

Analysis of Factors Driving Gold Mining Company Valuation and Stock Price Performance

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Summary

This report details an analysis extending on the past studies “The Valuation of Key ASX-Listed Gold Mining Companies by Operating Performance, Reserves and Resources” and “The Valuation Range of Key ASX-Listed Gold Mining Companies”. In particular, the aim is to identify the factors that may drive the current valuation and subsequent stock price performance. Investors who use fundamental analysis may find this analysis useful in understanding which factors are most commonly used by market investors when they make their stock selection and trading decisions. Using log-linear regression models applied in a machine learning algorithm, the study finds that the market capitalisation is best explained by the book value of equity, net operating cash flow, annualised production level, ore reserves and the Enterprise Value/All in Sustaining Cost-adjusted production metric (EV/AISC-adjusted production). These five factors explain the current valuation of these gold mining companies quite effectively. Furthermore, these five factors capture a broad range of aspects regarding the company’s investment potential as it incorporates operating performance, financial position stability, cash flow generation and long-term growth potential.

Results regarding the factors driving post-reporting period stock returns are less favourable, with the factors being weakly associated or not associated at all. Some factors even show themselves to have a counter-intuitive relationship. However, upon closer inspection, one reason for this observation include the fact that most factors are static variables that capture a level at a given point in time, while stock returns are driven by trends and events. Another reason is that the past performance is not a reliable indicator of the future, with unanticipated events and trend changes contributing significant impact on stock price returns.

One factor that is of particular interest is the gold-oil ratio. This ratio appears to contribute to explaining post-reporting period stock returns in that a rising trend in the gold-oil ratio leads to a significantly positive return subsequent to the reporting period, after taking into account the company’s production category, the financial reporting period and whether the company is overvalued or not using EV/AISC-adjusted production. This ratio is not given much credit by the investing community, but may be worth considering for those seeking stocks with outperformance potential.

Background

The methodology of gold mining company valuation is considered established, since this industry has a large number of participants worldwide and is deeply traded. The most

common factors in determining the company's market capitalisation or enterprise value include the production level, AISC, gearing ratio, resources and reserves and the prevailing gold price. However, some of these factors are not necessarily align as closely with the process of delivering profits and longer-term growth as one would perceive. For example, investors also appear to ascribe a higher valuation to gold mining companies in an environment of higher gold prices, more so than the individual company's fundamental qualities. Interestingly, in Australia, most media outlets and financial institutions pay greater attention to the US gold price rather than the price in Australian dollar terms. However, most ASX-listed gold mining companies have operations in Australia or they report in Australian dollar terms, meaning that the latter is actually more relevant. Thus, a more discerning investor may be able to exploit this anomaly and identify undervalued companies that the market may have missed.

Aside from the gold price as a driver to valuation of gold mining companies, potential for mispricing may exist with respect to fundamental characteristics of gold mining companies. The market places great emphasis on the company's scope of production, resources and reserves, AISC, balance sheet flexibility and robustness and geographical location in determining the company's relative attractiveness. While these factors are intuitively sound, the nature of mining operations is such that performance can vary sharply from quarter to quarter, so the price movements can similarly be volatile. Despite the best intention of investors in trying to find the key factors that best predict future returns, this is elusive. Furthermore, the interactions between the prevailing external conditions reflected by economic productivity, inflation, exchange rates, commodity prices and geopolitical stability can impact on company operational, financial and market performance.

As the famous saying goes "past performance is not an indicator for future returns", but some factors may be useful in providing guidance to generating superior future returns. In previous studies on the factors that drive the valuation of gold mining companies and also their historical valuation ranges, the factors that best explain the current valuation is the AISC-adjusted production. However, the subsequent performance of these companies has not been analysed more closely. This report seeks to investigate this further.

Methodology and Data

The study seeks to ascertain the extent in which different factors drive company's average market capitalisation one year prior to the financial reporting period and also the subsequent half-year stock price returns. The market capitalisation component of the analysis provides insights into what factors investors take into account when they determine the company price through trading. The subsequent half-year stock returns component provides insights into the drives of the subsequent performance of the company.

The study is based on 29 ASX-listed gold producing companies, some of which have since been delisted. The period of the study is between the 2013-2019 financial years including half-year and full-year results. The following factors for the gold mining companies have been collected:

Operational factors – Annualised and reported production levels in gold equivalent ounces, AISC, gold sales price, net operating cash flow, payments for property, plant and equipment and payments for development.

Financial factors – Average half-year and full-year market capitalisation up to the end of the financial period, average EV/AISC-adjusted production (market capitalisation plus net cash divided by AISC-adjusted annual production), cash balance, bullion, short and long-term borrowings, book equity value, gearing ratio (net cash divided by net cash plus equity).

Gold related factors – Ore reserves and mineral resources, gold price in US dollar and Australian dollar terms, oil price in US dollar terms and gold-to-oil ratio. The average prices relate to the half-year, one year before and half-year after the financial reporting period.

Market performance factors – Stock price returns relating to one year before and half-year after the reporting period.

Slightly over 200 observations were collected over the 2013-2019 financial year and half year periods. However, not all observations were used as they were outliers in the study and may distort the results. To preserve stability of the data and remove outliers, the top and bottom 10% of the observations were removed from the sample. Thus, the sample still contained approximately 180-190 observations.

A machine learning based analysis, applied by Jacky Poon, was employed to assist with the identification, quantification and ranking of the relative importance of each factor on the company's market capitalisation and post-reporting period stock price returns. A log-linear regression model was for both the market capitalisation and post-reporting period stock price returns output variables due to the nature of the relationships between these variables and the different factors tested in the model.

After identifying and quantifying the factors, a predictive log-linear regression model is used to forecast the post-reporting period stock returns for each company in the study. The most recent period was selected, being the December 2018 period, which coincides either with the 2018 end of financial year or 2019 first half year. The returns are compared against the stock price performance up to 11th April 2019, rather than the half-year period as this study was conducted prior to 30th June 2019.

Results

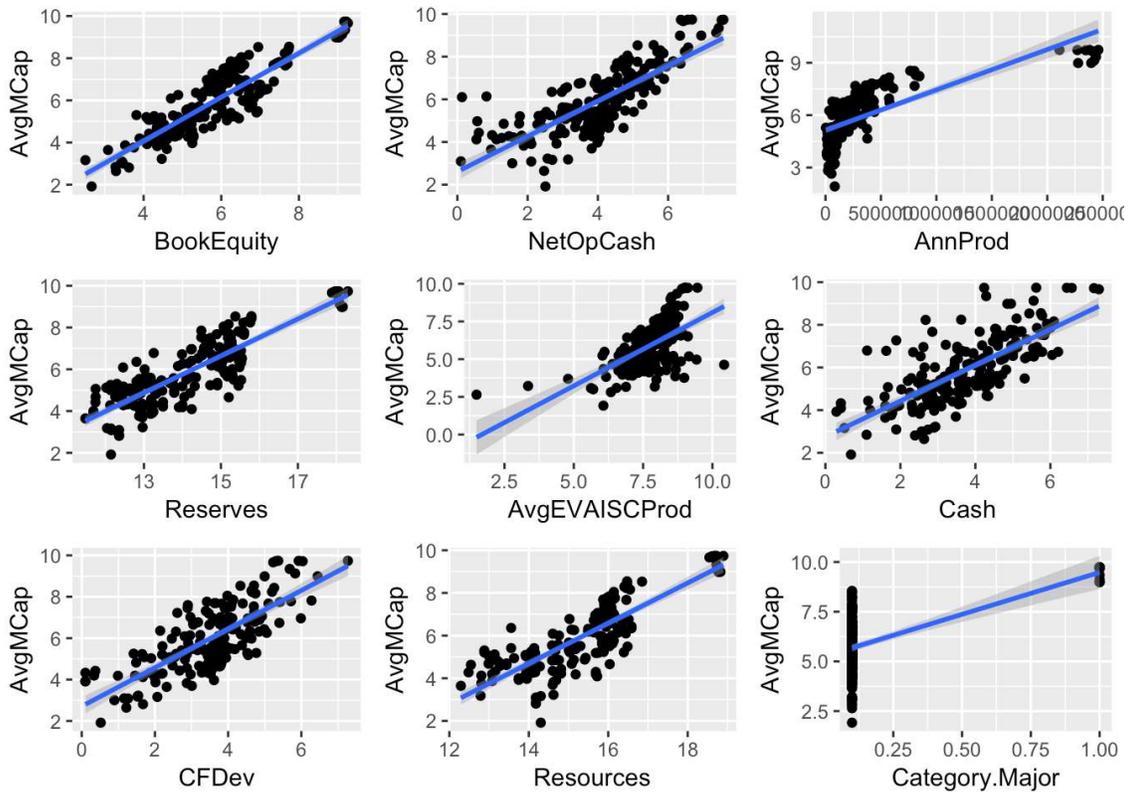
Market Capitalisation

The table below summarises the top thirty factors that explain the market capitalisation of the companies in the study, ranked by a relative importance index (100 = most important factor):

Market Capitalisation			Market Capitalisation		
Rank	Factors	Importance Index	Rank	Factors	Importance Index
1	BookValue of Equity	100.0000	16	Previous Year Returns	0.3080
2	Net Operating Cashflow	66.7302	17	Net Cashflow Excl. Growth	0.1798
3	Annualised Production	54.3664	18	Sales	0.1610
4	Reserves	48.7442	19	Previous Year Average US Gold Price	0.1068
5	EV/AISC Production	20.9554	20	Property, Plant and Equipment Expenditure	0.1029
6	Cash	6.0166	21	Bullion	0.0919
7	Maintenance Capex	3.9246	22	Current Debt	0.0788
8	Resources	3.5696	23	Net Cashflow per Oz Production	0.0715
9	Category.Major	2.1205	24	Valuation.Undervalued	0.0628
10	AISC	1.3743	25	Net Operating Cashflow per Production oz	0.0624
11	Gearing	1.2013	26	Previous Year Gold-Oil Ratio	0.0589
12	Production	1.1674	27	Category.Micro	0.0397
13	Non-Current Debt	1.0124	28	Valuation.Fair.Value	0.0212
14	Issued Stocks	0.4643	29	Previous Year Average AUD Gold Price	0.0193
15	Post-Period Returns	0.4434	30	Previous Year USD Gold Price Rising	0.0113

The results suggest that investors consider the five most important factors are (in order of decreasing importance) are book value of equity, net operating cash flow, annualised production level, ore reserves and the EV/AISC-adjusted production metric. Interestingly, other key factors that are deemed important are lower down the list – cash balance (6th), mineral resources (9th), AISC (10th), gearing ratio (11th), previous year’s stock price return (16th), net operating cash flow excluding growth capital expenditure (17th), average US gold price prior to reporting period (19th) and average AUD gold price prior to reporting period (29th). Furthermore, the top five factors are distinctly more robust in explanatory power than the next five factors.

A significant caveat needs to be noted when interpreting the above results. The importance index is a relative measure and one should consider the results in context with the figures below showing the scatterplots between the market capitalisation and the top nine factors. Note some factors and market capitalisation are expressed on a natural exponential scale:



The scatterplots show that even the top five factors have only a moderate associative relationship with market capitalisation. This implies the presence of other idiosyncratic factors that explain how the market determines the value of each company. These can include qualitative factors, surprise announcements, investor psychology and randomness.

What the results here suggest is that investors consider a combination of short-term operational performance (annualised production level, net operating cash flow and AISC), long-term growth potential (ore reserves and mineral resources) and accounting factors (book value of equity, cash). The findings are logical and consistent with the available literature and market commentary. The key variables are what market analysts commonly cover in their reports, with the exception of the EV/Production is included in this study, there is no doubt that it will yield similar explanatory power as EV/AISC-Adjusted production. However, what is most interesting is that the book value of equity is deemed the most robust explanatory factor even though this is an accounting figure based on historical transactions, with occasional adjustments. From the data collected, this accounting figure actually explains better the company's market value than the company's production level, which would more closely reflect the scope of the company's operations. To its credit, the book value of equity does take into account the capital structure of the company, so a company that produces a substantial amount of gold but has an overwhelming amount of debt would have a low market capitalisation. St Barbara (ASX: SBM) was in this situation in 2014-2015 when they produced 350 000-400 000oz p.a., had a net debt of over \$300m, and a market capitalisation that was as low as \$40m.

Next, this analysis addresses the findings that the net operating cashflows (cash inflows from sales less cash outflows on production, tax, interest and administrative costs) appearing to be a stronger explanatory factor for market capitalisation than the annualised production level, operating costs and the resources and reserves beneath the ground. This is a surprising result given the focus of company periodic reports on their performance and progress appears to suggest the opposite. In quarterly reports released by gold mining companies, they always report the production, AISC, sales volume and price, exploration progress and sometimes they include the cash equivalent level and net debt position. However, around 60% of the companies included in this study will release their quarterly cashflow statement while some companies provide instead a table showing the cash flow movements. Even though this study uses company half-year and full-year results, market investors follow closely quarterly reports.

The amount of ore reserves in the company has been identified to be an important explanatory factor to the market capitalisation, suggesting that market investors do consider also the company's future development potential, since the other four factors are more associated with the immediate and the short-term future. Given the finding suggests also that ore reserves is substantially more important than mineral resources is logically consistent given ore reserves are financially viable to extract now. Perhaps this observation may be associated with the weak gold price performance over the study period. Naturally, investors will be more excited about resources than reserves as the gold price rises since optimism may rule over realism in a bull market.

Regarding the importance of finding that the EV/AISC-adjusted production metric is considered moderately associated with market capitalisation, this is an encouraging result. This valuation metric not only considers the stock price but considers also the financial position of the company via the net cash/debt position as well as the operational performance in terms of the production and AISC. Even though many investors do not use this metric, preferring the production level without the AISC adjustment, the moderate relationship identified may suggest the presence of pricing anomalies for these companies. A stronger relationship would imply that market investors have incorporated accurately the intrinsic value when making their trades. Thus, market investors may be able to use this metric to outperform against their peers.

The results yield another somewhat surprising finding in that the gold price, whether the current level or the trend, is found to be remotely useful in explaining the market capitalisation. The gold price does have a second order impact as reflected by the net operating cash flow since higher gold price normally is associated with higher cash flow generated. Even then, the operating cashflow is driven not just by gold price but the oil price as the latter is a significant driver on expenses given mining machinery consumes large quantities of diesel and other fuels.

To summarise, this study delivers some surprising findings in that a number of factors including AISC, gearing ratio, stock price performance and gold price are deemed to be weaker explanatory factors than what one would have expected. However, when the top five

factors are simultaneously employed in valuing a gold mining company, they do incorporate most of these factors already, with the exception of the prevailing gold price and the trend leading up to the reporting period. Thus, market investors appear to understand the dynamics of this industry adequately that the company prices over the 2013-2019 financial years reasonably reflects the broader market conditions as well as the company's individual operational and financial performance.

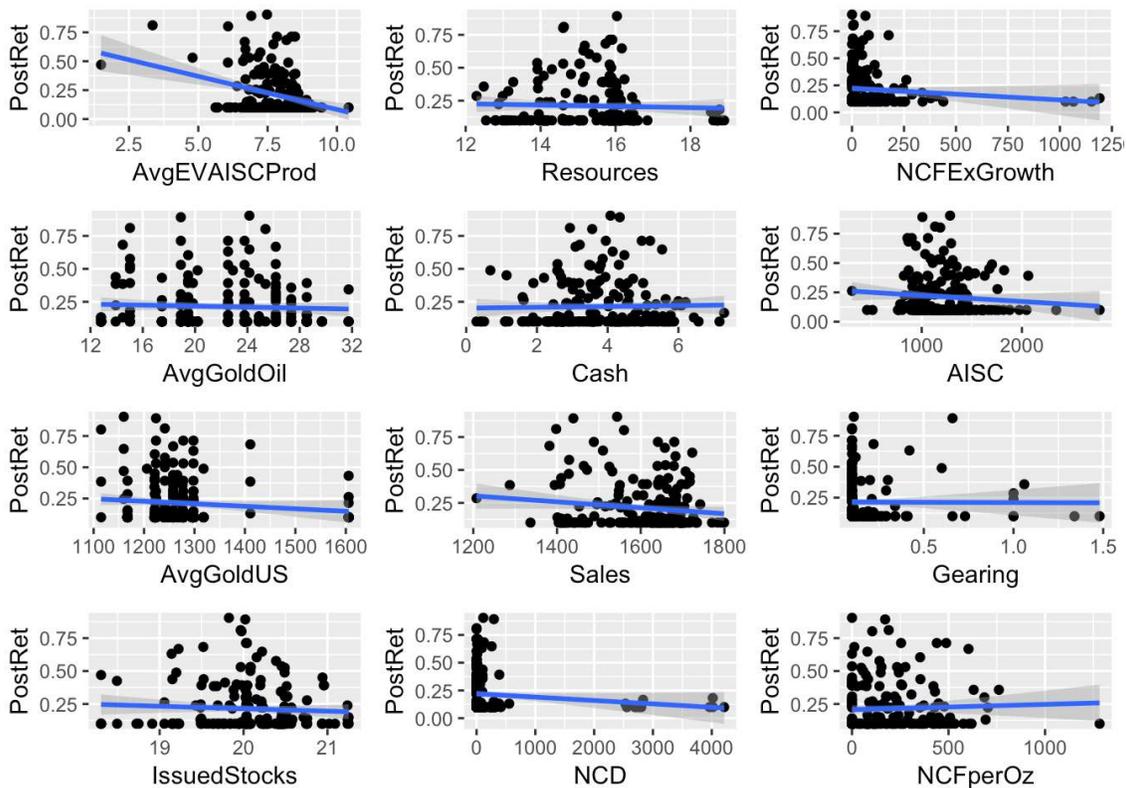
Post-Reporting Period Stock Returns

The table below summarises the top twenty factors that best explain the post-reporting period stock returns in this study:

Post-Reporting Period Stock Returns			Post-Reporting Period Stock Returns		
Rank	Factors	Importance Index	Rank	Factors	Importance Index
1	EV/AISC Production	100.0000	11	Non-Current Debt	10.1270
2	Resources	40.7447	12	Net Cashflow per Oz Production	8.6246
3	Net Cashflow Excl. Growth	38.4753	13	Previous Year Returns	8.3222
4	Previous Year Gold-Oil Ratio	26.6478	14	Maintenance Capex	7.5914
5	Cash	20.0079	15	Net Operating Cashflow	7.4618
6	AISC	19.5652	16	Previous Year Market Cap	4.1060
7	Previous Year US Gold Price	19.0321	17	Production	3.2403
8	Sales	14.8661	18	Bullion	2.0943
9	Gearing	13.6578	19	Previous Year Average AUD Gold Price	1.6580
10	Issued Stocks	13.0220	20	Category.Major	1.4347

The table above shows that the top four factors that best explains the half-year stock returns after the reporting date are the EV/AISC-adjusted production, mineral resources, net cashflow excluding growth capex and the previous year's gold-oil ratio. The next seven factors are predominantly balance sheet (cash balance, issued stocks, gearing and non-current debt) and operational (AISC and sale price of gold) factors. The key factors that explain post-reporting returns differ somewhat from that of market capitalisation. However, what is worth noting is that investors still consider a combination of short-term operational performance, long-term potential, balance sheet strength and prevailing economic environment, albeit different aspects.

Like market capitalisation results, interpreting the key factors that drive post-reporting returns must be performed in the context of the scatterplots of the post-reporting returns with these factors. The figures below show the associative relationships of the top twelve factors. Note that some of the factors are expressed in a natural exponential scale:



The scatterplots show that despite the EV/AISC-adjusted production metric being the most important factor in determining the post-reporting returns, the associative relationship is weak, with substantial unexplained variation. The other eleven factors similarly face the same problem, with some factors being distorted by outliers that define the trend. When interpreting the results regarding the relative importance of the factors, the weak and unstable associative relationships have to be kept in mind. The observed trends confirm that past performance is not an indicator of the future and also that there are unanticipated events or factors that affect the future returns achieved.

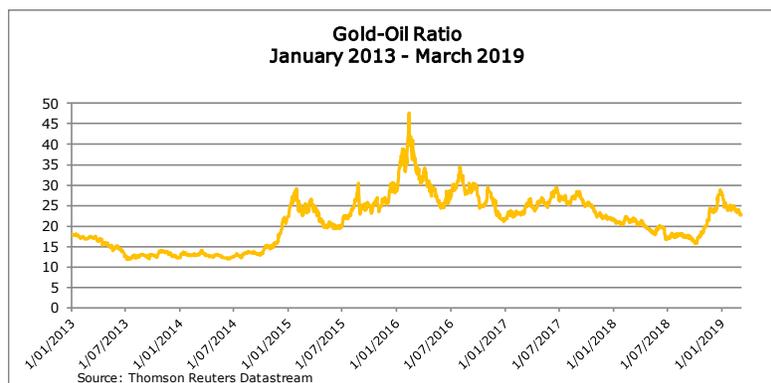
The results show that the EV/AISC-adjusted production is most associated with the half-year return subsequent to the reporting period, suggesting that the more undervalued the company at the time of reporting, the better the subsequent return achieved. This is intuitively consistent since market investors eventually will adjust their valuation as new information regarding the company and the prevailing environment emerges. Thus, what may not be apparent when the company reported their results may emerge within the next half-year and the market will respond accordingly.

Interestingly, mineral resources come second in terms of being able to explain the post-reporting stock returns, albeit a weaker relationship relative to the already weak association that is EV/AISC-adjusted production. The fact that mineral resources is ahead of several other factors is surprising. However, considering that most factors have weak and non-significant associative relationships with the post-reporting returns, this may be spurious. But, one possible explanation for the associative relationship is that the companies with a larger

resource base, especially Northern Star (ASX: NST) and Evolution Mining (ASX: EVN), delivered better post-reporting period returns simply because the gold market was in a bear market most of the time over the 2013-2019 period in this study. Investors would prefer the more established mining companies as their reported results allayed their fears and investors adopted a flight to safety strategy.

The net cashflow excluding growth capex is found to have the third most significant associative relationship with the post-reporting periodic returns. This is a surprising result since the relationship is slightly negative and this variable is not adjusted for the company’s scope in terms of production. The observation is counter-intuitive, and contrasts with a positive relationship between the post-reporting return and the net operating cashflow per oz of production. On closer look at the data, the likely explanation is that Newcrest Mining (ASX: NCM) contributed to this outcome since the company is by far the largest company on the ASX and the stock price performance over the period studied has been predominantly weaker than its peers, despite generating cash flows exceeding \$500m. Normally, a company that generates more net cashflows from operations should be in a better position as they are able to use that cash for further expansion, reducing debt or for weathering difficult conditions. Thus, when a company reports healthy cashflows, this should lead to investor confidence and higher subsequent returns. Hence, given this variable is not adjusted for scope and the instability of the post-reporting period returns, this finding could be similarly considered to be spurious.

The gold-oil ratio relationship with the post-reporting period returns is interesting. Intuitively, gold mining companies generate their revenues predominantly from gold sales and the gold price would drive this. Similarly, mining companies consume large quantities of fuel on their machinery and the broader economy is driven by the cost of oil, so the oil price is a major driver of expenses. Thus, the gold-oil ratio should affect both profits and net operating cashflows. As mentioned in the previous section, the gold-oil ratio is not considered an important factor in explaining market capitalisation. However, the gold-oil relationship is the fourth most important factor in explaining post-reporting period returns, even if the relationship is very weak given the instability of the data and the unpredictability of future returns. Oddly, the relationship is a negative one but the reason for this requires the understanding of the trend. The figure below shows the movement of gold-oil ratio over the 2013-2019 period:



The gold-oil ratio peaked in early 2016 as the global stock markets weakened and oil price collapsed to below US\$30/bbl. The study used the average gold-oil ratio the half-year or full-year before the reporting period, so the periods with the highest gold-oil ratio is the 2016 financial year ending June and December. Noting that the gold mining companies generally experienced a strong uptrend in the first half of 2016, peaked in around September 2016 before declining over 2017, the high gold-oil ratio corresponded in sharply falling stock returns to as much as 40% for many companies from their mid to end of 2016 levels. Despite this observation, if the gold-oil ratio is considered in a shorter timeframe before and after the reporting period, a positive trend would be observed. However, what should be noted is that the gold-oil ratio level is not so much the driver for stock returns but the trend. A rising gold-oil ratio will lead to more accommodative conditions for gold mining companies to generate profits and operating cashflows. This observation is not apparent by merely looking at the table of results.

The cash reserves in a company is deemed as the fifth most important explanatory factor on the post-reporting period returns. The relationship is weakly positive but agrees with intuition. A company with higher cash reserves may have more optionality to exploit growth opportunities and development potential, as well as preventing liquidity issues that may cause investors to suddenly lose confidence.

The AISC on production follows closely behind cash reserves as an explanatory factor on the post-reporting period returns. Again, the relationship is weak and unexplained variation is substantial. However, the relationship is negative and is consistent with expectations. A company that delivers higher AISC is not favourably regarded by investors as it suggests higher expenses and potential future cash drain. While AISC is very sensitive to production level due to economies of scale, most mining companies provide guidance on AISC for the subsequent quarters that do not sharply deviate from their recent track record. The exceptions to this are when they undertake major mine developments or anticipate disruption to operations.

The US gold price as an explanatory factor for post-reporting period returns show a weakly negative association, which may be a surprising observation. However, the same issue relevant to the gold-oil ratio applies for this factor. The high US gold price leading up to the reporting period was in relation to 2012-2013 when the gold price began to decline at the end of 2012 and sharply so in April 2013 and reached a trough in late June 2013. Again, what matters is the trend in the gold price, rather than the level. Another interesting observation in the gold price is that the US dollar gold price is more relevant than the Australian dollar gold price.

In summary, the results here show weak relationships between the factors studied and the post-reporting stock returns. Most of these factors are figures that reflect a level at a given point in time and does not take into account the trend and the companies are not stratified by their category as defined by production levels. In a separate linear regression model, the past and subsequent movements of the quantities are also included as indicator variables. The results show that after including these movements, the most useful factors are the EV/AISC-

adjusted production (better subsequent returns if the company was previously undervalued), production category (major and mid-tier miners insignificantly delivered positive subsequent stock returns), the financial reporting period (2014 and 2016 were significantly negative, 2017 and 2018 financial years and 2019 first half were insignificantly positive) and whether the gold-oil ratio was rising in the half-year leading up to the reporting period with rising gold-oil ratio resulting in significantly positive subsequent returns. However, despite the linear regression model identifying those significant factors, the R-squared coefficient is around 0.15, implying that much of the variation is not explained by these factors. Thus, investors need to follow trends and keep track of them when making decisions on whether to buy or sell a company for the sake of generating outperforming returns. Having reviewed online stock discussion forums such as Hotcopper, a sizable number of investors appear to be driven by technical analysis and pay little heed to fundamentals. Furthermore, many algorithmic traders participate in the gold mining industry and they will dictate price movements. That being said, fundamental analysis offers valuable insights to those seeking longer-term outperformance as both algorithmic trading and technical analysis make use of past and contemporaneous information but are not responsive to sudden changes in trends or events.

Predictive Model to Estimate Subsequent Returns

The factors identified in explaining post-reporting period stock returns are applied using a predictive model to the most recent observations for the companies in the sample. This is compared against the realised stock returns up to 11th April 2019. The table below gives the predicted returns against the realised returns (excludes Kingsgate Consolidate since they do not produce any gold):

Predicted Returns 1st January 2019-11th April 2019			Predicted Returns 1st January 2019-11th April 2019		
Company	Predicted Return	Realised Return	Company	Predicted Return	Realised Return
St Barbara	14.70%	-30.00%	Resolute Mining	0.46%	5.00%
Regis Resources	14.70%	6.00%	Westgold Resources	0.46%	51.00%
Northern Star Resources	14.35%	0.00%	Teranga Gold Corporation	0.46%	-38.00%
Saracen Mineral Holdings	14.35%	-2.00%	Aurelia Minerals	-0.77%	14.00%
Newcrest Mining	12.33%	18.00%	Blackham Resources	-1.52%	-63.00%
Evolution Mining	12.33%	0.00%	Alacer Gold	-2.00%	-20.00%
Oceanagold	12.33%	-15.00%	Medusa Mining	-2.79%	-1.00%
Ramelius Resources	12.27%	83.00%	Doray Minerals	-3.67%	49.00%
Perseus Mining	11.86%	15.00%	Kingsrose Mining	-5.89%	-9.00%
Dacian Gold	10.16%	-6.00%	Alkane Resources	-6.26%	33.00%
Dragon Mining	8.64%	-3.00%	Troy Resources	-7.87%	-9.00%
Silver Lake Resources	6.27%	48.00%	Beadell Mining	-9.23%	-24.00%
Millennium Minerals	6.25%	63.00%	Gascoyne Resources	-14.70%	-61.00%
Pantoro	1.44%	25.00%	Red5	-21.22%	57.00%

The results above show the predictive model is largely unable to forecast the subsequent stock returns accurately. This is not the failure in the model nor does it invalidate the study. Rather, the results further confirm the subsequent performance is difficult to anticipate and is subject largely to unanticipated events, non-fundamental factors and randomness.

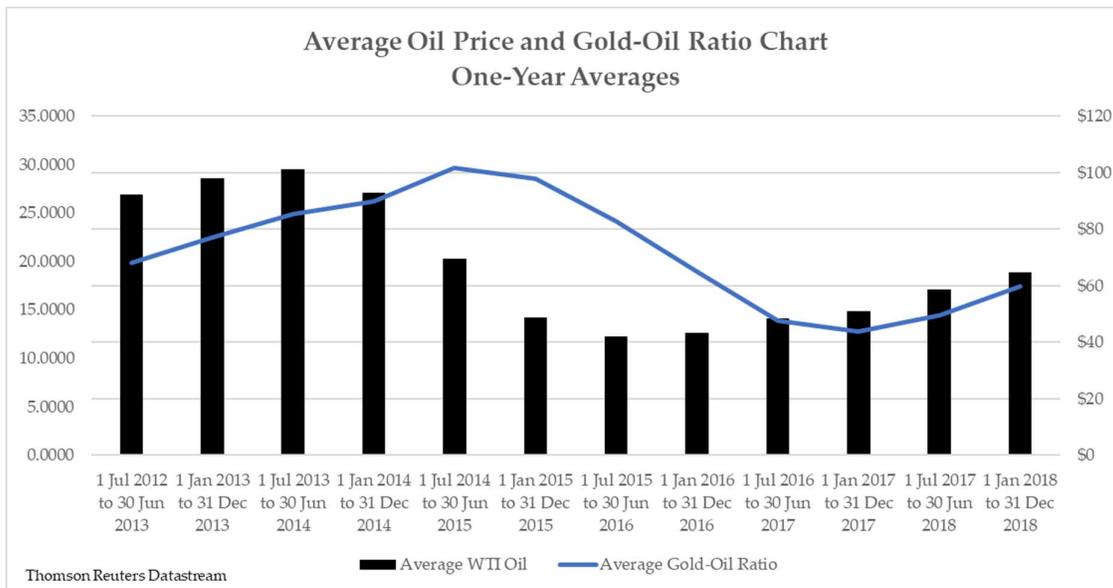
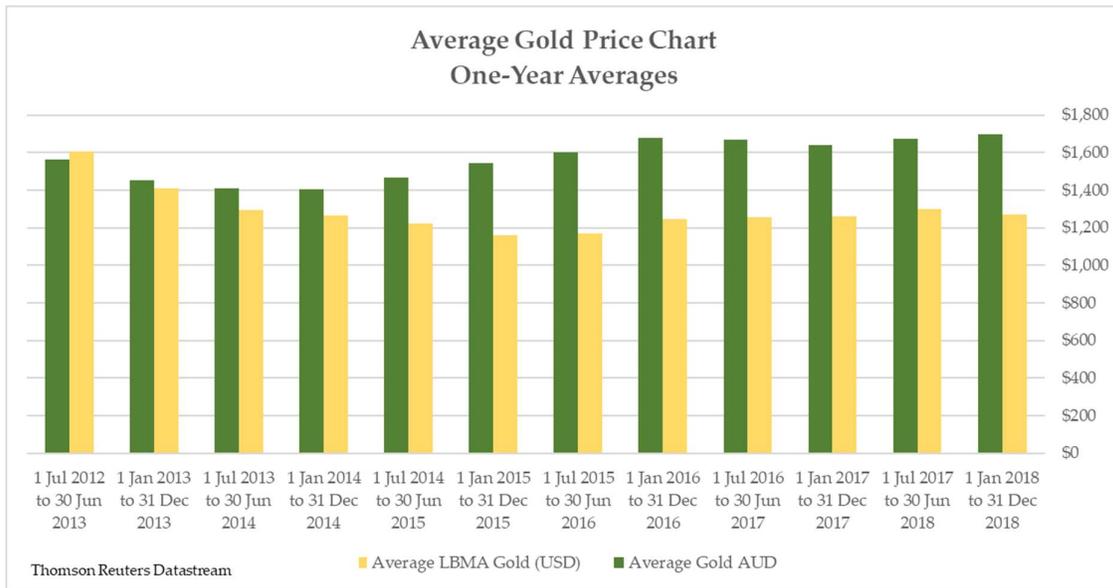
Conclusion

This report extends upon past studies regarding the valuation of ASX-listed gold mining companies in terms of their production, mineral resources and ore reserves by seeking to identify what factors explain current valuation and subsequent performance of these companies. The results show that market investors consider operational performance, financial position, ore reserves and the current valuation when they determine the current market value. This is consistent with intuition as well as showing that investors consider a broad range of aspects in making their decisions. However, the results show that these factors are weakly or not significantly associated with the subsequent stock returns. In some cases, the associative relationship is counterintuitive due to distortions by one or two outlier companies. When the data is studied more carefully, the post-reporting period stock returns are better explained by considering the trend in the movements of various factors including EV/AISC-adjusted production, net operating cashflow, gold-oil ratio and cash balance. Companies tend to deliver better stock returns in a rising trend in their operational performance, cash flow generation and in a more accommodative environment reflected by rising gold-oil ratio.

Appendix A – Companies in the Study

Company	ASX Code	Category	ASX Status
Alkane Resources	ALK	Junior	Trading
Aurelia Minerals	AMI	Mid-Tier	Trading
Alacer Gold	AQG	Mid-Tier	Trading
Beadell Resources	BDR	Junior	Delisted (Acquired by Great Panther)
Blackham Resources	BLK	Junior	Trading
Dacian Gold	DCN	Mid-Tier	Trading
Dragon Mining	DRA	Micro	Delisted (HK Exchange)
Doray Minerals	DRM	Junior	Delisted (Merged with SLR)
Evolution Mining	EVN	Large	Trading
Gascoyne Resources	GCY	Junior	Trading
Kingsgate Consolidated	KCN	Developer	Trading
Kingsrose Mining	KRM	Micro	Trading
Medusa Mining	MML	Junior	Trading
Millennium Minerals	MOY	Junior	Trading
Newcrest Mining	NCM	Major	Trading
Northern Star Resources	NST	Large	Trading
Oceanagold	OGC	Large	Trading
Pantoro	PNR	Junior	Trading
Perseus Mining	PRU	Mid-Tier	Trading
Red 5	RED	Junior	Trading
Ramelius Resources	RMS	Mid-Tier	Trading
Regis Resources	RRL	Mid-Tier	Trading
Resolute Mining	RSG	Mid-Tier	Trading
Saracen Mineral Holdings	SAR	Mid-Tier	Trading
St Barbara Mines	SBM	Mid-Tier	Trading
Silver Lake Resources	SLR	Mid-Tier	Trading
Teranga Gold Corporation	TGZ	Mid-Tier	Delisted (TSX/NYSE)
Troy Resources	TRY	Junior	Trading
Westgold Resources	WGX	Mid-Tier	Trading

Appendix B – Average Gold, Oil Prices and Gold-Oil Ratios



Appendix C – Companies Currently Listed and their Key Metrics

The results are as at 23rd April 2019 prices and based on December 2018 reported results, annualised where appropriate.

ASX Code	Market Cap (\$m) at 23rd Apr 2019	EV/AISC-Adjusted Production	Net Debt/(Net Cash) As at 31st Dec 2018	Annualised Production (oz)	AISC (\$/oz)	Annualised NOCF Excl Growth (\$m)
ALK	\$118.90	\$808.44	-\$75.70	53,490	\$1,001.00	\$12.36
AMI*	\$585.80	\$1,899.05	-\$107.87	200,000	\$794.70	\$98.72
AQG	\$1,037.30	\$6,574.77	\$328.58	170,865	\$822.47	-\$221.48
BLK	\$27.60	\$829.94	\$11.96	76,130	\$1,597.00	-\$8.10
DCN	\$465.00	-	\$47.90	134,492	-	-\$13.86
DRA/HK:1712	\$28.20	\$1,219.93	-\$6.66	24,883	\$1,409.00	-\$17.05
EVN	\$5,431.00	\$6,633.73	\$33.45	764,428	\$928.00	\$194.52
GCY	\$25.30	\$2,933.82	\$47.85	58,394	\$2,342.00	-\$64.06
KCN	\$61.10	-	\$29.89	-	-	-\$27.41
KRM	\$32.90	\$5,555.91	-\$9.38	11,748	\$2,775.00	-\$7.96
MML	\$77.90	\$1,159.92	-\$10.18	94,596	\$1,620.26	\$7.84
MOY	\$133.70	\$2,429.64	-\$1.02	79,891	\$1,463.00	\$9.00
NCM	\$19,127.00	\$8,781.06	\$1,362.22	2,406,400	\$1,031.31	\$577.74
NST	\$5,416.00	\$8,434.39	-\$194.47	801,704	\$1,295.00	\$106.30
OGC	\$2,493.04	\$4,968.47	\$90.06	533,286	\$1,025.75	\$202.48
PNR	\$210.90	\$6,291.63	-\$18.69	44,364	\$1,452.18	-\$9.32
PRU	\$477.20	\$2,418.70	-\$9.06	281,110	\$1,452.39	\$126.98
RED	\$130.50	\$2,392.17	\$5.85	95,454	\$1,674.68	-\$31.10
RMS	\$512.00	\$2,367.87	-\$108.10	208,102	\$1,220.00	\$73.44
RRL	\$2,443.00	\$5,882.23	-\$206.28	362,732	\$953.93	\$132.34
RSG	\$879.40	\$5,646.98	\$129.01	258,398	\$1,447.00	-\$282.26
SAR	\$2,125.00	\$5,797.61	-\$123.71	355,548	\$1,030.00	\$46.46
SBM	\$1,688.00	\$3,573.00	-\$356.69	375,584	\$1,008.00	\$99.92
SLR+DRM^	\$634.10	\$3,456.98	-\$115.02	211,186	\$1,406.46	\$15.94
TGZ/TGPDF	\$371.20	\$2,864.53	\$187.56	245,230	\$1,257.19	-\$147.25
TRY	\$43.30	\$765.73	-\$5.47	66,436	\$1,344.71	\$13.16
WGX	\$554.50	\$3,472.12	\$28.59	257,168	\$1,531.37	-\$122.54

* AMI production is adjusted to include the base metal credits

^ SLR and DRM are considered in post-merger by adding their December half-year production, cash and debt and their net operating cashflows