The JSE Platinum Index gained 4.7% last week to 49.18pts (46.98pts) with the rand PGM basket price improving by c3% to cR432,000/kg (cR419,000/kg). Major platinum shares gained last week with: Amplats (+7.5%), Implats (+4.4%) and Lonmin (+6.4%).

Figure : JSE Platinum Index & rand basket price

Source: Bloomberg.

**J.P. Morgan Analysis**

***The three major integrated platinum producers’ share prices recovered over the course of last week after the five month AMCU led strike ended on 25 June (mid-previous week). Amplats and Implats expect to reach steady state production in the final quarter of this calendar year – no guidance has been given by Lonmin. None of the three producers have indicated what “steady state production” might be and have not ruled out the possibility of restructuring once the ramp-up process is complete. We estimate losses of 1.05Moz Pt (so far) and forecast total production losses of c1.4Moz Pt and c700koz Pd this year – this includes ramp-up losses of c330koz Pt.***

***We also expect “steady state production” to be meaningfully lower than pre-strike capacity. If we’re right about this, it will almost certainly cost significant numbers of jobs, which may reignite labour tensions, in our opinion. We fear that there will be more difficulty to come, depending on how producers approach any restructuring.***

***We expect palladium to continue to outperform platinum in the near-term as newly-listed SA ETFs and uncertainties relating to Russian supplies add nervousness to a market in deep primary deficit. Our top equity picks (May-15) are Amplats, Lonmin, Northam and RBPlat.***

Table : Key Forecasts

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Share** | **J.P. Morgan** | **J.P. Morgan F/c EPS** | | **J.P. Morgan** | **Upside to** |
|  | **price** | **Recommendation** | **FY2014** | **FY2015** | **Target price** | **Target price** |
| Amplats | 497.00 | Overweight | 8.70 | 47.60 | 670.00 | 35% |
| Atlatsa | 4.41 | Neutral | -0.35 | -0.11 | 5.90 | 34% |
| Aquarius | 4.47 | Neutral | -0.41 | 0.45 | 4.98 | 11% |
| EastPlats | 0.99 | Underweight | -0.14 | -0.07 | 0.63 | -36% |
| Implats | 112.75 | Underweight | 1.57 | 8.99 | 141.00 | 25% |
| Lonmin | 45.45 | Overweight | -7.23 | 4.19 | 67.00 | 47% |
| Northam | 44.86 | Overweight | -0.67 | 2.18 | 56.20 | 25% |
| RBPlat | 72.20 | Overweight | 3.98 | 6.36 | 90.10 | 25% |

Source: J.P. Morgan estimates, Bloomberg. Share prices as on cob July 4, 2014.

**Company News:**

**Our Bloomberg analyst pages:**

Bloomberg **JPMA SHEPHERD** <GO>

Bloomberg **JPMA COOKE** <GO>

* **Impala Platinum** expects workers who walked out last week at its Marula mine to report for duty tomorrow. About 2,000 employees walked out on July 4. The company met with them today to discuss complaints that ranged from union representation to wages. *(Bloomberg July 7, 2014)*
* **Sibanye Gold** has been in talks with almost all of the major platinum producers in its quest to buy an asset in the sector this year and can easily raise the money to fund such a deal, its CEO said on Friday. “We have been through the front doors of just about all the significant platinum companies,” Neal Froneman told Reuters in an interview at Sibanye’s headquarters in the gold mining town of Westonaria about 40 kilometres (25 miles) west of Johannesburg. “We are looking at all platinum assets including what Anglo Platinum may sell,” Froneman said, reiterating that he wanted to do a deal this year. *(Reuters July 7, 2014)*

**Commodity News:**

* The **spot rand PGM basket price** changed by +3.2% to R432,278/kg (R418,982/kg), with the dollar basket price changing by +1.6% to $1,250/oz ($1,231/oz) and the rand/dollar exchange rate changing by  
  1.6% to R10.76:$1 (R10.59:$1).
* **Palladium** rose to a 13-year high ($867/oz) on signs that demand will climb for the metal used in pollution-control devices in cars as supplies dwindled following labour turmoil in South Africa, the world’s second biggest producer. *(Bloomberg July 3, 2014)*

# Valuation metrics and share price performance

Table 2: Spot valuation metrics

ZAR/sh

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Share** | **J.P. Morgan** | **Spot** | **Spot** | **Spot EPS** | | **J.P. Morgan F/c EPS** | | **Consensus EPS** | | **Spot P/E** | | **J.P. Morgan Forecast P/E** | | **Consensus P/E** | |
|  | **price** | **Recommendation** | **DCF** | **P/DCF** | **FY2014** | **FY2015** | **FY2014** | **FY2015** | **FY2014** | **FY2015** | **FY2014** | **FY2015** | **FY2014** | **FY2015** | **FY2014** | **FY2015** |
| Amplats | 497.00 | Overweight | 461.25 | 1.08 | 8.72 | 32.08 | 8.70 | 47.60 | 10.58 | 25.65 | 57.01 | 15.49 | 57.13 | 10.44 | 46.98 | 19.38 |
| Atlatsa | 4.41 | Neutral | 7.84 | 0.56 | -0.47 | -0.42 | -0.35 | -0.11 | 0.22 | 0.31 | N/A | N/A | N/A | N/A | 19.86 | 14.09 |
| Aquarius | 4.47 | Neutral | 2.43 | 1.84 | -0.42 | 0.26 | -0.41 | 0.45 | -0.19 | 0.11 | N/A | 17.16 | N/A | 9.93 | N/A | 41.39 |
| EastPlats | 0.99 | Underweight | 6.32 | 0.16 | -0.14 | -0.07 | -0.14 | -0.07 | -0.17 | -0.25 | N/A | N/A | N/A | N/A | N/A | N/A |
| Implats | 112.75 | Underweight | 81.60 | 1.38 | 2.72 | 8.00 | 1.57 | 8.99 | 2.37 | 6.29 | 41.50 | 14.10 | 71.82 | 12.54 | 47.49 | 17.92 |
| Lonmin | 45.45 | Overweight | 31.80 | 1.43 | -6.88 | 2.62 | -7.23 | 4.19 | -0.03 | 2.64 | N/A | 17.32 | N/A | 10.85 | N/A | 17.23 |
| Northam | 44.86 | Overweight | 37.40 | 1.20 | -0.74 | 1.74 | -0.67 | 2.18 | 0.36 | 2.39 | N/A | 25.76 | N/A | 20.58 | 124.61 | 18.79 |
| RBPlat | 72.20 | Overweight | 64.20 | 1.12 | 3.57 | 4.68 | 3.98 | 6.36 | 2.27 | 2.50 | 20.21 | 15.43 | 18.14 | 11.35 | 31.78 | 28.93 |
| Average |  |  |  |  |  |  |  |  |  |  | 39.58 | 17.54 | 49.03 | 12.62 | 54.14 | 22.53 |

Source: Bloomberg, J.P. Morgan estimates. Share prices as on cob July 4, 2014. Consensus EPS from Bloomberg as on cob July 4, 2014. Spot prices used Pt: $1,497/oz, Pd: $865/oz, Rh: $1,125/oz, Ni: $19,324/t, R/$: 10.76.

Table 3: J.P. Morgan average PGM price & exchange rate forecasts

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **2012A** | **2013A** | **2014E** | **2015E** | **2016E** | **LT** |
| Platinum ($/oz) | 1,554 | 1,536 | 1,583 | 1,850 | 2,000 | 2,100 |
| Palladium ($/oz) | 645 | 726 | 815 | 938 | 1,000 | 1,100 |
| Rhodium ($/oz) | 1,275 | 1,067 | 1,226 | 1,663 | 1,750 | 2,000 |
| Nickel ($/t) | 17,546 | 15,030 | 18,540 | 24,000 | 18,911 | 18,000 |
| R/$ | 8.20 | 9.64 | 10.59 | 10.76 | 11.30 | 10.20 |
| PGM basket price (R/kg 6E) | 329,914 | 373,372 | 442,224 | 528,365 | 587,516 | 559,681 |

Source: Bloomberg, J.P. Morgan estimates

Table 4: Relative share price performance

ZAR/sh

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Share price** | **12-month low** | **12-month high** | **1 Week return** | **1 Month return** | **3 Month return** | **6 Month return** | **12 Month return** |
| Basket price (R/kg) | 432 278 | 356 251 | 442 226 | 3.2% | 2% | 8% | 10% | 22% |
| JSE Plat Index | 49 | 36 | 54 | 4.7% | 1% | -2% | -2% | 30% |
| Amplats | 497.00 | 275.01 | 530.00 | 7.5% | 5% | 1% | 25% | 69% |
| Atlatsa | 4.41 | 1.95 | 6.30 | -2.0% | -2% | -8% | -25% | 83% |
| Aquarius | 4.47 | 2.99 | 6.50 | 5.2% | 0% | 29% | 15% | 33% |
| EastPlats | 0.99 | 0.54 | 1.08 | -2.0% | 0% | 25% | 38% | 25% |
| Implats | 112.75 | 87.55 | 136.64 | 4.4% | 0% | -6% | -11% | 21% |
| Lonmin | 45.45 | 40.70 | 61.20 | 6.4% | 0% | -10% | -15% | 7% |
| Northam | 44.86 | 32.47 | 48.99 | -0.2% | 3% | 15% | 8% | 36% |
| RBPlat | 72.20 | 46.70 | 76.80 | 0.9% | 0% | 8% | 24% | 52% |
| Wesizwe | 1.18 | 0.41 | 1.60 | -7.1% | 31% | 51% | 46% | 174% |
| Jubilee | 0.30 | 0.29 | 1.10 | -6.3% | -19% | -9% | -52% | -67% |
| Sylvania Platinum | 1.18 | 0.95 | 1.46 | -3.6% | 1% | 4% | 7% | -19% |

Source: Bloomberg. Share prices as on cob July 4, 2014.

# Share price performance (to cob July 4, 2014)

|  |  |  |
| --- | --- | --- |
| Figure : SA Platinum shares 1-week returns    Source: Bloomberg. | Figure : SA Platinum shares 1 month returns    Source: Bloomberg | Figure : SA Platinum shares 3 month returns    Source: Bloomberg |
| Figure : SA Platinum shares 6 month returns    Source: Bloomberg. | Figure : SA Platinum shares 12 month returns    Source: Bloomberg. | Figure : Share price vs. 52 week range    Source: Bloomberg |

# [Platinum Valuations at a glance (Spotter Bloomberg Version)](https://jpmm-internal.jpmchase.net/research/PubServlet?doc=GPS-1408836-0&action=open&referrerPortlet=search_analyst) ***(With resource ounces included)***



**Click to open:**

[Spotter I-Net Version](https://jpmm-internal.jpmchase.net/research/PubServlet?doc=GPS-1408842-0&action=open&referrerPortlet=search_analyst)

**Our base case PGM models include a valuation for the unmined ounces remaining in the ground after 25 years of mining at 74.06/oz. We present to the user, for the first time, an option to turn that portion of the valuation off and to use only the NPV of the cash flows for up to 25 years (depending on reserve life).**

**The change has not impacted the EPS data generated by the spotter in any way.**

Source: J.P. Morgan estimates.

1. These are rand, gold and PGM prices in real terms (Dec-14), with nominal metal prices increasing by 2.5% pa and rand weakening by 5% pa against the US dollar.
2. Basket price is calculated as total revenue from (5PGE+Au+Ni+Cu) divided by the total (5PGE+Au) kg produced. Other metal prices used are Au: $1,300/oz and Cu: $7,000/ton based on spot prices on the publish date
3. Share prices as on cob July 4, 2014
4. EPS are for next 12 months calculated as a weighted average from our EPS forecasts for the current FY and the next FY, weighted according to the number of days left in the current FY
5. Consensus EPS are for the next 12 months calculated as a weighted average from Bloomberg consensus EPS as on cob July 4, 2014

# [Platinum Valuations at a glance (Spotter Bloomberg Version)](https://jpmm-internal.jpmchase.net/research/PubServlet?doc=GPS-1408836-0&action=open&referrerPortlet=search_analyst) ***(Without resource ounces)***



**Click to open:**

[Spotter I-Net Version](https://jpmm-internal.jpmchase.net/research/PubServlet?doc=GPS-1408842-0&action=open&referrerPortlet=search_analyst)

**Our base case PGM models include a valuation for the unmined ounces remaining in the ground after 25 years of mining at 74.06/oz. We present to the user, for the first time, an option to turn that portion of the valuation off and to use only the NPV of the cash flows for up to 25 years (depending on reserve life).**

**The change has not impacted the EPS data generated by the spotter in any way.**

Source: J.P. Morgan estimates.

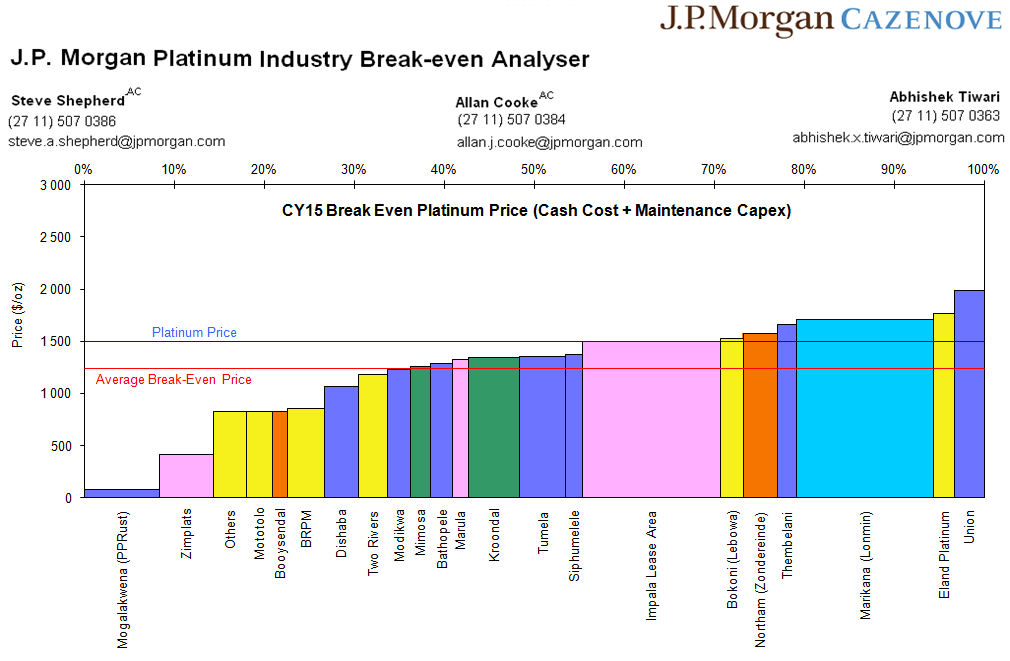
1. These are rand, gold and PGM prices in real terms (Dec-14), with nominal metal prices increasing by 2.5% pa and rand weakening by 5% pa against the US dollar.
2. Basket price is calculated as total revenue from (5PGE+Au+Ni+Cu) divided by the total (5PGE+Au) kg produced. Other metal prices used are Au: $1,300/oz and Cu: $7,000/ton based on spot prices on the publish date
3. Share prices as on cob July 4, 2014
4. EPS are for next 12 months calculated as a weighted average from our EPS forecasts for the current FY and the next FY, weighted according to the number of days left in the current FY
5. Consensus EPS are for the next 12 months calculated as a weighted average from Bloomberg consensus EPS as on cob July 4, 2014

# [Platinum industry competitive positioning in CY2015 at a glance (Platinum Break-Even Analyser)](https://jpmm-internal.jpmchase.net/research/PubServlet?doc=GPS-1404801-0&action=open&referrerPortlet=search_analyst) *(click to open)*



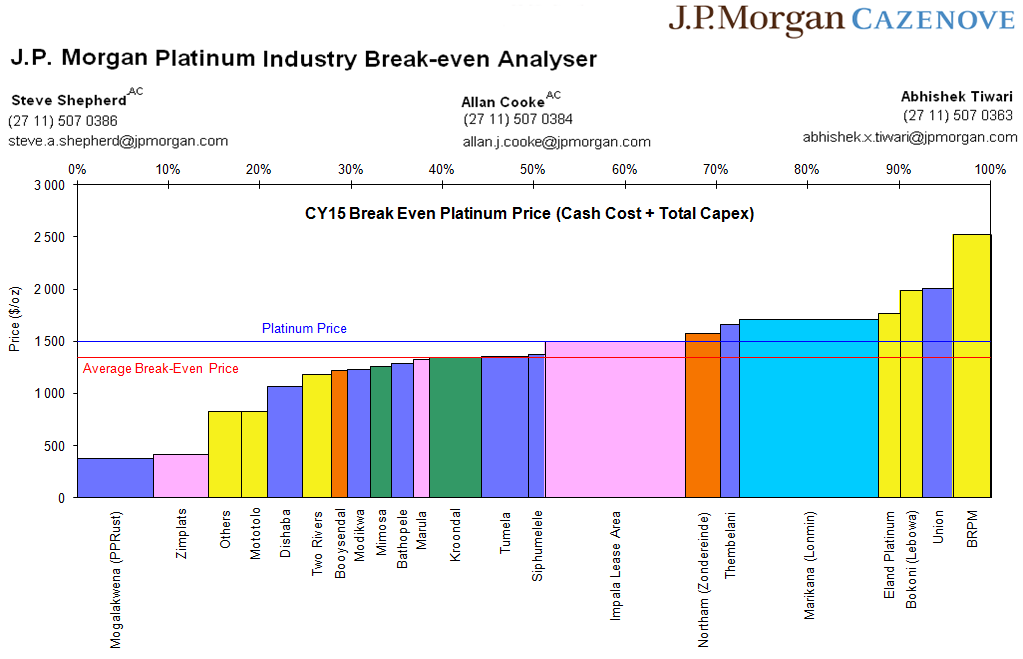
Source: J.P. Morgan estimates, Bloomberg

# [Platinum industry competitive positioning in CY2015 at a glance (Platinum Break-Even Analyser)](https://jpmm-internal.jpmchase.net/research/PubServlet?doc=GPS-1404801-0&action=open&referrerPortlet=search_analyst) *(click to open)*



Source: J.P. Morgan estimates, Bloomberg

# [Platinum industry competitive positioning in CY2015 at a glance (Platinum Break-Even Analyser)](https://jpmm-internal.jpmchase.net/research/PubServlet?doc=GPS-1404801-0&action=open&referrerPortlet=search_analyst) *(click to open)*



Source: J.P. Morgan estimates, Bloomberg.

# ETFs and Comex net

|  |  |
| --- | --- |
| Figure : Platinum ETF holdings    **Total ETF holdings: 2,830koz (prev. wk: 2,829koz)**  Source: ETFSecurities, ZKB, Julius Baer and Bloomberg | Figure : Palladium ETF holdings  **Total ETF holdings: 3,035koz (prev. wk: 2,987koz)**    Source: ETFSecurities, ZKB, Julius Baer and Bloomberg |
| Figure 10: Platinum open non-commercial positions on NYMEX  Number of contracts  **Net Holdings: 2,404koz (prev. wk: 2,246koz)**  Source: Bloomberg. \*Each platinum futures contract is for 50oz. | Figure 11: Palladium open non-commercial positions on NYMEX  Number of contracts  **Net Holdings: 2,303koz (prev wk: 2,220koz)**    Source: Bloomberg. |

# Chinese PGM imports

|  |  |
| --- | --- |
| Figure : Monthly Chinese Platinum net imports vs. CNY Platinum price    Source: Chinese customs data, Bloomberg | Figure : Monthly Chinese Palladium net imports vs. CNY Palladium price    Source: Chinese customs data, Bloomberg |

# Swiss Palladium imports & exports

|  |  |
| --- | --- |
| Figure : Swiss Palladium imports & exports over the last 24 years  koz    Source: Swiss Federal Customs Administration. 2014 numbers are YTD | Figure : Monthly Swiss Palladium imports and exports over the past 5 years  koz    Source: Swiss Federal Customs Administration |

# Sponge premiums over the years

|  |  |
| --- | --- |
| Figure 16: Platinum Sponge premiums over the last five years  $/oz    Source: Bloomberg & Johnson Matthey | Figure 17: Palladium Sponge premiums over the last five years  $/oz    Source: Bloomberg & Johnson Matthey |

# Key metal prices

|  |  |
| --- | --- |
| Figure : Platinum price  $/oz    Source: Bloomberg. | Figure : Palladium price  $/oz    Source: Bloomberg |
| Figure : Rhodium price  $/oz    Source: Bloomberg | Figure : Nickel price  $/ton    Source: Bloomberg |

# Minor metal prices

|  |  |
| --- | --- |
| Figure : Gold price  $/oz    Source: Bloomberg | Figure : Ruthenium price  $/oz    Source: Bloomberg |
| Figure : Iridium price  $/oz    Source: Bloomberg | Figure : Copper price  $/ton    Source: Bloomberg |

# Platinum: Gold and Platinum: Palladium ratios

|  |  |
| --- | --- |
| Figure : Platinum price/gold price over the years    Source: Bloomberg | Figure : Platinum price/Palladium price over the years    Source: Bloomberg |

# Basket price vs. Sector performance

|  |  |
| --- | --- |
| Figure : Rand basket price vs. JSE Platinum Index (Last 12 years)    Source: Bloomberg | Figure : Rand basket price vs. JSE Platinum Index (Last 12 months indexed to 100)    Source: Bloomberg |

# Sector performance relative to basket price and SA market

|  |  |
| --- | --- |
| Figure : JSE Platinum Index/Rand basket price (Indexed to 100 as on Jan-05)    Source: Bloomberg | Figure : JSE Platinum Index/JSE All Share Index (Indexed to 100 as on Jan-05)    Source: Bloomberg |

# Share price vs. metals

|  |  |
| --- | --- |
| Figure : Major PGM producers share price ($/sh) vs. metal prices (Index. to 100 as on Apr-07)    Source: Bloomberg | Figure : Mid-tier PGM producers sh price ($/sh) vs. metal prices (Index. to 100 as on Apr-07)    Source: Bloomberg |

# Platinum Equities 12m share price performance relative to FTSE/JSE Platinum Index (Indexed to 100 on July-13)

|  |  |  |
| --- | --- | --- |
| Figure : Anglo Platinum | Figure : Implats | Figure : Lonmin |
| Figure : Northam | Figure : Royal Bafokeng Platinum | Figure : Aquarius |

Source: Bloomberg.

# Platinum Equities 12m share price performance relative to FTSE/JSE Platinum Index (Indexed to 100 on July-13)

|  |  |  |  |
| --- | --- | --- | --- |
| Figure : Atlatsa | Figure : Eastern Platinum | Figure : Wesizwe | Figure : Jubilee Platinum |
| Figure : Sylvania Platinum | Figure : Platinum Group Metals | Figure : Stillwater | Figure : North American Palladium |

Source: Bloomberg. Stillwater & North American Palladium are compared against dollar FTSE/JSE Platinum Index.

**Our top picks: Amplats, RBPlat, Lonmin & Northam (May 2015)**

# Glossary of published research *(Click on the name to read)*

|  |  |  |  |
| --- | --- | --- | --- |
| **1.** | [**Platinum wage settlement: Wage agreement signed. Workers return to work from tomorrow**](https://jpmm-internal.jpmchase.net/research/ArticleServlet?doc=GPS-1425266-0&referrerPortlet=search_analyst) |  | June 24, 2014 |
| **2.** | [**Platinum strike update: The end is in sight. Positive for Lonmin. Buy metal into dips**](https://jpmm-internal.jpmchase.net/research/ArticleServlet?doc=GPS-1418393-0&referrerPortlet=search_analyst) |  | June 13, 2014 |
| **3.** | [**J.P. Morgan SA Platinum & Gold Sensitivity Spotter: Bloomberg version**](https://jpmm-internal.jpmchase.net/research/PubServlet?doc=GPS-1408836-0&action=open&referrerPortlet=search_analyst) |  | May 30, 2014 |
| **4.** | [**Impala Platinum Holdings Ltd: Analyst briefing - some key points**](https://jpmm-internal.jpmchase.net/research/ArticleServlet?doc=GPS-1407740-0&referrerPortlet=search_analyst) |  | May 29, 2014 |
| **5.** | [**J.P. Morgan Platinum Industry Break-even Analyser: Bloomberg version**](https://jpmm-internal.jpmchase.net/research/PubServlet?doc=GPS-1404801-0&action=open&referrerPortlet=search_analyst) |  | May 26, 2014 |
| **6.** | [**Gold & Precious Metals: SFA (Oxford) Platinum lectures 2014. PGMs: Rearranging the Value Chain**](https://jpmm-internal.jpmchase.net/research/ArticleServlet?doc=GPS-1399030-0&referrerPortlet=search_analyst) |  | May 19, 2014 |
| **7.** | [**Platinum Foresight: Looking into a new future - a farewell to labour**](https://jpmm-internal.jpmchase.net/research/ArticleServlet?doc=GPS-1392724-0&referrerPortlet=search_analyst) |  | May 13, 2014 |
| **8.** | [**Platinum Year 2014: A Brave New World for Platinum Mines - unproductive labour risks pricing itself out of the market**](https://jpmm-internal.jpmchase.net/research/ArticleServlet?doc=GPS-1309301-0&referrerPortlet=search_analyst) |  | Jan 31, 2014 |
| **9.** | [**Platinum Foresight: Future of Pt in SA - higher productivity for higher pay. U/grade AMS to OW, ATL to N; D/grade AQP to UW**](https://markets.jpmorgan.com/CFP_Research/ArticleServlet?doc=GPS-1207314-0&referrerPortlet=search_analyst) |  | Sep 10, 2013 |
| **10.** | [**Platinum Foresight: Producers' foundations cracking, time to overhaul strategy. D/grade EPS to UW, upgrade RBP to OW**](https://markets.jpmorgan.com/CFP_Research/ArticleServlet?doc=GPS-1114675-0&referrerPortlet=search_analyst) |  | May 07, 2013 |

***For Morgan Markets access, please contact your J.P. Morgan sales representative***

1. ***SA: Matthew Calvocoressi (+27-11-507 0614) or Kaveer Joshi (+27-11-507 0615)***
2. ***Europe: James McGeoch (+44-207-134 0690) or Priscille Callies (+44-207-134 0977) or Amanda Sehayek (+44-207-134 1078) or Cem Turgut (+44-207-134 0565)***

# PGM Supply & Demand

|  |  |
| --- | --- |
| Figure : Platinum supply 2013  Total supply: 7,834koz    Source: Johnson Matthey PGM Market report May 2014 | Figure : Palladium supply 2013  Total supply: 9,067koz    Source: Johnson Matthey PGM Market report May 2014 |
| Figure : Platinum demand 2013 (by application and region)  Numbers in koz, Total demand: 8,774koz    Source: Johnson Matthey PGM Market report May 2014 | Figure : Palladium demand 2013 (by application and region)  Numbers in koz, Total demand: 9,438koz    Source: Johnson Matthey PGM Market report May 2014 |

# PGM Supply & Demand

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Table 5: Platinum demand 2013 (by application and region)   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | |  | **Europe** | **Japan** | **North America** | **China** | **Rest of the world** | **Total per application** | | Auto Catalyst | 15% | 7% | 4% | 1% | 8% | 36% | | Industrial & Othr | 4% | 2% | 4% | 5% | 6% | 20% | | Jewellery | 2% | 4% | 2% | 24% | 2% | 35% | | Investment | 0% | 0% | 1% | 0% | 10% | 10% | | **Regional Total** | 21% | 11% | 11% | 30% | 26% | 100% |   Source: Johnson Matthey PGM Market report May 2014 | Table 6: Palladium demand 2013 (by application and region)   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | |  | **Europe** | **Japan** | **North America** | **China** | **Rest of the world** | **Total per application** | | Auto Catalyst | 16% | 8% | 19% | 16% | 15% | 73% | | Electrical | 1% | 3% | 2% | 2% | 4% | 11% | | Jewellery | 1% | 1% | 0% | 2% | 0% | 4% | | Other | 2% | 2% | 3% | 3% | 2% | 12% | | **Regional Total** | 20% | 13% | 24% | 22% | 21% | 100% |   Source: Johnson Matthey PGM Market report May 2014 |

**Companies Discussed in This Report** (all prices in this report as of market close on 07 March 2014)  
Anglo American Platinum Ltd (AMSJ.J/44969c/Overweight), Lonmin plc (LMI.L/294p/Overweight), Lonmin plc (LONJ.J) (LONJ.J/5313c/Overweight), Northam Platinum Ltd (NHMJ.J/4013c/Neutral), Royal Bafokeng Platinum Limited (RBPJ.J/6635c/Overweight)

**Analyst Certification:** The research analyst(s) denoted by an “AC” on the cover of this report certifies (or, where multiple research analysts are primarily responsible for this report, the research analyst denoted by an “AC” on the cover or within the document individually certifies, with respect to each security or issuer that the research analyst covers in this research) that: (1) all of the views expressed in this report accurately reflect his or her personal views about any and all of the subject securities or issuers; and (2) no part of any of the research analyst's compensation was, is, or will be directly or indirectly related to the specific recommendations or views expressed by the research analyst(s) in this report. For all Korea-based research analysts listed on the front cover, they also certify, as per KOFIA requirements, that their analysis was made in good faith and that the views reflect their own opinion, without undue influence or intervention.

**Important Disclosures**

 **Market Maker/ Liquidity Provider:** J.P. Morgan Securities plc and/or an affiliate is a market maker and/or liquidity provider in Anglo American Platinum Ltd, Northam Platinum Ltd, Royal Bafokeng Platinum Limited, Lonmin plc (LONJ.J), Lonmin plc.

 **Lead or Co-manager:** J.P. Morgan acted as lead or co-manager in a public offering of equity and/or debt securities for Anglo American Platinum Ltd within the past 12 months.

 **Client:** J.P. Morgan currently has, or had within the past 12 months, the following company(ies) as clients: Anglo American Platinum Ltd, Northam Platinum Ltd, Royal Bafokeng Platinum Limited, Lonmin plc (LONJ.J), Lonmin plc.

 **Client/Investment Banking:** J.P. Morgan currently has, or had within the past 12 months, the following company(ies) as investment banking clients: Anglo American Platinum Ltd.

 **Client/Non-Investment Banking, Securities-Related:** J.P. Morgan currently has, or had within the past 12 months, the following company(ies) as clients, and the services provided were non-investment-banking, securities-related: Anglo American Platinum Ltd, Lonmin plc (LONJ.J), Lonmin plc.

 **Client/Non-Securities-Related:** J.P. Morgan currently has, or had within the past 12 months, the following company(ies) as clients, and the services provided were non-securities-related: Anglo American Platinum Ltd, Lonmin plc (LONJ.J), Lonmin plc.

 **Investment Banking (past 12 months):** J.P. Morgan received in the past 12 months compensation from investment banking Anglo American Platinum Ltd.

 **Investment Banking (next 3 months):** J.P. Morgan expects to receive, or intends to seek, compensation for investment banking services in the next three months from Anglo American Platinum Ltd, Lonmin plc (LONJ.J), Lonmin plc.

 **Non-Investment Banking Compensation:** J.P. Morgan has received compensation in the past 12 months for products or services other than investment banking from Anglo American Platinum Ltd, Lonmin plc (LONJ.J), Lonmin plc.

 **Broker:** J.P. Morgan Securities plc acts as Corporate Broker to Lonmin plc (LONJ.J), Lonmin plc.

**Company-Specific Disclosures:** Important disclosures, including price charts, are available for compendium reports and all J.P. Morgan–covered companies by visiting<https://jpmm.com/research/disclosures>, calling 1-800-477-0406, or e-mailing [research.disclosure.inquiries@jpmorgan.com](mailto:research.disclosure.inquiries@jpmorgan.com) with your request. J.P. Morgan’s Strategy, Technical, and Quantitative Research teams may screen companies not covered by J.P. Morgan. For important disclosures for these companies, please call 1-800-477-0406 or e-mail [research.disclosure.inquiries@jpmorgan.com](mailto:research.disclosure.inquiries@jpmorgan.com).

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| http://gps-app.amer.jpmchase.net:6080/server/console/chart/?shareClassId=840&shareClassServerId=1&chartDesignation=1&actionType=CHART&isAdr=false&isUSDTranslation=false&cos=false&imageTypeId=4&chartHeight=288&chartWidth=456&svrTs=1404758492973 | |  |  |  |  | | --- | --- | --- | --- | | **Date** | **Rating** | **Share Price (c)** | **Price Target (c)** | | 05-Oct-06 | N | 77999 | 87400 | | 20-Nov-06 | N | 74200 | 77600 | | 08-Mar-07 | N | 98000 | 121000 | | 12-Mar-07 | OW | 104000 | 121000 | | 16-Jul-07 | OW | 110400 | 137400 | | 16-Aug-07 | OW | 90100 | 106300 | | 20-Nov-07 | N | 95500 | 98100 | | 13-Dec-07 | N | 95500 | 89400 | | 28-Feb-08 | N | 120001 | 130500 | | 28-Jul-08 | N | 93470 | 96100 | | 22-Aug-08 | N | 89500 | 86800 | | 07-Nov-08 | N | 38000 | 46000 | | 26-Jan-09 | UW | 43499 | 36900 | | 09-Mar-09 | UW | 42200 | 35900 | | 14-May-09 | N | 48000 | 61300 | | 02-Sep-09 | OW | 66000 | 91000 | | 14-Dec-09 | OW | 80400 | 96000 | | 08-Mar-10 | OW | 70450 | 99500 | | 24-Mar-10 | OW | 71900 | 97500 | | 08-Sep-10 | OW | 64605 | 78300 | | 10-Jan-11 | OW | 69000 | 87100 | | 09-May-11 | OW | 62000 | 85900 | | 16-Sep-11 | OW | 56000 | 68000 | | 31-Jan-12 | OW | 55400 | 68300 | | 09-May-12 | OW | 50000 | 59100 | | 05-Sep-12 | OW | 41300 | 54700 | | 31-Jan-13 | N | 43800 | 48500 | | 07-May-13 | N | 34777 | 37000 | | 10-Sep-13 | OW | 41000 | 56300 | | 31-Jan-14 | OW | 45996 | 59000 | | 13-May-14 | OW | 48600 | 67000 | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| http://gps-app.amer.jpmchase.net:6080/server/console/chart/?shareClassId=978&shareClassServerId=1&chartDesignation=1&actionType=CHART&isAdr=false&isUSDTranslation=false&cos=false&imageTypeId=4&chartHeight=288&chartWidth=456&svrTs=1404758492973 | |  |  |  |  | | --- | --- | --- | --- | | **Date** | **Rating** | **Share Price (c)** | **Price Target (c)** | | 05-Oct-06 | N | 3520 | 4080 | | 20-Nov-06 | N | 3930 | 4180 | | 07-Mar-07 | N | 4661 | 5570 | | 16-Jul-07 | N | 5700 | 6070 | | 06-Aug-07 | N | 5180 | 5250 | | 06-Sep-07 | N | 4975 | 6580 | | 28-Aug-08 | N | 5100 | 4800 | | 26-Jan-09 | N | 1781 | 2040 | | 09-Mar-09 | N | 2220 | 2160 | | 14-May-09 | OW | 3200 | 4600 | | 02-Sep-09 | OW | 3800 | 6100 | | 14-Dec-09 | OW | 4300 | 6200 | | 24-Mar-10 | N | 4550 | 5400 | | 08-Sep-10 | N | 4439 | 4700 | | 10-Jan-11 | N | 4500 | 5060 | | 09-May-11 | UW | 4440 | 4310 | | 16-Sep-11 | UW | 3542 | 3770 | | 31-Jan-12 | N | 3370 | 3980 | | 09-May-12 | N | 3230 | 3510 | | 05-Sep-12 | N | 2725 | 2950 | | 31-Jan-13 | N | 3686 | 4080 | | 07-May-13 | N | 3287 | 3530 | | 10-Sep-13 | N | 4260 | 4600 | | 31-Jan-14 | N | 4293 | 5170 | | 13-May-14 | OW | 4440 | 5620 | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| http://gps-app.amer.jpmchase.net:6080/server/console/chart/?shareClassId=1003633&shareClassServerId=1&chartDesignation=1&actionType=CHART&isAdr=false&isUSDTranslation=false&cos=false&imageTypeId=4&chartHeight=288&chartWidth=456&svrTs=1404758492973 | |  |  |  |  | | --- | --- | --- | --- | | **Date** | **Rating** | **Share Price (c)** | **Price Target (c)** | | 10-Nov-10 | N | 6885 | 6730 | | 10-Jan-11 | N | 6620 | 7920 | | 09-May-11 | N | 6605 | 7150 | | 16-Sep-11 | UW | 5850 | 6280 | | 31-Jan-12 | UW | 5940 | 6270 | | 09-May-12 | UW | 6000 | 6020 | | 05-Sep-12 | N | 4525 | 5100 | | 31-Jan-13 | N | 5800 | 6320 | | 07-May-13 | OW | 5350 | 6530 | | 10-Sep-13 | OW | 5750 | 7510 | | 04-Dec-13 | OW | 5900 | 7730 | | 31-Jan-14 | OW | 6450 | 8130 | | 13-May-14 | OW | 7088 | 9010 | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| http://gps-app.amer.jpmchase.net:6080/server/console/chart/?shareClassId=1000260&shareClassServerId=1&chartDesignation=1&actionType=CHART&isAdr=false&isUSDTranslation=false&cos=false&imageTypeId=4&chartHeight=288&chartWidth=456&svrTs=1404758492973 | |  |  |  |  | | --- | --- | --- | --- | | **Date** | **Rating** | **Share Price (c)** | **Price Target (c)** | | 05-Oct-06 | OW | 34637 | 44300 | | 25-Oct-06 | OW | 38622 | 44700 | | 20-Nov-06 | OW | 37369 | 43800 | | 20-Dec-06 | OW | 39249 | 39000 | | 21-Dec-06 | N | 38618 | 39000 | | 07-Mar-07 | N | 40514 | 48800 | | 12-Mar-07 | UW | 40745 | 48800 | | 16-Jul-07 | UW | 57054 | 57100 | | 27-Aug-07 | UW | 42767 | 43400 | | 16-Nov-07 | UW | 40045 | 43900 | | 13-Dec-07 | UW | 40251 | 36000 | | 28-Feb-08 | N | 47025 | 58400 | | 24-Apr-08 | N | 45152 | 58000 | | 28-Jul-08 | N | 33028 | 35200 | | 07-Nov-08 | N | 15588 | 18600 | | 20-Nov-08 | N | 10947 | 19200 | | 26-Jan-09 | N | 11171 | 11800 | | 13-May-09 | UW | 16373 | 19000 | | 30-Jun-09 | UW | 15050 | 14200 | | 02-Sep-09 | N | 17300 | 24000 | | 14-Dec-09 | OW | 22300 | 27000 | | 24-Mar-10 | OW | 22275 | 29000 | | 27-Jul-10 | OW | 17505 | 25000 | | 08-Sep-10 | OW | 17550 | 21000 | | 10-Jan-11 | N | 19575 | 24600 | | 09-May-11 | N | 17300 | 22300 | | 08-Jun-11 | OW | 17400 | 24300 | | 06-Jul-11 | OW | 15683 | 24100 | | 16-Sep-11 | OW | 14290 | 17900 | | 31-Jan-12 | OW | 12989 | 17800 | | 09-May-12 | OW | 12610 | 16800 | | 05-Sep-12 | N | 7743 | -- | | 12-Nov-12 | N | 6325 | 5900 | | 31-Jan-13 | OW | 5055 | 5800 | | 07-May-13 | OW | 3960 | 4800 | | 10-Sep-13 | OW | 5336 | 6300 | | 11-Nov-13 | OW | 5655 | 7200 | | 31-Jan-14 | OW | 5750 | 8000 | | 13-May-14 | OW | 4760 | 6700 | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| http://gps-app.amer.jpmchase.net:6080/server/console/chart/?shareClassId=1003248&shareClassServerId=1&chartDesignation=1&actionType=CHART&isAdr=false&isUSDTranslation=false&cos=false&imageTypeId=4&chartHeight=288&chartWidth=456&svrTs=1404758492973 | |  |  |  |  | | --- | --- | --- | --- | | **Date** | **Rating** | **Share Price (p)** | **Price Target (p)** | | 27-Aug-07 | UW | 3027 | 2920 | | 16-Nov-07 | UW | 3032 | 3130 | | 13-Dec-07 | UW | 2960 | 2580 | | 27-Feb-08 | UW | 3274 | 3800 | | 28-Feb-08 | N | 3207 | 3800 | | 24-Apr-08 | N | 3147 | 3590 | | 07-Nov-08 | N | 1041 | 1190 | | 20-Nov-08 | N | 700 | 1210 | | 26-Jan-09 | N | 766 | 790 | | 09-Mar-09 | UW | 1029 | 800 | | 14-May-09 | UW | 1168 | 1450 | | 30-Jun-09 | UW | 1173 | 1070 | | 02-Sep-09 | N | 1361 | 1860 | | 14-Dec-09 | OW | 1764 | 2160 | | 01-Mar-10 | N | 1842 | -- | | 16-Jun-10 | UW | 1637 | 1550 | | 15-Nov-10 | N | 1767 | 2100 | | 05-May-11 | N | 1601 | 1600 | | 31-Jan-12 | N | 1032 | 1410 | | 09-May-12 | N | 948 | 1240 | | 12-Nov-12 | N | 455 | 420 | | 31-Jan-13 | OW | 360 | 410 | | 07-May-13 | OW | 286 | 330 | | 10-Sep-13 | OW | 343 | 400 | | 11-Nov-13 | OW | 328 | 430 | | 31-Jan-14 | OW | 307 | 460 | | 13-May-14 | OW | 271 | 380 | |

The chart(s) show J.P. Morgan's continuing coverage of the stocks; the current analysts may or may not have covered it over the entire period.   
J.P. Morgan ratings or designations: OW = Overweight, N= Neutral, UW = Underweight, NR = Not Rated

**Explanation of Equity Research Ratings, Designations and Analyst(s) Coverage Universe:**J.P. Morgan uses the following rating system: Overweight [Over the next six to twelve months, we expect this stock will outperform the average total return of the stocks in the analyst’s (or the analyst’s team’s) coverage universe.] Neutral [Over the next six to twelve months, we expect this stock will perform in line with the average total return of the stocks in the analyst’s (or the analyst’s team’s) coverage universe.] Underweight [Over the next six to twelve months, we expect this stock will underperform the average total return of the stocks in the analyst’s (or the analyst’s team’s) coverage universe.] Not Rated (NR): J.P. Morgan has removed the rating and, if applicable, the price target, for this stock because of either a lack of a sufficient fundamental basis or for legal, regulatory or policy reasons. The previous rating and, if applicable, the price target, no longer should be relied upon. An NR designation is not a recommendation or a rating. In our Asia (ex-Australia) and U.K. small- and mid-cap equity research, each stock’s expected total return is compared to the expected total return of a benchmark country market index, not to those analysts’ coverage universe. If it does not appear in the Important Disclosures section of this report, the certifying analyst’s coverage universe can be found on J.P. Morgan’s research website, www.jpmorganmarkets.com.

**Coverage Universe: Cooke, Allan**: Anglo American Platinum Ltd (AMSJ.J), AngloGold Ashanti Limited (ANGJ.J), Gold Fields Ltd (GFIJ.J), Harmony Gold Mining Co Ltd (HARJ.J), Impala Platinum Holdings Ltd (IMPJ.J), Koza Gold (KOZAL.IS), Lonmin plc (LMI.L), Lonmin plc (LONJ.J) (LONJ.J), Randgold Resources Ltd (RRS.L), Sibanye Gold Ltd (SGLJ.J)

**Tiwari, Abhishek**: Aquarius Platinum Limited (AQP.L), Aquarius Platinum Limited (SA) (AQPJ.J), Atlatsa Resources Corp (ATL.V), Atlatsa Resources Corp (ATLJ.J) (ATLJ.J), DRDGold Ltd (DRDJ.J), Northam Platinum Ltd (NHMJ.J), Royal Bafokeng Platinum Limited (RBPJ.J)

**J.P. Morgan Equity Research Ratings Distribution, as of June 30, 2014**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Overweight** (buy) | **Neutral** (hold) | **Underweight** (sell) |
| J.P. Morgan Global Equity Research Coverage | 45% | 43% | 11% |
| IB clients\* | 55% | 49% | 34% |
| JPMS Equity Research Coverage | 46% | 47% | 7% |
| IB clients\* | 75% | 66% | 54% |

\*Percentage of investment banking clients in each rating category.  
For purposes only of FINRA/NYSE ratings distribution rules, our Overweight rating falls into a buy rating category; our Neutral rating falls into a hold rating category; and our Underweight rating falls into a sell rating category. Please note that stocks with an NR designation are not included in the table above.

**Equity Valuation and Risks:** For valuation methodology and risks associated with covered companies or price targets for covered companies, please see the most recent company-specific research report at <http://www.jpmorganmarkets.com>, contact the primary analyst or your J.P. Morgan representative, or email [research.disclosure.inquiries@jpmorgan.com](mailto:research.disclosure.inquiries@jpmorgan.com).

**Equity Analysts' Compensation:** The equity research analysts responsible for the preparation of this report receive compensation based upon various factors, including the quality and accuracy of research, client feedback, competitive factors, and overall firm revenues.

**Registration of non-US Analysts:** Unless otherwise noted, the non-US analysts listed on the front of this report are employees of non-US affiliates of JPMS, are not registered/qualified as research analysts under NASD/NYSE rules, may not be associated persons of JPMS, and may not be subject to FINRA Rule 2711 and NYSE Rule 472 restrictions on communications with covered companies, public appearances, and trading securities held by a research analyst account.

**Other Disclosures**

J.P. Morgan ("JPM") is the global brand name for J.P. Morgan Securities LLC ("JPMS") and its affiliates worldwide. J.P. Morgan Cazenove is a marketing name for the U.K. investment banking businesses and EMEA cash equities and equity research businesses of JPMorgan Chase & Co. and its subsidiaries.

All research reports made available to clients are simultaneously available on our client website, J.P. Morgan Markets. Not all research content is redistributed, e-mailed or made available to third-party aggregators. For all research reports available on a particular stock, please contact your sales representative.

**Options related research:** If the information contained herein regards options related research, such information is available only to persons who have received the proper option risk disclosure documents. For a copy of the Option Clearing Corporation's Characteristics and Risks of Standardized Options, please contact your J.P. Morgan Representative or visit the OCC's website at <http://www.optionsclearing.com/publications/risks/riskstoc.pdf>

**Legal Entities Disclosures   
U.S**.: JPMS is a member of NYSE, FINRA, SIPC and the NFA. JPMorgan Chase Bank, N.A. is a member of FDIC. **U.K**.: JPMorgan Chase N.A., London Branch, is authorised by the Prudential Regulation Authority and is subject to regulation by the Financial Conduct Authority and to limited regulation by the Prudential Regulation Authority. Details about the extent of our regulation by the Prudential Regulation Authority are available from J.P. Morgan on request. J.P. Morgan Securities plc (JPMS plc) is a member of the London Stock Exchange and is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority. Registered in England & Wales No. 2711006. Registered Office 25 Bank Street, London, E14 5JP. **South Africa**: J.P. Morgan Equities South Africa Proprietary Limited is a member of the Johannesburg Securities Exchange and is regulated by the Financial Services Board. **Hong Kong**: J.P. Morgan Securities (Asia Pacific) Limited (CE number AAJ321) is regulated by the Hong Kong Monetary Authority and the Securities and Futures Commission in Hong Kong and/or J.P. Morgan Broking (Hong Kong) Limited (CE number AAB027) is regulated by the Securities and Futures Commission in Hong Kong. **Korea**: J.P. Morgan Securities (Far East) Ltd, Seoul Branch, is regulated by the Korea Financial Supervisory Service. **Australia**: J.P. Morgan Australia Limited (JPMAL) (ABN 52 002 888 011/AFS Licence No: 238188) is regulated by ASIC and J.P. Morgan Securities Australia Limited (JPMSAL) (ABN 61 003 245 234/AFS Licence No: 238066) is regulated by ASIC and is a Market, Clearing and Settlement Participant of ASX Limited and CHI-X. **Taiwan**: J.P.Morgan Securities (Taiwan) Limited is a participant of the Taiwan Stock Exchange (company-type) and regulated by the Taiwan Securities and Futures Bureau. **India:** J.P. Morgan India Private Limited (Corporate Identity Number - U67120MH1992FTC068724), having its registered office at J.P. Morgan Tower, Off. C.S.T. Road, Kalina, Santacruz - East, Mumbai – 400098, is a member of the National Stock Exchange of India Limited (SEBI Registration Number - INB 230675231/INF 230675231/INE 230675231) and Bombay Stock Exchange Limited (SEBI Registration Number - INB 010675237/INF 010675237) and is regulated by Securities and Exchange Board of India. Telephone: 91-22-6157 3000, Facsimile: 91-22-6157 3990 and Website: [www.jpmipl.com](http://www.jpmipl.com). For non local research reports, this material is not distributed in India by J.P. Morgan India Private Limited. **Thailand**: This material is issued and distributed in Thailand by JPMorgan Securities (Thailand) Ltd., which is a member of the Stock Exchange of Thailand and is regulated by the Ministry of Finance and the Securities and Exchange Commission and its registered address is 3rd Floor, 20 North Sathorn Road, Silom, Bangrak, Bangkok 10500. **Indonesia**: PT J.P. Morgan Securities Indonesia is a member of the Indonesia Stock Exchange and is regulated by the OJK a.k.a. BAPEPAM LK. **Philippines**: J.P. Morgan Securities Philippines Inc. is a Trading Participant of the Philippine Stock Exchange and a member of the Securities Clearing Corporation of the Philippines and the Securities Investor Protection Fund. It is regulated by the Securities and Exchange Commission. **Brazil**: Banco J.P. Morgan S.A. is regulated by the Comissao de Valores Mobiliarios (CVM) and by the Central Bank of Brazil. **Mexico**: J.P. Morgan Casa de Bolsa, S.A. de C.V., J.P. Morgan Grupo Financiero is a member of the Mexican Stock Exchange and authorized to act as a broker dealer by the National Banking and Securities Exchange Commission. **Singapore**: This material is issued and distributed in Singapore by or through J.P. Morgan Securities Singapore Private Limited (JPMSS) [MCI (P) 199/03/2014 and Co. Reg. No.: 199405335R] which is a member of the Singapore Exchange Securities Trading Limited and is regulated by the Monetary Authority of Singapore (MAS) and/or JPMorgan Chase Bank, N.A., Singapore branch (JPMCB Singapore) which is regulated by the MAS. This material is provided in Singapore only to accredited investors, expert investors and institutional investors, as defined in Section 4A of the Securities and Futures Act, Cap. 289. Recipients of this document are to contact JPMSS or JPMCB Singapore in respect of any matters arising from, or in connection with, the document. **Japan**: JPMorgan Securities Japan Co., Ltd. is regulated by the Financial Services Agency in Japan. **Malaysia**: This material is issued and distributed in Malaysia by JPMorgan Securities (Malaysia) Sdn Bhd (18146-X) which is a Participating Organization of Bursa Malaysia Berhad and a holder of Capital Markets Services License issued by the Securities Commission in Malaysia. **Pakistan**: J. P. Morgan Pakistan Broking (Pvt.) Ltd is a member of the Karachi Stock Exchange and regulated by the Securities and Exchange Commission of Pakistan. **Saudi Arabia**: J.P. Morgan Saudi Arabia Ltd. is authorized by the Capital Market Authority of the Kingdom of Saudi Arabia (CMA) to carry out dealing as an agent, arranging, advising and custody, with respect to securities business under licence number 35-07079 and its registered address is at 8th Floor, Al-Faisaliyah Tower, King Fahad Road, P.O. Box 51907, Riyadh 11553, Kingdom of Saudi Arabia. **Dubai**: JPMorgan Chase Bank, N.A., Dubai Branch is regulated by the Dubai Financial Services Authority (DFSA) and its registered address is Dubai International Financial Centre - Building 3, Level 7, PO Box 506551, Dubai, UAE.

**Country and Region Specific Disclosures   
U.K. and European Economic Area (EEA):** Unless specified to the contrary, issued and approved for distribution in the U.K. and the EEA by JPMS plc. Investment research issued by JPMS plc has been prepared in accordance with JPMS plc's policies for managing conflicts of interest arising as a result of publication and distribution of investment research. Many European regulators require a firm to establish, implement and maintain such a policy. This report has been issued in the U.K. only to persons of a kind described in Article 19 (5), 38, 47 and 49 of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (all such persons being referred to as "relevant persons"). This document must not be acted on or relied on by persons who are not relevant persons. Any investment or investment activity to which this document relates is only available to relevant persons and will be engaged in only with relevant persons. In other EEA countries, the report has been issued to persons regarded as professional investors (or equivalent) in their home jurisdiction. **Australia:** This material is issued and distributed by JPMSAL in Australia to "wholesale clients" only. This material does not take into account the specific investment objectives, financial situation or particular needs of the recipient. The recipient of this material must not distribute it to any third party or outside Australia without the prior written consent of JPMSAL. For the purposes of this paragraph the term "wholesale client" has the meaning given in section 761G of the Corporations Act 2001. **Germany:** This material is distributed in Germany by J.P. Morgan Securities plc, Frankfurt Branch and J.P.Morgan Chase Bank, N.A., Frankfurt Branch which are regulated by the Bundesanstalt für Finanzdienstleistungsaufsicht. **Hong Kong:** The 1% ownership disclosure as of the previous month end satisfies the requirements under Paragraph 16.5(a) of the Hong Kong Code of Conduct for Persons Licensed by or Registered with the Securities and Futures Commission. (For research published within the first ten days of the month, the disclosure may be based on the month end data from two months prior.) J.P. Morgan Broking (Hong Kong) Limited is the liquidity provider/market maker for derivative warrants, callable bull bear contracts and stock options listed on the Stock Exchange of Hong Kong Limited. An updated list can be found on HKEx website: http://www.hkex.com.hk. **Japan:** There is a risk that a loss may occur due to a change in the price of the shares in the case of share trading, and that a loss may occur due to the exchange rate in the case of foreign share trading. In the case of share trading, JPMorgan Securities Japan Co., Ltd., will be receiving a brokerage fee and consumption tax (shouhizei) calculated by multiplying the executed price by the commission rate which was individually agreed between JPMorgan Securities Japan Co., Ltd., and the customer in advance. Financial Instruments Firms: JPMorgan Securities Japan Co., Ltd., Kanto Local Finance Bureau (kinsho) No. 82 Participating Association / Japan Securities Dealers Association, The Financial Futures Association of Japan, Type II Financial Instruments Firms Association and Japan Investment Advisers Association. **Korea:** This report may have been edited or contributed to from time to time by affiliates of J.P. Morgan Securities (Far East) Ltd, Seoul Branch. **Singapore:** JPMSS and/or its affiliates may have a holding in any of the securities discussed in this report; for securities where the holding is 1% or greater, the specific holding is disclosed in the Important Disclosures section above. **India:** For private circulation only, not for sale. **Pakistan:** For private circulation only, not for sale. **New Zealand:** This material is issued and distributed by JPMSAL in New Zealand only to persons whose principal business is the investment of money or who, in the course of and for the purposes of their business, habitually invest money. JPMSAL does not issue or distribute this material to members of "the public" as determined in accordance with section 3 of the Securities Act 1978. The recipient of this material must not distribute it to any third party or outside New Zealand without the prior written consent of JPMSAL. **Canada:** The information contained herein is not, and under no circumstances is to be construed as, a prospectus, an advertisement, a public offering, an offer to sell securities described herein, or solicitation of an offer to buy securities described herein, in Canada or any province or territory thereof. Any offer or sale of the securities described herein in Canada will be made only under an exemption from the requirements to file a prospectus with the relevant Canadian securities regulators and only by a dealer properly registered under applicable securities laws or, alternatively, pursuant to an exemption from the dealer registration requirement in the relevant province or territory of Canada in which such offer or sale is made. The information contained herein is under no circumstances to be construed as investment advice in any province or territory of Canada and is not tailored to the needs of the recipient. To the extent that the information contained herein references securities of an issuer incorporated, formed or created under the laws of Canada or a province or territory of Canada, any trades in such securities must be conducted through a dealer registered in Canada. No securities commission or similar regulatory authority in Canada has reviewed or in any way passed judgment upon these materials, the information contained herein or the merits of the securities described herein, and any representation to the contrary is an offence. **Dubai:** This report has been issued to persons regarded as professional clients as defined under the DFSA rules. **Brazil**: Ombudsman J.P. Morgan: 0800-7700847 / ouvidoria.jp.morgan@jpmorgan.com.

**General:** Additional information is available upon request. Information has been obtained from sources believed to be reliable but JPMorgan Chase & Co. or its affiliates and/or subsidiaries (collectively J.P. Morgan) do not warrant its completeness or accuracy except with respect to any disclosures relative to JPMS and/or its affiliates and the analyst's involvement with the issuer that is the subject of the research. All pricing is as of the close of market for the securities discussed, unless otherwise stated. Opinions and estimates constitute our judgment as of the date of this material and are subject to change without notice. Past performance is not indicative of future results. This material is not intended as an offer or solicitation for the purchase or sale of any financial instrument. The opinions and recommendations herein do not take into account individual client circumstances, objectives, or needs and are not intended as recommendations of particular securities, financial instruments or strategies to particular clients. The recipient of this report must make its own independent decisions regarding any securities or financial instruments mentioned herein. JPMS distributes in the U.S. research published by non-U.S. affiliates and accepts responsibility for its contents. Periodic updates may be provided on companies/industries based on company specific developments or announcements, market conditions or any other publicly available information. Clients should contact analysts and execute transactions through a J.P. Morgan subsidiary or affiliate in their home jurisdiction unless governing law permits otherwise.

"Other Disclosures" last revised June 21, 2014.

**Copyright 2014 JPMorgan Chase & Co. All rights reserved. This report or any portion hereof may not be reprinted, sold or redistributed without the written consent of J.P. Morgan.** #$J&098$#\*P