

Equities

12 July 2011 | 20 pages

South African Platinum Sector

Value Conundrum

■ Industry Overview

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■ **“Real” value territory yet to be tested:** The FTSE/JSE platinum index has fallen 22% y-t-d, underperforming the Alsi by 16%. It appears as if this underperformance has driven the sector back into value territory on a P/BV basis. However, we caution that the denominator (book value) of this equation has been inflated through equity raisings and rights issues. Taking the effect of these into account, the sector appears only fairly valued and we caution that more downside is needed before “real” value territory is entered. This supports our neutral view on the sector. We have Buy recommendations on IMP and NHM, Holds on RBP, LON and AQP, and a Sell on AMS.

– **The underperformer:** The South African (SA) platinum sector has fallen 22% y-t-d and has underperformed the JSE Alsi by 16%. This has been mainly due to 1) a low rand-based PGM basket price, 2) uninspiring operational performances, and 3) uncertainty about indigenisation policies in Zimbabwe, which have affected the valuations of mainly IMP and AQP, and to a lesser extent AMS.

– **Back into value territory?:** This underperformance appears to have pushed the SA platinum sector back into value territory on a P/BV basis. We calculate the current sector average P/BV as 2.6x, which is close to its 15-year historical 10th percentile of 2.5x and below the median of 3.5x. AMS in particular looks cheap on this basis (current P/BV 3.0x, 10th percentile 3.0x, median 4.0x).

– **Inflated BV makes P/BV seem lower than it actually is:** Even though at first glance the sector appears cheap on a P/BV basis, we caution that equity raisings and/or rights issues by AMS, IMP, NHM, LON and AQP over the past 4 years have inflated the denominator (BV). Taking the effect of these into account, we caution that the sector is in fact only trading near its median P/BV level and that more downside is possible before it enters “real” value territory.

■ **Valuation – We maintain our preference for IMP and NHM:** Given the analysis in this note, LON and AQP appear less expensive on a P/BV basis. However, the primary valuation metric used to derive our TP’s is discounted cash flow (DCF). On a DCF basis, IMP (Buy, TP R240) and NHM (Buy, TP R56) remain our favoured picks in the sector, followed by LON (Hold, TP R190), AQP (Hold, TP R45) and RBP (Hold, TP R70). AMS is our least favoured, rated Sell, TP R650.

See Appendix A-1 for Analyst Certification, Important Disclosures and non-US research analyst disclosures.

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Summary

The SA platinum sector's underperformance has raised the question of whether or not it has returned to value territory. In this note, we address this question by:

- Analysing historical P/BV trends per company, and on a sector basis.
- Compare current P/BV's to 15-year historical levels.
- Questioning the validity of current BV's given that accelerated capex and corporate activity have led to equity raisings and rights issues.
- Adjusting current BV's to reflect the impact of historical equity raisings and rights issues.

We conclude that:

- At first glance, it appears as if the sector has moved into value territory and trades near its 10th percentile P/BV level relative to history. AMS in particular appears inexpensive on this basis.
- However, BV's have been inflated by equity raisings and rights issues, mainly due to a sharp rise in capex and isolated occurrences of corporate action. This makes current P/BV's seem lower than what they actually are and makes direct comparisons to history inaccurate.
- Excluding the effect of share issues on BV, the sector has not yet entered "real" value territory and is now only trading close to its historical median P/BV level. LON appears cheapest on this adjusted P/BV basis.
- As a result, we caution that further downside is needed before "real" value territory is achieved for most of the sector.

We base our recommendations primarily on a DCF basis and maintain our preference for IMP and NHM in the SA platinum sector. Given the analysis in this note and recent underperformance, LON is becoming more attractive.

Figure 1. SA platinum sector historical P/BV, with and without BV adjustments for equity raisings and rights issues



Source: dataCentral and Citi Investment Research and Analysis

Returning to value?

The SA platinum sector has fallen 22% ytd...

The SA platinum sector has significantly underperformed thus far in 2011.

The SA platinum sector has declined 22% since the beginning of 2011 and has underperformed the FTSE/JSE Alsi by 16% over this period. This has mainly been due to a strong rand, uninspiring operational performances, and increasing uncertainty about Zimbabwean indigenisation policies.

Figure 2. The FTSE/JSE platinum index has declined 22% since the beginning of 2011 (indexed)



Source: Powered by dataCentral

...and appears to have entered value territory

It appears as if the sector has entered value territory on a P/BV basis.

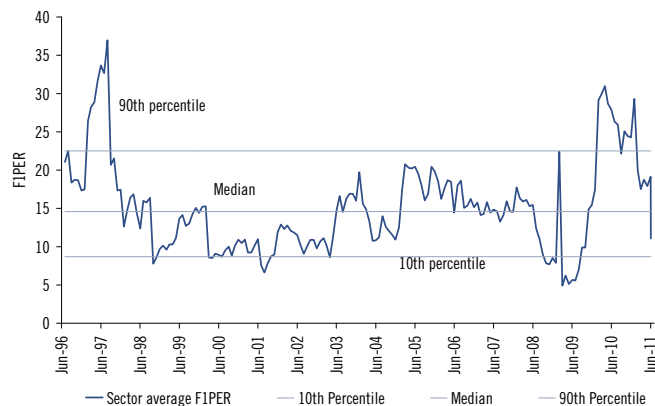
Given this underperformance, the sector is now trading near historical lows on a P/BV basis and below its historical Median on an F1PER basis (Figures 3 and 4). (Note: On all 1-year forward PE charts our latest two data points represent 2-year forward PE as per Datastream and CIRA FY12e PE, respectively).

Figure 3. SA platinum sector historical P/BV



Source: CIRA Estimates, company reports and Datastream

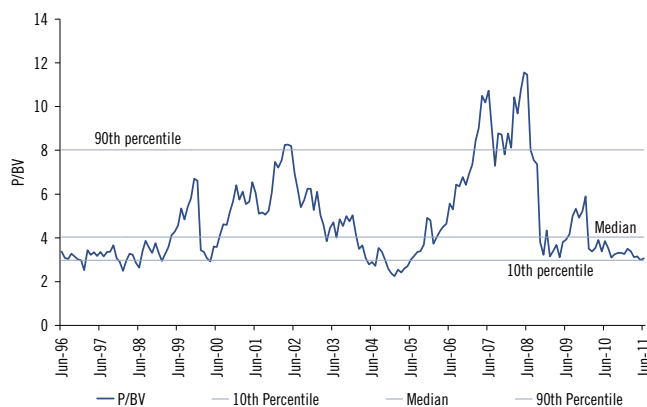
Figure 4. SA platinum sector historical 1 year forward PE



Source: CIRA Estimates, company reports and Datastream

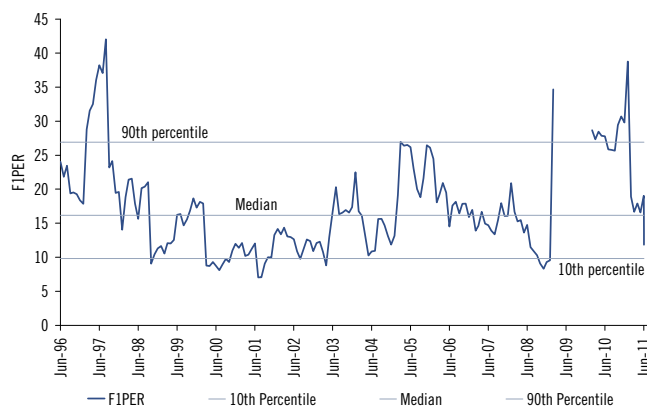
AMS in particular appears cheap relative to history

Figure 5. AMS historical P/BV



Source: CIRA Estimates, company reports and Datastream

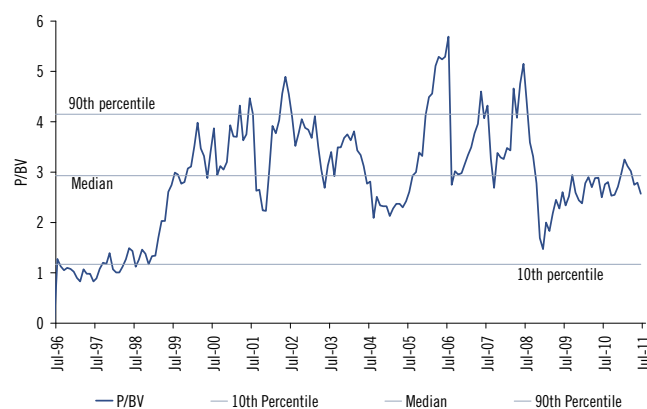
Figure 6. AMS historical 1 year forward PE



Source: CIRA Estimates, company reports and Datastream

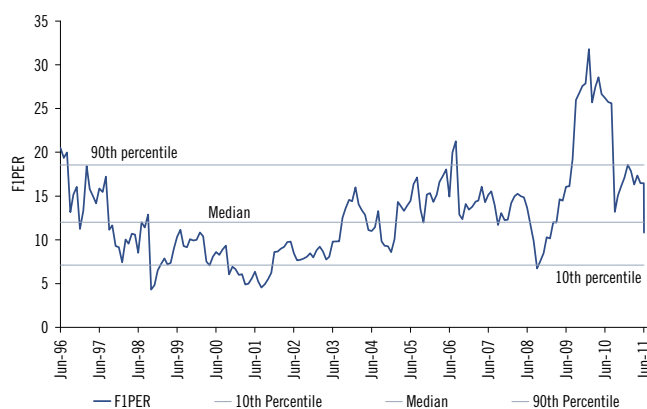
IMP appears to have entered value territory

Figure 7. IMP historical P/BV



Source: CIRA Estimates, company reports and Datastream

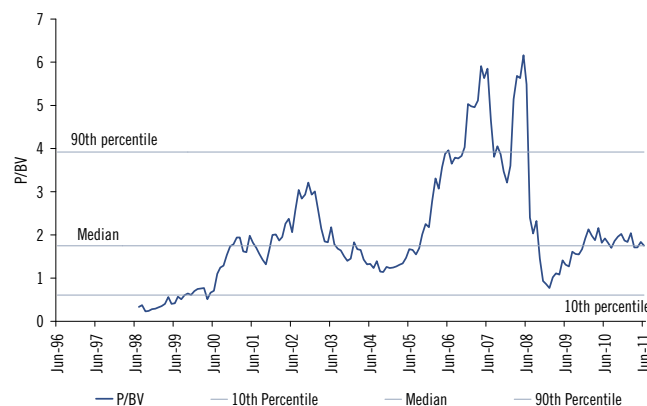
Figure 8. IMP historical 1 year forward PE



Source: CIRA Estimates, company reports and Datastream

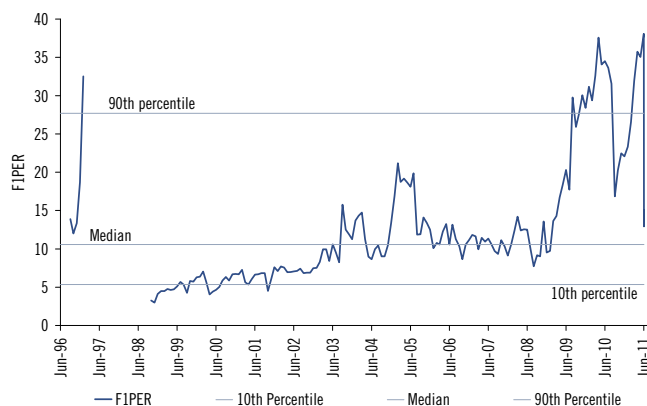
NHM bordering historical median

Figure 9. NHM historical P/BV



Source: CIRA Estimates, company reports and Datastream

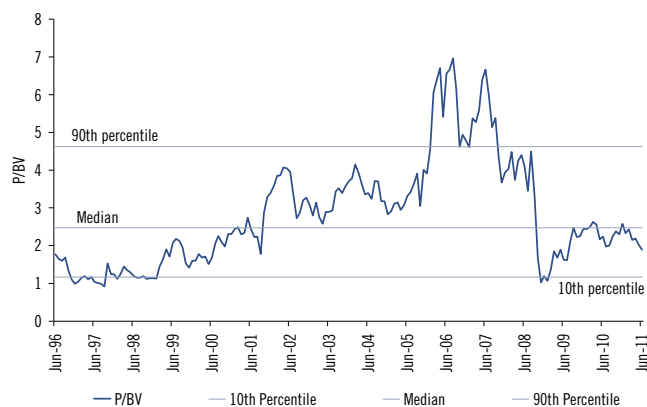
Figure 10. NHM historical 1 year forward PE



Source: CIRA Estimates, company reports and Datastream

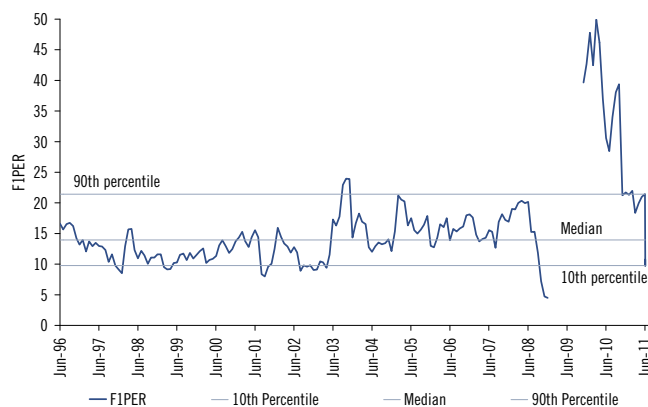
LON starting to look attractive

Figure 11. LON historical P/BV



Source: CIRA Estimates, company reports and Datastream

Figure 12. LON historical 1 year forward PE



Source: CIRA Estimates, company reports and Datastream

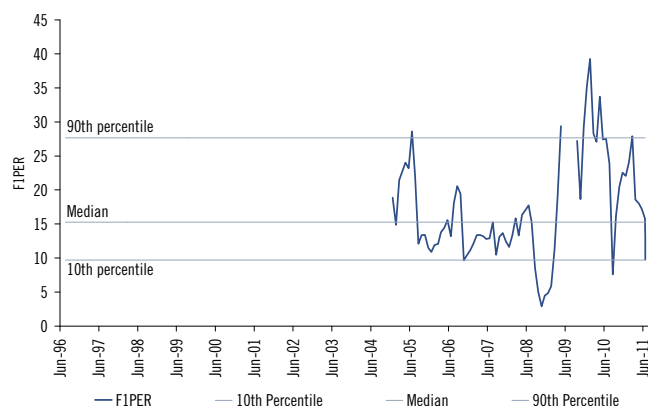
AQP marginally undervalued

Figure 13. AQP historical P/BV



Source: CIRA Estimates, company reports and Datastream

Figure 14. AQP historical 1 year forward PE



Source: CIRA Estimates, company reports and Datastream

Questioning the Book

Recent equity raisings and rights issues have inflated book values

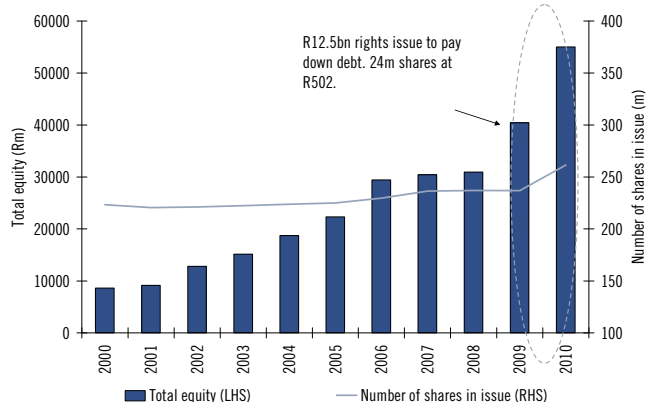
The sector's BV has been inflated

Even though at first glance it appears as if the sector (and especially AMS) offers good value, we caution that the denominator of the P/BV calculation has to be questioned. This is as all five of the SA platinum companies have done equity raisings and/or rights issues in the past 4 years, in most cases inflating their book values:

AMS's R502/share rights issue in 2010
inflated its BV by 28%

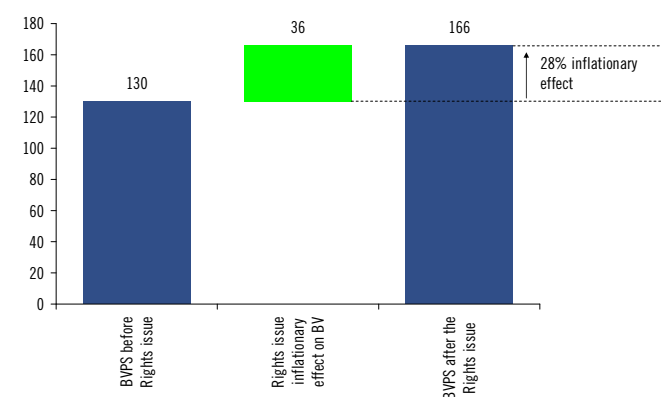
- **AMS:** During FY10, AMS had a R12.5bn rights issue, which consisted of 24m shares being issued at R502.18 per share. The rights issue proceeds were used to restructure its balance sheet by paying down high debt levels. Before the rights issue, AMS had a book value per share of R130, which was inflated 28% to R166 by the rights issue.

Figure 15. AMS's historical equity evolution (Rm, 2000-2010)



Source: Company reports and Bloomberg

Figure 16. AMS's R12.5bn rights issue inflated its BV 28%

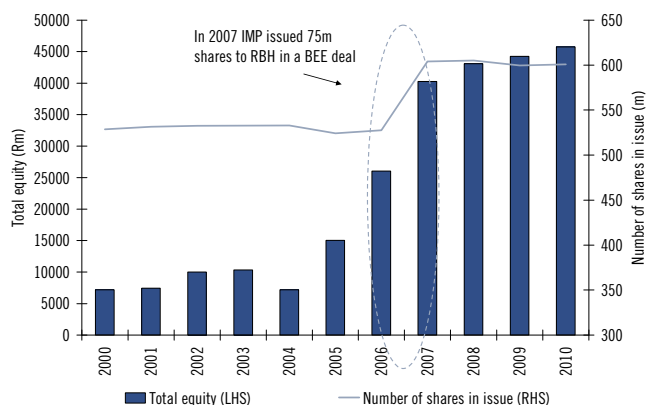


Source: Company reports

IMP's BEE deal with RBH in 2007 inflated its BV by 51%

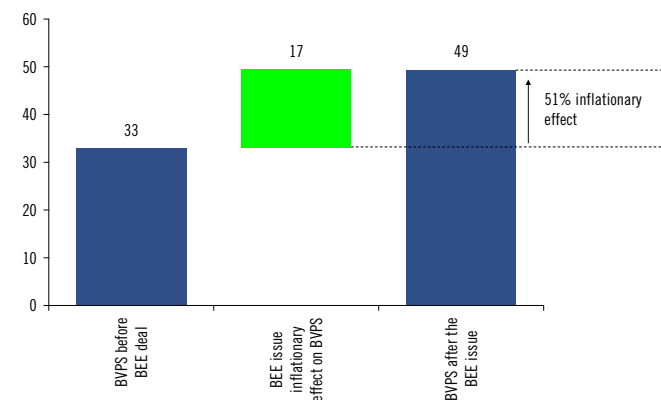
- **IMP:** During FY07, IMP issued 75m shares to RBH in a R12bn BEE deal. The share issue price of R166 was above IMP's book value per share of R33 at that stage, which resulted in a 51% increase in book value. Post the BEE deal IMP's book value was R49 per share.

Figure 17. IMP's historical equity evolution (Rm, 2000-2010)



Source: Company reports and Bloomberg

Figure 18. IMP's R12bn BEE share issue inflated its BV 51%

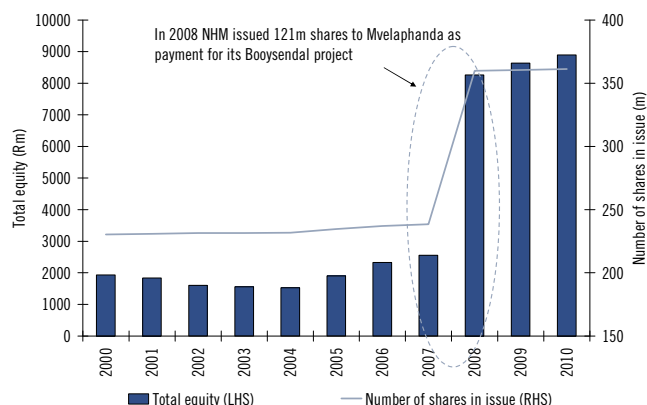


Source: Company reports

NHM's Booyesendal transaction in 2008 inflated its BV by 92%

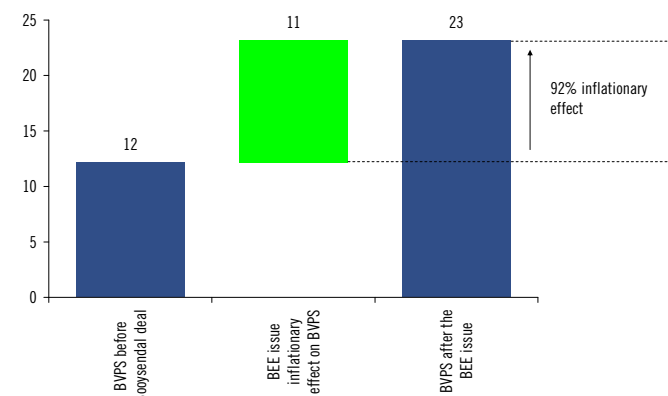
- **NHM:** During FY08, NHM issued 121m shares to Mvelaphanda as payment for its Booyesendal project (R5.5bn). The share issue price of R45.50 was above NHM's book value per share of R12 at that stage, which resulted in a 92% increase in book value. Post the share issue, NHM's book value was R23 per share.

Figure 19. NHM's historical equity evolution (Rm, 2000-2010)



Source: Company reports and Bloomberg

Figure 20. NHM's Booyesendal deal inflated its BV 92%

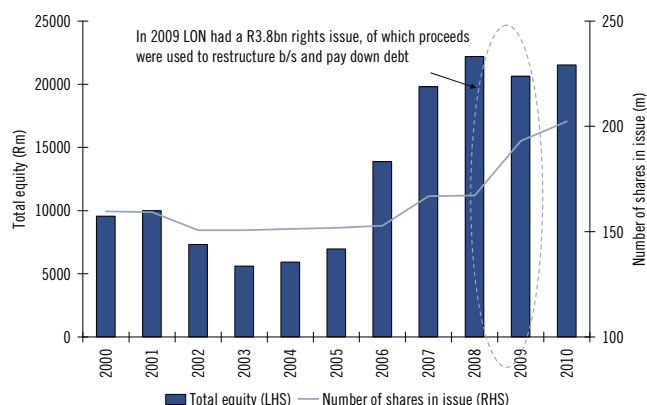


Source: Company reports

LON's FY09 rights issue was below its BV and deflated BV by 4%

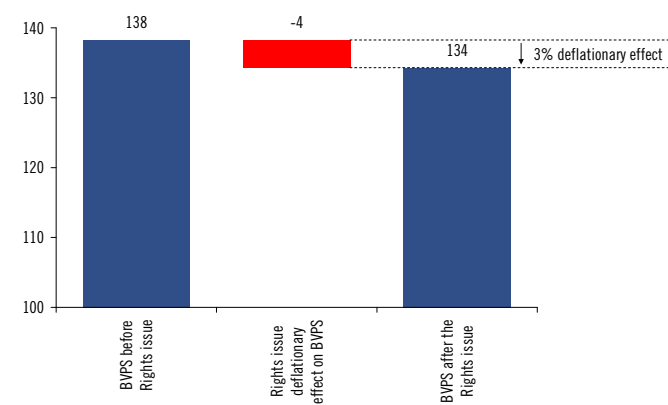
- **LON:** During FY09, LON had a R4bn rights issue, which consisted of 35m shares being issued at R113.04 per share. The rights issue proceeds were used to restructure its balance sheet by paying down high debt levels. Before the rights issue, LON had a book value per share of R138, which was deflated 3% to R134 by the rights issue.

Figure 21. LON's historical equity evolution (Rm, 2000-2010)



Source: Company reports and Bloomberg

Figure 22. LON's rights issue had a -4% BV deflationary effect

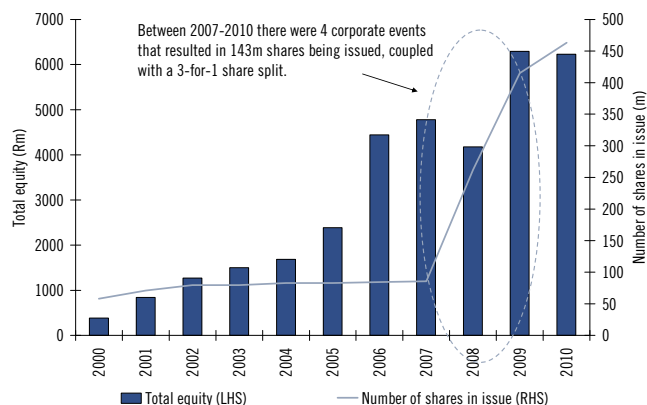


Source: Company reports

An equity raising and rights issue in 2008 inflated AQP's BV 6%

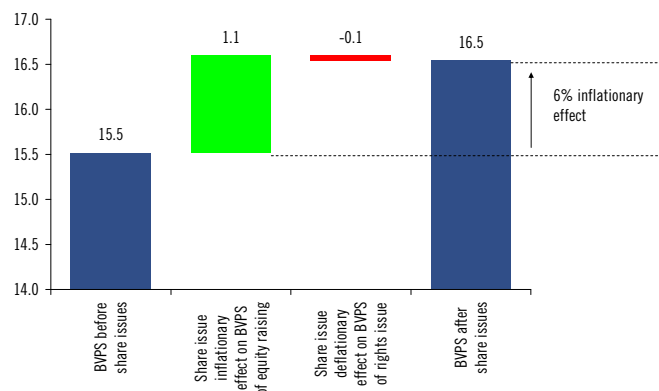
- **AQP:** During FY08, AQP had a 3-for-1 share split. In addition to the share split, AQP had 1) a R1bn equity placement, which consisted of 46m shares being issued at R23 per share) and, 2) a R660m rights issue of 41m shares at R15.89 per share. Before the share issues, AQP had a book value per share of R15.50, which was inflated 6% to R16.50 by the share issues.

Figure 23. AQP's historical equity evolution (Rm, 2000-2010)



Source: Company reports and Bloomberg

Figure 24. AQP's share issue inflated its BV 6%

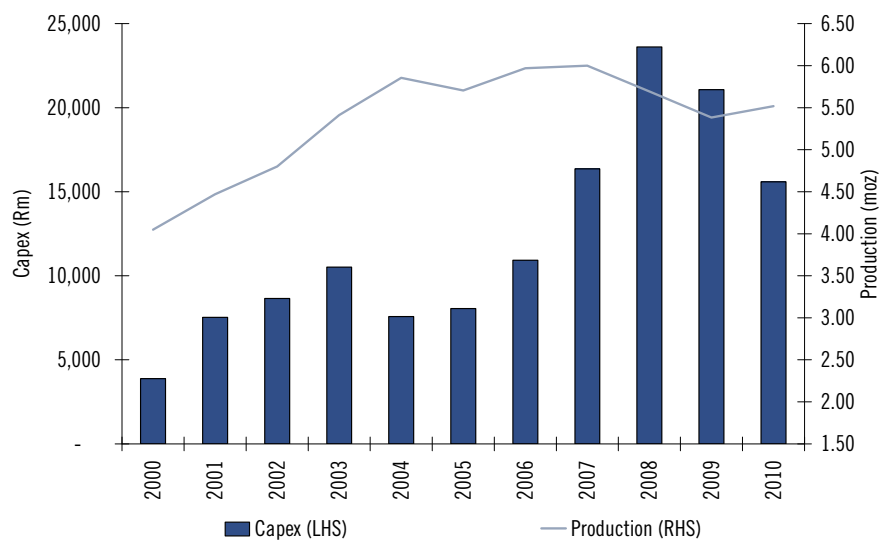


Source: Company reports

Spiralling capex for no production benefit the culprit

Excluding BEE transaction, the main reason for equity raisings and rights issues over the past 4-years was a sharp increase in capex, for limited production benefit. Rising capex placed most companies on the back foot when prices declined during the global economic crisis. This was especially the case for AMS and LON.

Figure 25. SA platinum sector historical capex and platinum production



Source: Company Reports

“Real” value territory yet to be tested

Direct comparison to history inaccurate

Inflated BV's make comparison to history difficult

The impact of equity raisings and rights issues during the past 4 years make direct P/BV comparisons to history inaccurate, in our view. We therefore argue that one should adjust the BV part of the equation to exclude the “inflation” (or “deflation”) effect of equity raisings and rights issues in order to derive a more representative situation.

The sector does not look as cheap on an adjusted P/BV basis

Excluding the inflationary effects of equity raisings and rights issues on BV, the sector does not look as cheap (*Figure 26*). On an adjusted BV basis, the sector currently only trades at its historical median P/BV level of 3.5x, as apposed to trading near its 10th percentile level of 2.5x on an unadjusted basis.

Figure 26. SA platinum sector historical P/BV, with and without the effect of equity raisings and rights issues

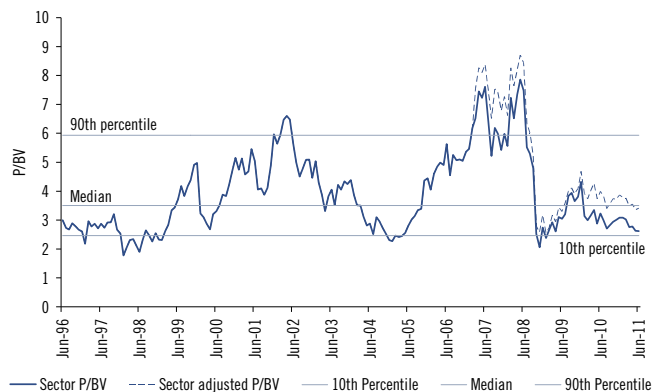


Source: Citi Investment Research and Analysis and Datastream

Company specifics

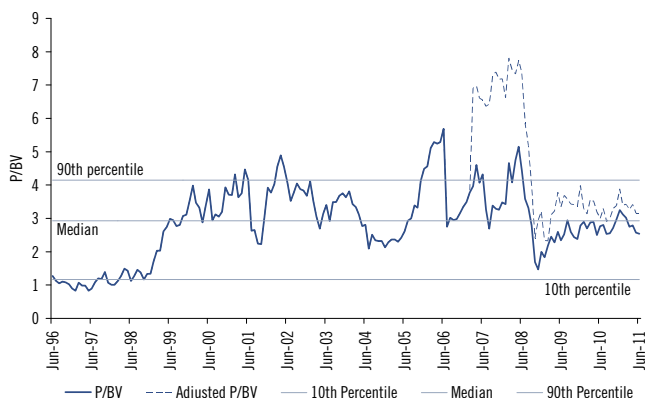
Except for LON, all SA platinum companies appear more expensive on an adjusted P/BV basis (Figures 27-32).

Figure 27. SA platinum sector historical P/BV, with and without the effect of equity raisings and rights issues



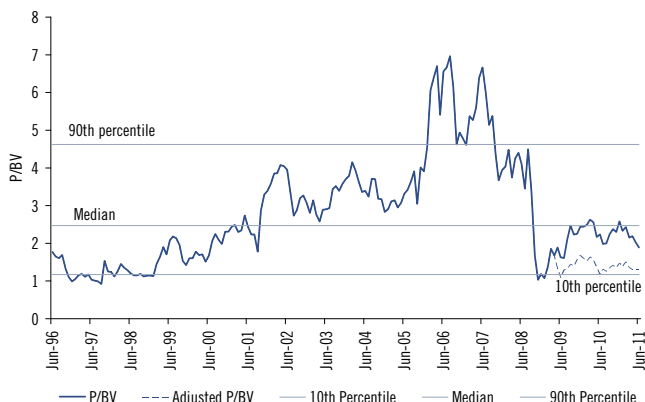
Source: Citi Investment Research and Analysis, Datastream, Company Reports

Figure 29. IMP historical P/BV, with and without the effect of RBH BEE equity raising



Source: Citi Investment Research and Analysis, Datastream, Company Reports

Figure 31. LON historical P/BV, with and without the effect rights issue for debt repayment



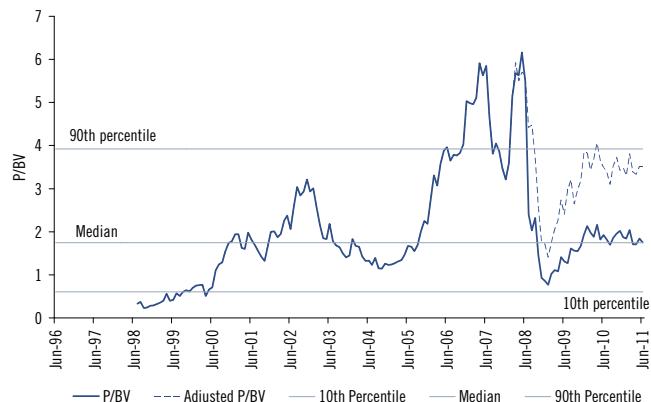
Source: Citi Investment Research and Analysis, Datastream, Company Reports

Figure 28. AMS historical P/BV, with and without the effect of equity raisings and rights issues



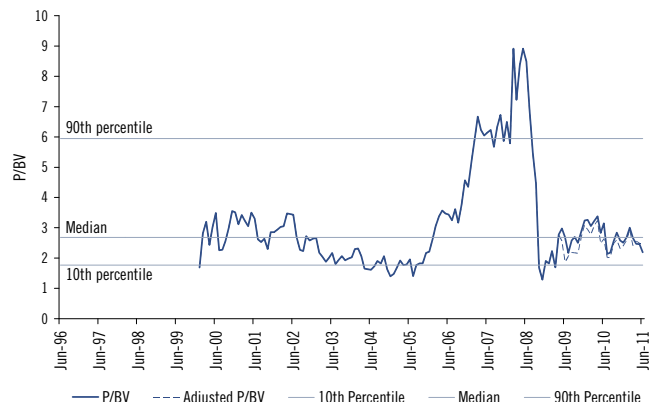
Source: Citi Investment Research and Analysis, Datastream, Company Reports

Figure 30. NHM historical P/BV, with and without the effect of equity raising for Booyseendal



Source: Citi Investment Research and Analysis, Datastream, Company Reports

Figure 32. AQP historical P/BV, with and without the effect of equity raisings and rights issues



Source: Citi Investment Research and Analysis, Datastream, Company Reports

Valuation and Risks

IMP and NHM our favoured picks

Even though LON appears cheapest on an adjusted P/BV basis, the main valuation method used to determine our TPs and recommendations is discounted cash flow (DCF). On a DCF basis, IMP (Buy) and NHM (Buy) appear undervalued and therefore remain our favoured picks within the SA platinum sector.

We maintain our Hold recommendations on RBP, LON, and AQP and Sell on AMS.

Figure 33. Comparative mining company valuations (calendarised)

	TP Curr.	Rating	Current price	TP % upside	CY11e DY (%)	ETR* (%)	Current P/DCF	P/E			EV/EBITDA			
								2010	2011e	2012e	2010	2011e	2012e	
African Rainbow	ZAR	Buy (1M)	188.69	260.00	37.8	3.8	41.6	0.88	16.2	9.6	7.5	6.9	4.5	3.4
Northam	ZAR	Buy (1M)	40.00	56.00	40.0	1.0	41.0	0.71	29.6	24.0	12.3	19.2	15.0	7.6
Impala Platinum	ZAR	Buy (1M)	175.00	240.00	37.1	3.1	40.3	0.62	19.7	13.8	11.0	10.1	7.2	5.9
Xstrata	GBP	Buy (1M)	13.77	18.01	30.8	1.5	32.3	0.68	12.7	9.9	8.1	7.4	5.8	4.9
Barrick gold	USD	Buy (1M)	46.24	60.00	29.8	1.0	30.8	1.85	14.0	10.5	10.7	8.7	6.6	6.4
BHP Billiton	GBP	Buy (1M)	24.54	30.00	22.2	2.6	24.8	0.82	12.4	9.2	9.0	7.6	5.8	5.4
Anglo American	GBP	Buy (1M)	31.28	38.00	21.5	1.9	23.4	0.85	12.7	9.3	7.6	6.9	5.0	4.1
Lonmin	GBP	Hold (2M)	14.13	16.88	19.5	1.7	21.1	0.91	27.8	15.2	9.4	10.0	6.1	3.9
AngloGold Ashanti	ZAR	Hold (2M)	285.00	340.00	19.3	1.2	20.5	1.51	-9.0	16.8	15.6	13.3	7.4	6.9
Aquarius	GBP	Hold (2H)	4.74	5.50	16.0	2.0	18.1	0.95	29.0	18.2	13.1	11.8	9.0	7.2
Randgold	GBP	Buy (1M)	52.55	61.35	16.7	0.8	17.5	1.68	55.3	24.9	17.6	36.2	13.9	9.5
Rio Tinto	GBP	Buy (1M)	45.02	52.00	15.5	1.7	17.2	0.87	10.1	7.3	7.8	5.4	3.5	3.3
Newcrest	AUD	Buy (1M)	39.00	44.00	12.8	0.9	13.7	1.79	28.7	25.9	21.3	20.0	13.5	10.7
RBPlat	ZAR	Hold (2M)	63.60	70.00	10.1	0.0	10.1	1.10	36.0	21.3	16.2	15.6	10.2	8.7
Exxaro	ZAR	Hold (2M)	180.00	190.00	5.6	4.1	9.7	1.16	13.6	8.8	7.9	17.6	11.1	9.3
Anglo Platinum	ZAR	Sell (3M)	614.00	650.00	5.9	2.4	8.3	1.09	34.5	20.5	13.4	16.4	10.0	7.3
Newmont	USD	Hold (2M)	54.76	55.00	0.4	1.1	1.5	1.61	13.4	11.4	13.7	6.2	5.4	6.1
Gold fields	ZAR	Sell (3M)	98.44	95.00	-3.5	2.8	-0.7	1.66	18.8	12.5	15.0	6.3	5.0	6.0
Harmony	ZAR	Sell (3M)	88.04	85.00	-3.5	0.0	-3.5	1.66	76.1	33.3	31.1	17.8	11.5	9.1
Kumba Iron Ore	ZAR	Sell (3M)	505.00	430.00	-14.9	8.8	-6.1	1.40	12.3	9.2	8.8	7.0	4.9	4.7

Source: Citi Investment Research and Analysis

*Expected Total Return

Risks

Upside risks to our view include a weakening in the ZAR/USD exchange rate, PGM prices rising above our expectations, and better-than-expected operational performances. Conversely, downside risks include a stronger ZAR, lower-than-expected PGM prices, and a failure to deliver on operational objectives.

Input price assumptions

Figure 34. CIRAE input price assumptions

December year end	FY08	FY09	FY10	FY11e	FY12e	FY13e	FY14e	LT real	LT Nominal
US\$/oz									
Platinum price	1,577	1,173	1,610	1,827	1,900	1,775	1,632	1,500	1722
Palladium price	353	246	525	802	635	850	700	550	517
Rhodium price	6,599	1,444	2,678	2,480	3,000	3,000	3,500	3,000	3444
Gold price	873	960	1,226	1,443	1,325	1,225	1,125	950	1091
3PGE+Au basket price	1,540	907	1,348	1,554	1,580	1,567	1,468	1,304	1496
ZAR/USD exchange rate	8.26	8.37	7.33	6.91	7.41	8.40	8.98	10.00	10.00
R/oz									
Platinum price	13,031	9,812	11,808	12,625	14,079	14,910	14,655	15,000	17,220
Palladium price	2,918	2,054	3,851	5,538	4,705	7,140	6,286	5,500	5,170
Rhodium price	54,537	12,077	19,633	17,137	22,230	25,200	31,430	30,000	34,440
Gold price	7,212	8,028	8,993	9,969	9,818	10,290	10,103	9,500	10,907
3PGE+Au basket price	12,728	7,589	9,884	10,735	11,710	13,161	13,182	13,035	14,621

Source: Bloomberg, Citi Investment Research and Analysis

Figure 35. Comparative mining company valuations

	Rating & risk	Price (US\$)	Historic P/E		Forward P/E		EV/ EBITDA			FCF yield		Div Yld		P/B		ROE	
			2009	2010	2011	2012	2010	2011	2012	2010	2011	2010	2011	2010	2011	2010	2011
Platinum																	
Aquarius Platinum	2H	5.1	245	29	18.1	13.0	11.7	8.9	7.1	3%	8%	1%	2%	2.6	2.2	14%	18%
Lonmin	2M	22.7	-89	28	15.2	9.4	10.0	6.1	3.9	7%	6%	1%	2%	1.6	1.5	6%	10%
Anglo American Platinum	3M	91.1	205	32	20.2	13.4	15.1	9.8	7.2	2%	2%	1%	2%	2.9	3.1	23%	15%
Impala Platinum	1M	26.1	20	18	13.6	11.0	9.2	7.2	5.9	2%	3%	2%	3%	2.3	2.2	13%	16%
Northam Platinum	1M	5.9	23	27	23.4	12.1	17.3	14.6	7.5	0%	-4%	1%	1%	1.4	1.1	6%	5%
Royal Bafokeng	2M	9.5	-6	33	21.0	16.2	14.3	10.0	8.7	1%	-4%	0%	0%	1.0	1.0	36%	5%
Gold																	
AngloGold Ashanti	2M	42.5	-300	-9	16.8	15.6	13.3	7.4	6.9	-11%	6%	0%	1%	3.8	3.1	6%	22%
Gold fields	3M	14.8	30	19	12.6	15.1	6.3	5.1	6.0	5%	7%	2%	3%	1.5	1.6	8%	12%
Harmony Gold Mng	3M	13.2	62	76	33.4	31.1	17.9	11.6	9.1	-3%	1%	0%	0%	1.3	1.1	1%	3%
Barrick Gold	1M	46.2	25	14	10.5	10.7	8.7	6.6	6.4	2%	4%	1%	1%	2.4	1.9	19%	21%
Newmont Mining	2M	54.8	21	13	11.4	13.7	6.2	5.4	6.1	7%	9%	1%	1%	2.3	2.2	18%	19%
Newcrest Mining	1M	41.7	26	24	25.3	21.2	17.1	13.2	10.6	1%	2%	1%	1%	2.5	2.1	11%	9%
Randgold Resourc	1M	84.4	99	55	24.9	17.6	36.2	13.9	9.5	-3%	1%	0%	1%	4.3	3.6	8%	16%
Fresnillo	2M	22.9	45	30	15.9	18.7	16.7	9.3	10.6	2%	1%	2%	2%	9.2	6.9	36%	50%
Diversified miners																	
BHP Billiton	1M	39.5	19	12	9.2	9.0	7.6	5.8	5.4	6%	8%	2%	3%	4.4	3.5	38%	42%
Rio Tinto	1M	72.1	21	10	7.3	7.7	5.4	3.4	3.2	9%	10%	1%	2%	2.4	1.8	28%	28%
Anglo American	1M	49.7	24	13	9.2	7.5	6.9	5.0	4.1	8%	8%	1%	2%	1.8	1.5	22%	19%
Xstrata	1M	22.1	21	13	9.9	8.2	7.4	5.8	4.9	4%	3%	1%	2%	1.6	1.4	13%	15%
Kumba Iron Ore	3M	75.2	23	11	9.1	8.8	8.7	6.6	6.3	6%	8%	7%	9%	11.3	8.8	132%	110%
Exxaro	2M	26.7	25	12	8.6	7.9	16.1	10.9	9.3	6%	1%	3%	4%	3.6	2.8	35%	38%
African Rainbow	1M	28.0	20	15	9.4	7.4	6.3	4.4	3.4	1%	5%	2%	4%	2.0	1.7	15%	20%
Copper																	
Freeport McMoran	2H	55.1	19	12	9.3	10.5	5.9	4.4	4.5	9%	12%	1%	3%	4.2	3.0	46%	38%
Southern Copper Corp	2H	35.1	32	19	10.7	10.9	10.8	6.6	6.5	5%	6%	5%	6%	7.7	5.8	40%	62%
Antofagasta	2H	22.8	34	23	10.8	9.7	8.1	4.6	4.1	3%	12%	5%	5%	3.6	3.2	18%	32%
Kazakhmys	1H	21.7	19	8	6.6	6.7	6.7	5.7	6.0	4%	0%	1%	5%	1.4	1.2	20%	20%
KGHM	3H	68.6	15	8	5.9	7.2	5.1	3.4	3.7	11%	12%	2%	5%	2.6	2.0	37%	39%
Jiangxi Copper	1M	3.4	30	14	10.6	10.2	10.8	7.5	6.6	-6%	7%	1%	2%	2.2	1.9	18%	19%
First Quantum Minerals	1M	140.3	18	13	15.5	11.1	9.6	5.9	4.2	4%	3%	0%	1%	4.1	3.4	-5%	27%
Grupo Mexico	2H	3.5	30	16	9.0	9.0	7.5	4.4	4.3	10%	10%	3%	6%	4.6	3.5	30%	44%
Ferrous																	
Siderurgica Naci	1H	12.1	11	11	7.9	9.1	5.5	4.9	4.7	-4%	2%	3%	3%	3.7	3.3	38%	44%
ENRC	1H	12.6	16	7	6.9	6.5	5.1	4.0	3.8	2%	1%	2%	3%	1.7	1.4	25%	22%
Fortescue Metals	1H	7.0	47	16	9.4	8.1	9.8	5.7	5.0	3%	1%	0%	1%	10.0	5.4	63%	67%
Cliffs Natural	1H	97.4	92	14	6.6	7.2	9.1	4.5	4.8	8%	10%	1%	1%	3.4	2.0	32%	40%
Coal																	
Macarthur	3M	11.9	18	19	14.7	14.0	11.2	8.0	6.8	5%	6%	3%	4%	2.2	1.8	16%	16%
Whitehaven Coal	1M	6.6	41	41	22.6	14.4	21.1	12.3	8.2	-8%	0%	1%	2%	2.8	2.6	7%	9%
Bumi Resources	1H	0.4	36	20	17.1	9.9	10.3	8.3	4.5	6%	12%	1%	2%	6.5	3.3	28%	24%
Adaro Energy	1M	0.3	23	37	15.3	9.5	11.0	7.3	5.7	-5%	5%	1%	1%	4.7	3.7	13%	27%
China Coal	2M	1.4	16	16	14.4	11.8	8.3	7.5	6.8	-11%	-7%	2%	2%	1.6	1.4	10%	10%
China Shenhua	1L	4.9	20	16	14.8	12.9	9.4	8.2	7.0	5%	4%	2%	2%	3.2	2.8	21%	20%
Arch Coal Inc	2H	26.7	71	27	10.3	8.0	11.1	7.1	5.9	9%	7%	1%	2%	1.9	1.7	7%	17%
Peabody Energy	1H	60.0	31	19	12.8	10.8	10.4	7.2	6.0	3%	5%	1%	1%	3.5	2.7	18%	24%
Nickel & Zinc																	
Sterlite Industries	1M	3.7	14	12	7.9	6.8	5.1	3.6	3.2	-1%	-3%	1%	1%	1.4	1.2	13%	16%
Norilsk	1H	261.8	19	10	7.0	6.7	6.4	4.4	3.9	10%	10%	3%	4%	2.6	1.9	32%	32%
Hindustan Zinc	2L	2.9	15	12	9.7	8.8	6.9	4.9	3.8	5%	7%	0%	1%	2.6	2.0	24%	23%
Average			28	20	13	11	11	7	6	3%	5%	2%	2%	3	3	24%	27%

Source: Citi Investment Research and Analysis

Notes

Notes

Appendix A-1

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