. Risk Analysis

**Table Two - Total Risk & Diversifiable Risk**

	All Share Index	All Share (Half-weight Resources)	Capped Index	Shareholder Weighted Index	Median Manager
Total Risk	20.17%	19.17%	19.66%	19.17%	18.88%
Company Specific Risk	3.5%	3.16%	3.20%	2.81%	2.69%

Source: Barra International

### 2.1 The Capped Index

Table Two above shows the Total Risk (an indication of a benchmark’s **overall volatility**) and the Company Specific Risk (an indication of a benchmark’s **diversification** qualities) of the respective Indices. According to both measures, the Capped Index exhibits better risk qualities than that of the All Share. This is due to the Capped Index’s reduction in ‘top-heaviness’, thus creating a benchmark that is less reliant on the performance of Anglo. However, in some ways the capping methodology is **counter intuitive** – although Anglo’s weighting is reduced, the bulk of the Anglo residual is pro-rated across the rest of the large counters (Billiton and Richemont), thus pushing the ‘top-heaviness’ back up. This would explain why the Capped Index has better risk characteristics than the All Share but is not as diversified an index as the SW Index.

*Does capping reduce “Top-heaviness”?*

### 2.2 The SW Index

A diversified index is one that combines sectors that have a low correlation to one another. The combination of lowly correlated sectors, reduces the overall volatility of an index by removing ‘company specific risk’ or risk that is not endemic to the entire market. **The SW Index exhibits these qualities.** In this index there is a significant reduction in the weighting of Resources and a significant increase in the weighting of Financials. It therefore stands to reason that the Resources and Financial sectors must have a low correlation to one another. This statement is borne out in Table 3 below. (The Industrial weighting remains relatively constant – due to it’s stability, most of the analysis below will focus on the Financial and Resource sectors).

**Table Three - Correlation Analysis (1961 to Present)**

	Resources	Financials	Industrials
Resources	-	44%	54%
Financials	44%	-	84%
Industrials	54%	84%	-

*Financials & Resources exhibit a low correlation to each other*

Source: Inet Bridge & Umbono

### 3. Long-term Correlation and Return Analysis of the 3 Sectors

It should be noted that the correlation statistics, in Table Three, have been calculated over a very long-term period (**1960 to the present**). We have done this intentionally, as we are of the view that the determination of a pension fund benchmark is a long-term decision.

Table Three above shows that the Financial and Industrial sectors are highly correlated (84%). This means that over the last 40 years, the returns of these 2 indices, over many differing time horizons, have been a relatively close match. In contrast, the return of the Resource sector has not moved in tandem with the other 2 sectors. It has a correlation of only **54%** to the Industrial sector and an even lower **44%** to the Financial sector.

*The SW Index has better diversification characteristics*

We have been at pains to point out that the SW Index has better diversification characteristics, however, a benchmark's appropriateness is comprised of two components – risk and return. So, if a sector exhibits low correlation to the other sectors but has performed very poorly, then the resultant benchmark will have great risk attributes but weak return attributes.

#### 3.1 Returns - Strange but True

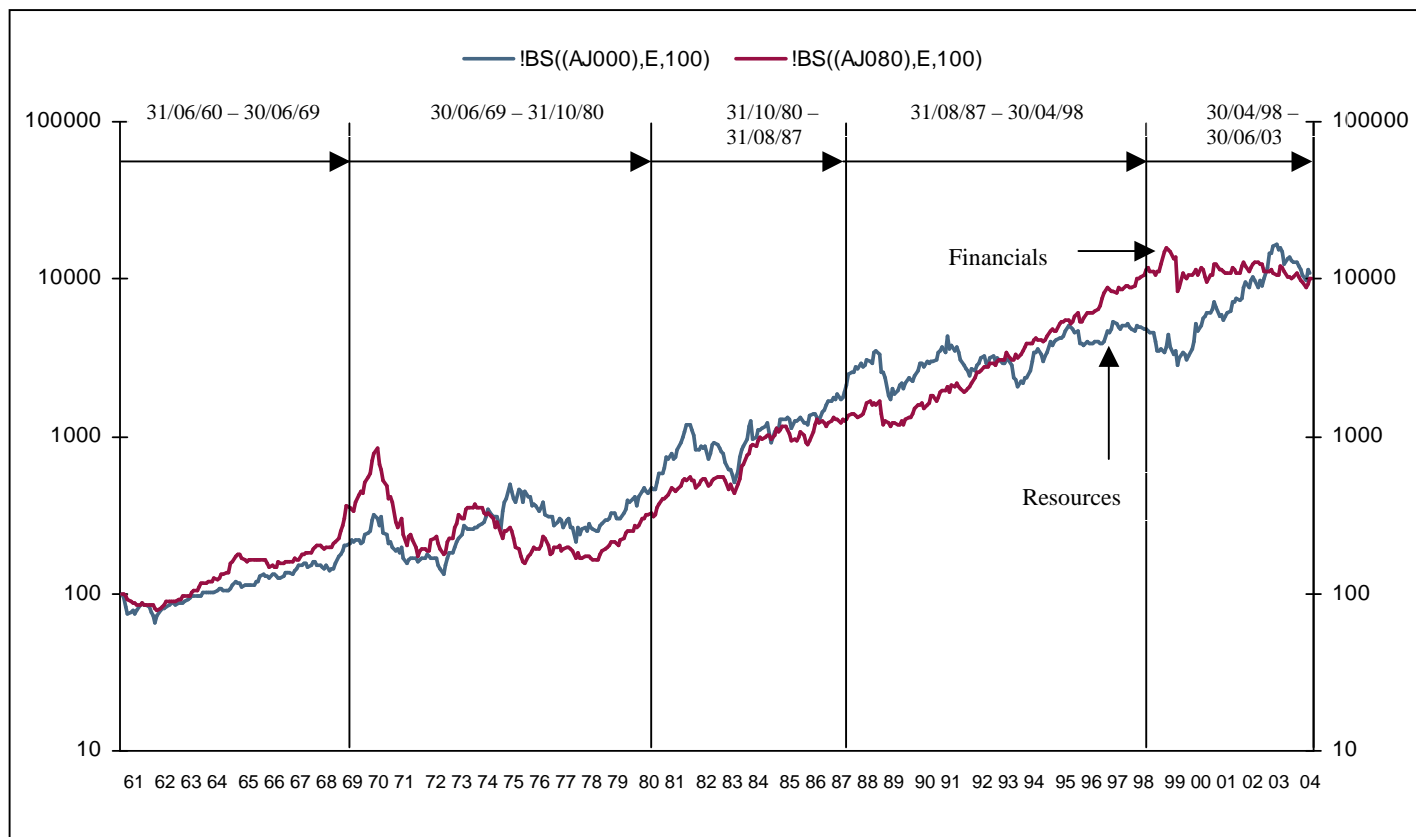
Graph One on page 9 depicts the long-term price return of the Resource and Financial sectors. It is extremely interesting to note that although these 2 indices have a very low correlation to one another, they somehow managed to generate similar annualised returns, over a 40 year period. The annualised capital return or price return, as shown in Graph One, was almost identical at 11.4% and 11.3% for the Resources and Financial indices, respectively. The total return (including dividends), as calculated by Umbono, was slightly in favour of Resources at **14.7% p.a.** versus the Financial index's **13.5% p.a.** (This was predictable, as historically, Resource stocks tend to pay higher dividends). The Industrial sector had the lowest return at **13.3% p.a.**

*Probably just a strange coincidence?*

We must immediately caveat this bizarre result by stating that, in our view, this is probably explained as a very unusual **coincidence**. We make this statement after having studied the monthly return volatilities of the 2 respective sectors. These volatilities have proven to be quite divergent. Over the period, the Resource Index generated an annualised Standard Deviation of **34.8%**, whereas the Financial Index's comparative number was far lower at **29.7%**. This means that although the cumulative returns have ended up being very similar, the "ride" taken, by the 2 indices, to reach this point, has been quite different!

This is well illustrated by looking at the period from 1961 to June 1998. If you were unlucky enough to retire in June of 1998 and your equity portfolio comprised a large Resource component, you would probably have cancelled your long awaited world-wide cruise. At that point Resources had generated a cumulative return of 9.5% p.a., whereas Financial's had returned 13.6% p.a.

**Graph One - JSE Resources versus JSE Financials (1961 to Present)**



Source: Inet Bridge (Please note that the Total Return, for these indices over such a long period is not available on Inet Bridge. However, the long-term correlation trend remains in tact for the Price Return)

### 3.2 Return Deviation Intervals

The return intervals shown in Graph One above give further credence to the low correlation observed between these two sectors. Over the years, there have been some rather significant return deviations between the Resources and Financial indices.

- ❑ From **1960 to 1969**, Financials out-performed Resources by **11%** each year for **9 years** – on average. (Remember, we are looking at the annualised return number)
- ❑ From **1969 to 1980**, Resources out-performed Financials by **15.5%** each year for 11 years
- ❑ From **1980 to 1987** returns were very similar
- ❑ From **1987 to 1998**, Financials out-performed Resources by **26%** each year for 11 years
- ❑ From **1998 to June 2003**, Resources out-performed Financials by **25%** each year for 5 years

*Timing was the key...do you feel lucky? If not...diversify*

### 3.3 Back-testing the numbers

From the analysis thus far, we have ascertained that the Resource sector has out-performed the other two sectors, over the very long-term. However, on an annualised basis, the margin of out-performance has not been spectacular – in fact, the differential is due mainly to the **superior Resources dividends**. Also, as a result of Resources generating the highest volatilities, there have been periods where this index has **woefully under-performed** Financials and Industrials. It therefore stands to reason that, over the 40 year period, the benchmark with the greatest Resource component will have the highest return but the highest volatility. Table Four, below, shows that this is indeed the case. However, it is the “**Risk-adjusted Annualised Return**” column that conveys the most important message.

**Table Four - Back-testing the Returns (1960 – June 2003)**

	Annualised Return*	Annualised Volatility from the monthly Returns	Risk-adjusted Annualised Return (Return/Risk)
<b>All Share Index</b>	13.93%	18.90%	0.74
<b>Capped Index</b>	13.88%	18.23%	0.76
<b>SW Index</b>	13.79%	17.57%	0.78

Source: Umbono

Please note that these Total Risk measures are different to those calculated by Barra in Table Two as Barra uses a far shorter time frame and incorporates a multi-factor model

\*These returns are an estimate and were calculated using the current sector weightings of the respective Indices

### 3.4 Recreation of the Indices back to January 2002

The JSE has recreated the Capped and SW Indices, using their respective index construction methodologies. Unfortunately, this back-testing is only from January 2002 (18 months). However, the results over this short period, are consistent with the long-term back-tested results. **Graph Two**, on page 11, shows that over this period the SW Index generated the best performance. This was due to Resources significantly under-performing Financials. Table Five on page 12 highlights the Annualised Return of the Top 40, Capped Top 40 and SW Top 40 as well as the Standard Deviation of each index, over this 18 month period. The volatility calculations were also consistent with the findings above - **the SW Index had the lowest risk.**

**Graph Two – Top 40 vs Capped Top 40 vs SW Top 40 (Jan'02 to Present)**



Source: Inet Bridge (Please note that the Top 40 Indices were used as the recreated results for the All Share Indices were not available).

**Table Five – Results From Recreated Indices (Jan’02 – June 2003)**

	<b>Annualised Return*</b>	<b>Annualised Volatility from the monthly Returns</b>
<b>Top 40</b>	-11.35%	22.1%
<b>Capped Top 40</b>	-9.48%	20.3%
<b>SW Top 40</b>	-7.32%	19.4%

Source : Umbono/Igraph

*The Capped Index’s out-performance, not sufficient to compensate for higher risk*

**3.5 Risk/Return Analysis Conclusion**

In conclusion, the “Risk-adjusted Annualised Return” in Table Four indicates that although the back-tested return of the All Share Index and Capped Index is higher than the SW Index – over the long-term, the out-performance was not sufficient to compensate for their higher degree of risk. On a risk-adjusted basis, the SW Index **(0.78)** would appear to be a more appropriate benchmark.

**4. Churn-rate Analysis**

The purpose of this study is to determine the amount of trading required to transition a fund from Benchmark A to Benchmark B. There are many existing benchmarks currently being tracked by funds – for demonstrative purposes we have chosen the Median Manager and the Top 40 Index. Table Six, below, gives an indication of the estimated ‘buys’ and ‘sells’ (churn-rate) required to switch a portfolio using one of these benchmarks (or a derivation thereof) to a Capped or SW benchmark.

**Table Six - Churn-rate Analysis**

<b>Fund</b>	<b>Churn Rate</b>		
	<b>Buy</b>	<b>Sell</b>	<b>Total</b>
From Top 40 to Capped Index	4.3%	4.3%	8.6%
From Top 40 to Shareholder Weighted (SW) Index	11.8%	11.8%	23.6%
From Median Manager to Capped Index	14.4%	14.4%	28.8%
From Median Manager to Shareholder Weighted (SW) Index	6.8%	6.8%	13.6%

Source: Umbono

Table Six, on page 12, highlights the following:

- ❑ For a fund that utilises the Top 40 or All Share benchmark, it will be far more costly to switch to the SW Index than to the Capped Index

On the other hand;

- ❑ For a fund that utilises the Median Manager benchmark, it will be far cheaper to switch to the SW Index than to the Capped Index

#### 4.1 Multiple Benchmark Comparison

An alternative way of comparing one benchmark to another is by analysing the Tracking Error of Benchmark A relative to Benchmark B.

**Table Seven. Tracking Error Comparisons**

	All Share Index	All Share (Half-weight Resources)	Capped Index	Shareholder Weighted Index	Median Manager
All Share Index	-	4.96	1.48	4.39	6.35
All Share (Half-weight Resources)	4.96	-	4.05	2.57	2.75
Capped Index	1.48	4.05	-	3.28	5.41
Shareholder Weighted Index	4.39	2.57	3.28	-	2.69
Median Manager	6.35	2.75	5.41	2.69	-

*Capped index was created off the All Share base, therefore the TE is low*

Source: Barra International

The Tracking Error (TE) analysis is consistent with the findings of the Churn-rate study. Table Seven, above, highlights the following:

- ❑ The **All Share** Index has a much lower TE, relative to the **Capped** Index, than to the **SW** Index
- ❑ The **Median Manager** benchmark has a much lower TE, relative to the **SW** Index, than to the **Capped** Index

It should be noted that, from an intuitive perspective, the findings for the Median Manager benchmark would appear to be inconsistent with the Sector Analysis done in Table One on page 6. In other words, although the Median Manager benchmark’s Resource weighting is far more aligned with the Capped Index than the SW Index, this does not appear to be borne out by the TE analysis above – one would have thought it safe to presume that the closer the sector alignment, the lower the TE.

*A TE anomaly?*

The explanation for this anomaly is as follows – although the sector weightings of the Median Manager benchmark relative to the SW Index are not that closely aligned, the **underlying share weightings** are quite similar.

## D. Summary - Quantitative Pro's and Con's

### 1. Capped Index

*Better returns  
and higher  
risk...the age old  
trade-off*

- ❑ A **high Resource** weighting of almost 40% - this is closely aligned to the All Share Index but is a far higher weighting than that of the SW benchmark
- ❑ More diversified than the All Share but **less diversified** than the SW Index
- ❑ Using estimated back-tested return data, the Capped Index **out-performed** the SW Index but slightly under-performed the All Share
- ❑ The **Risk-adjusted Return** was better than the All Share but worse than the SW Index
- ❑ The **churn** required to switch from a Top 40 or All Share Index was low, whilst the churn required to switch from a Median Manager benchmark was high
- ❑ From a **Tracking Error** perspective, the Capped Index is more aligned to the All Share Index than the Median Manager. (This indicates that the future return deviations for this benchmark – good or bad – would probably be low, relative to the All Share)

### 2. Shareholder Weighted (SW) Index

- ❑ A **low Resource** weighting of only 31% and a much higher Financial weighting of 36%
- ❑ The **most diversified** index as the less risky Financials counter-act the more volatile Resources
- ❑ Using estimated back-tested return data, this benchmark **under-performed** both the All Share and Capped Indices
- ❑ The **Risk-adjusted Return** of the SW Index was marginally superior
- ❑ The **churn** required to switch from the Median Manager benchmark was low, whilst the churn required to switch from the All Share or Top 40 Indices was high
- ❑ From a **Tracking Error** perspective, the SW Index is more aligned to the Median Manager benchmark than to the All Share.

## E. Conclusion

At the risk of stating the obvious – the selection of a benchmark is an extremely difficult challenge. If history is anything to go by, then the SW Index will probably produce the **least volatile** performance, over the long-term. Unfortunately though, there are no “free lunches” as this benchmark will most likely under-perform the All Share and the Capped indices during a sustained Resources’ rally.

*The more  
published indices,  
the better*

However, an increase in the number of published indices should be viewed in a very **positive** light. As a result, pension funds now have a wider variety of benchmarks to choose from. Therefore, the probability of finding the most appropriate benchmark, relative to a fund’s specific requirements, has improved.

**APPENDIX 1 – Capping Methodology**

**FFACT= FREE-FLOAT FACTOR**

Alpha	Market Cap	Weight	FFACT	New Inv Fact	Adj Market Cap	New Weight
ABI	7,768,678,326.00	0.59%	0.30	0.30	2,330,603,497.80	0.22%
AGL	184,163,073,424.00	13.96%	1.00	0.57	105,544,501,552.29	10.00%
AMS	58,852,096,000.00	4.46%	0.40	0.40	23,540,838,400.00	2.23%
ANG	50,435,380,866.00	3.82%	0.50	0.50	25,217,690,433.00	2.39%
AOD	7,224,575,000.00	0.55%	0.40	0.40	2,889,830,000.00	0.27%
ASA	22,368,386,030.00	1.70%	0.75	0.75	16,776,289,522.50	1.59%
AVG	5,364,340,520.00	0.41%	0.30	0.30	1,609,302,156.00	0.15%
BAW	12,215,613,000.00	0.93%	1.00	1.00	12,215,613,000.00	1.16%
MTN	22,440,691,351.60	1.70%	0.50	0.50	11,220,345,676.00	1.06%

This is an extract from the Top100-Capped Benchmark as at 30/05/03

**NON-CAPPED HOLDING**  
NEW INV FACT=FFACT

**CAPPED HOLDING= FFACT**  
\*CAPPING FACTOR(=0.5731, see workings below)

CAPPING FACTOR:	as @ 30/05/2003	
Investable Mkt Cap (everything excl. AGL)	949,900,513,970.60	<b>A</b>
Uncapped % AFTER capping	0.9000	<b>B</b>
Capping %	0.1000	<b>C</b>
AGL Mkt Cap	184,163,073,424.00	<b>D</b>
<b>ANSWER</b>	<b>0.5731</b>	<b>E</b>
<b>Total Mkt Cap, after reducing</b>	962,292,542,190.79	<b>F</b>

$$\text{The Capping Factor} = \frac{(A/B) * C}{D}$$

This remains constant until the next capping

Source: JSE

### APPENDIX 1 – Change in MTN’s Free-Float (FF) Banding Level

Alpha	Market Cap	Weight	FFACT	New Inv Fact	Adj Market Cap	New Weight
ABI	7,768,678,326.00	0.59%	0.30	<b>0.30</b>	2,330,603,497.80	0.22%
AGL	184,163,073,424.00	13.96%	1.00	<b>0.57</b>	105,544,501,552.29	9.95%
AMS	58,852,096,000.00	4.46%	0.40	<b>0.30</b>	23,540,838,400.00	2.22%
ANG	50,435,380,866.00	3.82%	0.50	<b>0.38</b>	25,217,690,433.00	2.38%
AOD	7,224,575,000.00	0.55%	0.40	<b>0.30</b>	2,889,830,000.00	0.27%
ASA	22,368,386,030.00	1.70%	0.75	<b>0.75</b>	16,776,289,522.50	1.58%
AVG	5,364,340,520.00	0.41%	0.30	<b>0.23</b>	1,609,302,156.00	0.15%
BAW	12,215,613,000.00	0.93%	1.00	<b>1.00</b>	12,215,613,000.00	1.15%
MTN	22,440,691,351.60	1.70%	0.75	0.75	16,830,518,513.70	1.59%

**No Change to  
Capping Factor until  
next quarterly  
'recap'**

- In the above MTN is an example of what would happen in the event of a change in FF banding
- Notice in the first table on page 13 that MTN has a Free-Float Factor of 0.50 and a weight in the benchmark of 1.06%
- Due to a FFACT (investability) change from 50% to 75% the weight changes to 1.59%
- In MTN’s case the new Investability Factor = FFACT
- Any change in FF banding or SISS would be treated in a similar way
- What’s important to note is that the AGL new inv fact remains constant and only changes at the next recapping. The same would apply to any counter that requires capping
- This is in line with the JSE methodology used for the capped indices launched on 1 July 2003

Source: JSE

**APPENDIX 2 – A Comparative Analysis of the Top 40 Weighting Changes**

<b>Asset ID</b>	<b>Name</b>	<b>Top 40</b>	<b>Top 40 - Capped</b>	<b>Top 40 - SW</b>
ABI	ABI	0.24%	0.27%	0.38%
AGL	ANGLO	17.77%	10.01%	8.51%
AMS	ANGLOPLAT	2.10%	2.33%	3.35%
ANG	ANGGOLD	2.70%	3.00%	4.31%
AOD	ARMGOLD	0.25%	0.28%	0.40%
ASA	ABSA	1.75%	1.95%	2.80%
AVG	AVGOLD	0.15%	0.17%	0.24%
BAW	BARWORLD	1.23%	1.36%	1.96%
BIL	BHPBILL	10.39%	10.19%	3.32%
BVT	BIDVEST	1.38%	1.53%	2.20%
FSR	FIRSTRAND	3.26%	3.62%	5.20%
GFI	GFIELDS	4.12%	4.58%	3.29%
HAR	HARMONY	1.69%	1.88%	0.81%
IMP	IMPALA PLATINUM	3.11%	3.46%	3.73%
INL	INVESTEC LTD	0.37%	0.42%	0.45%
INP	INVESTEC PLC	0.74%	0.82%	0.88%
IPL	IMPERIAL	1.20%	1.33%	1.92%
ISC	ISCOR	0.34%	0.38%	0.55%
KMB	KUMBA	0.66%	0.74%	1.06%
LBT	LIB-INT	2.37%	2.64%	1.52%

Source: Inet Bridge

**APPENDIX 2 – A Comparative Analysis of the Top 40 Weighting Changes (Cont.)**

<b>Asset ID</b>	<b>Name</b>	<b>Top 40</b>	<b>Top 40 - Capped</b>	<b>Top 40 - SW</b>
LGL	LIBERTY	0.69%	0.77%	0.88%
MTN	MTN GROUP	2.01%	2.23%	3.20%
NED	NEDCOR	1.31%	1.46%	2.10%
NPK	NAMPAK	0.76%	0.85%	1.22%
NPN	NASPERS -N	0.79%	0.87%	1.25%
NTC	NETCARE	0.55%	0.61%	0.88%
OML	OLD MUTUAL PLC	4.28%	4.75%	5.12%
PIK	PIKNPAY	0.35%	0.39%	0.56%
RCH	RICHEMONT	6.72%	7.47%	4.29%
REM	REMGRO	3.11%	3.45%	4.96%
RMH	RMB HOLDINGS	1.00%	1.11%	1.59%
SAB	SAB	4.91%	5.46%	3.14%
SAP	SAPPI	2.25%	2.49%	1.43%
SBK	STANBANK	4.44%	4.93%	7.09%
SHF	STEINHOFF	0.48%	0.53%	0.76%
SLM	SANLAM	1.96%	2.17%	3.12%
SOL	SASOL	5.39%	5.99%	6.46%
TBS	TIGBRANDS	1.14%	1.27%	1.82%
TKG	TELKOM	0.67%	0.75%	1.08%
VNF	VENFIN	0.81%	0.90%	1.29%
		<b>100%</b>	<b>100%</b>	<b>100%</b>

Source: Inet Bridge

**APPENDIX 3 – The Dual Listed Stocks used in the SW Index**

Asset ID	Name	Resultant Banding Level	Actual Local Ownership	Free-Float Banding
AMS	Anglo American Platinum Corp Ltd	40%	88%	40%
AGL	Anglo American plc	30%	29%	100%
ANG	Anglogold Limited	50%	66%	50%
AIN	Anglovaal Mining Limited	75%	82%	75%
BAW	Barloworld Limited	100%	82%	100%
BIL	BHP Billiton Plc	20%	20%	100%
BAT	Brait S.A.	100%	77%	100%
CAN	Canadian Overseas Packaging Industries Limited	15%	14%	N/A
CNX	Conafex Holdings Societe Anonyme	10%	10%	N/A
DDT	Dimension Data Holdings plc	75%	45%	100%
DUR	Durban Roodepoort Deep Limited	6%	5%	100%
ENR	Energy Africa Limited	5%	5%	40%
FLC	Falcon Investment Holdings Societe Anonyme	1%	0%	75%
FRE	Free State Development & Investment Corporation Limited	75%	75%	75%
GFI	Gold Fields Limited	50%	47%	100%
HAR	Harmony Gold Mining Company Limited	30%	28%	100%
IMP	Impala Platinum Holdings Limited	75%	67%	75%
INL	Investec Limited	100%	76%	100%
INP	Investec PLC	75%	62%	100%
LGL	Liberty Group Limited	40%	37%	50%

Source: JSE

**APPENDIX 3 – The Dual Listed Stocks used in the SW Index (Cont.)**

<b>Asset ID</b>	<b>Name</b>	<b>Resultant Banding Level</b>	<b>Actual Local Ownership</b>	<b>Free-Float Banding</b>
LBT	Liberty Intl Plc	40%	34%	100%
LNf	London Fin & Inv Grp Plc	30%	29%	40%
LON	Lonmin Plc	2%	2%	N/A
LAF	Lonrho Africa plc	1%	0%	100%
MTX	Metorex Ltd	50%	49%	N/A
MTE	Monteagle Societe Anonyme	8%	7%	75%
OML	Old Mutual plc	75%	52%	100%
RNG	Randgold	75%	51%	75%
RCH	Richemont Securities AG	40%	33%	100%
SAB	SABMiller Plc	40%	38%	100%
SIR	SAIL Grp Ltd	30%	28%	N/A
SAP	Sappi Ltd	40%	42%	100%
SOL	Sasol	75%	71%	100%
SIM	Simmer & Jack Mines Ltd	75%	52%	N/A
STI	Stilfontein Gold Mining Co Ltd	13%	12%	30%
TBS	Tiger Brands Ltd	100%	85%	100%
TKG	Telkom SA Ltd	30%	18%	30%
TNT	Tongaat-Hulett Grp Ltd	50%	93%	50%
WHL	Woolworths Holdings Ltd	100%	90%	100%
ZCI	Zambia Copper Inv Ltd	1%	0%	50%

Source: JSE

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