

Financial Analysis

The Valuation of Key ASX-Listed Gold Mining Companies by Operating Performance, Reserves and Resources

(This report is not to be considered as professional investment advice. Please do your own research.)

Summary

Analysing 21 ASX-listed gold mining companies, I consider the relative value of these companies using a variety of production, operation and reserves/resources metrics using the closing price at 14th June 2018. In particular, I introduce a new approach to valuing by adjusting the production volume by all-in sustaining cost (AISC) and this metric does highlight better which companies are of better value by factoring in operational efficiency.

The analysis shows that the market appears to prefer gold miners with higher production volume, production margin and lower AISC, in that order. The ore reserves and mineral resources are not significant factors in the pricing at this stage, perhaps due to the low level of interest from the market that sees more exciting opportunities in other sectors and industries.

Based on the results, I believe that the valuation should be considered on a shorter term basis and a longer term basis. The shorter term basis would place more weight on the AISC-adjusted annualised production metric, and the longer term basis would place more weight on the ore reserves and mineral resources. Thus, on a shorter term basis, the most undervalued miners would be Oceanagold, Ramelius and Silver Lake. On a longer term basis, the most undervalued miners would be Blackhams, Westgold, Perseus and Beadell. However, Red5, Perseus, Resolute, Westgold and Blackhams provide wildcard opportunities as long as they are able to show the market they can increase their production volume and stabilise their production costs.

Approach

21 ASX-listed gold mining companies are analysed based on their valuation relative to their operating performance, production, reserves and resources. In determining the company's value, the enterprise value is used instead of market capitalisation as it also includes the company's cash and debt, reflecting better the total capital that is used to fund the company's operations and its underground resources/reserves.

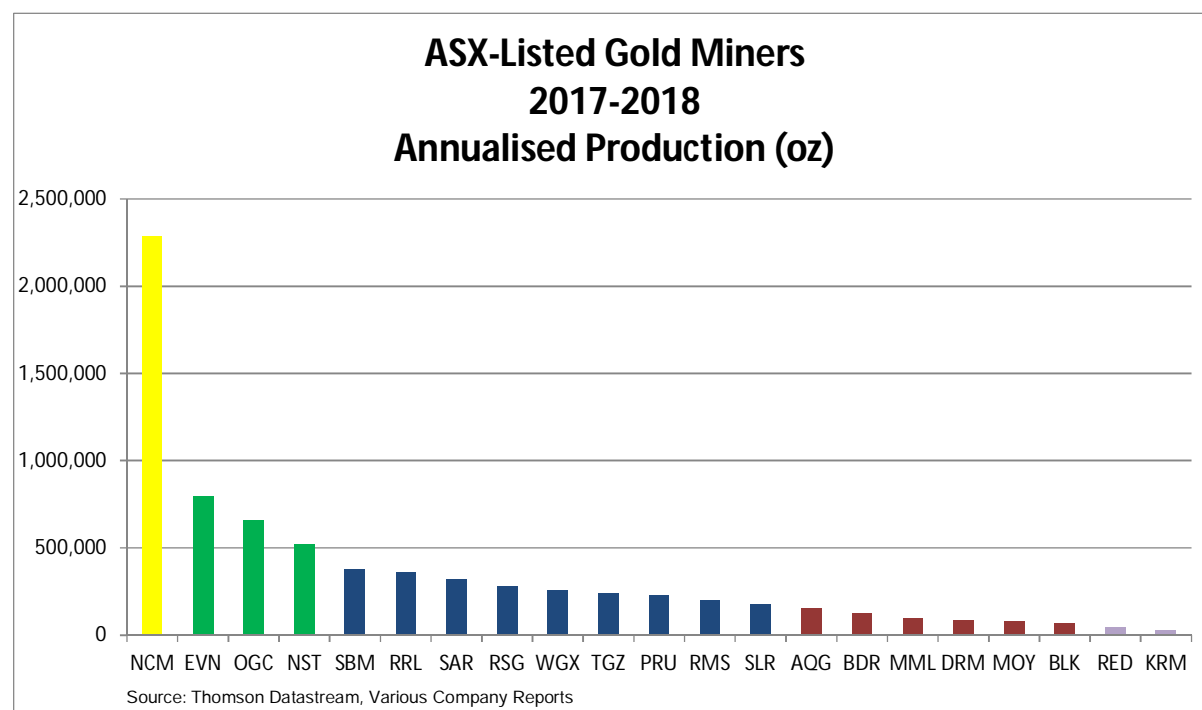
Companies are divided into five broad categories defined by their annual production - major, large, mid-tier, junior and mini. A major mining company is one that produces at least 1.5Moz p.a., a large mining company 500 000-1.5Moz p.a., a mid-tier mining over 150 000-500 000oz p.a., a junior mining over 50 000-150 000oz p.a. and a mini is one that mines less than 50 000oz p.a. This categorical approach can vary with different people.

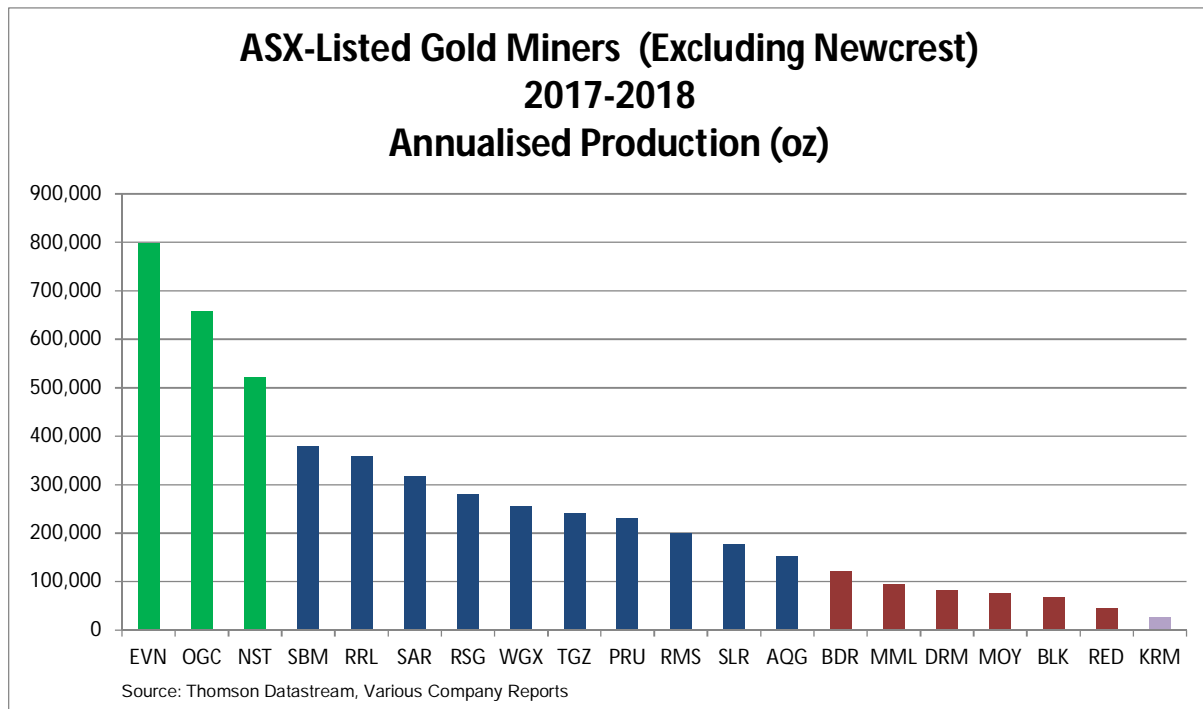
The production margin, annualised production and AISC-adjusted annualised production are metrics used for operating performance. The production margin is defined as the difference between the realised gold price and the AISC, approximating the margin between what the mining company receives for selling their gold and the cash cost on extracting the gold. The

annualised production is straightforward. The AISC-adjusted annualised production is a metric I have developed to take into account the cost of production. This metric is simply the annualised production divided by the AISC divided by 1 000, so if a miner produces 144 000oz p.a. at AISC of \$1 200/oz would have an AISC-adjusted annualised production of 120 000oz. If the AISC is \$800/oz, then the metric gives 180 000oz. The advantage of this metric is to differentiate between gold miners that deliver higher volume but lower grades (usually implies costlier production) and one with similar volume but higher grades (thus, likely lower cost production). Clearly a lower cost miner is preferable and hence the market should ascribe higher value to it. This metric will incorporate this into the valuation to help guide investors in identifying undervalued mining companies more effectively.

Company Sample and Overview

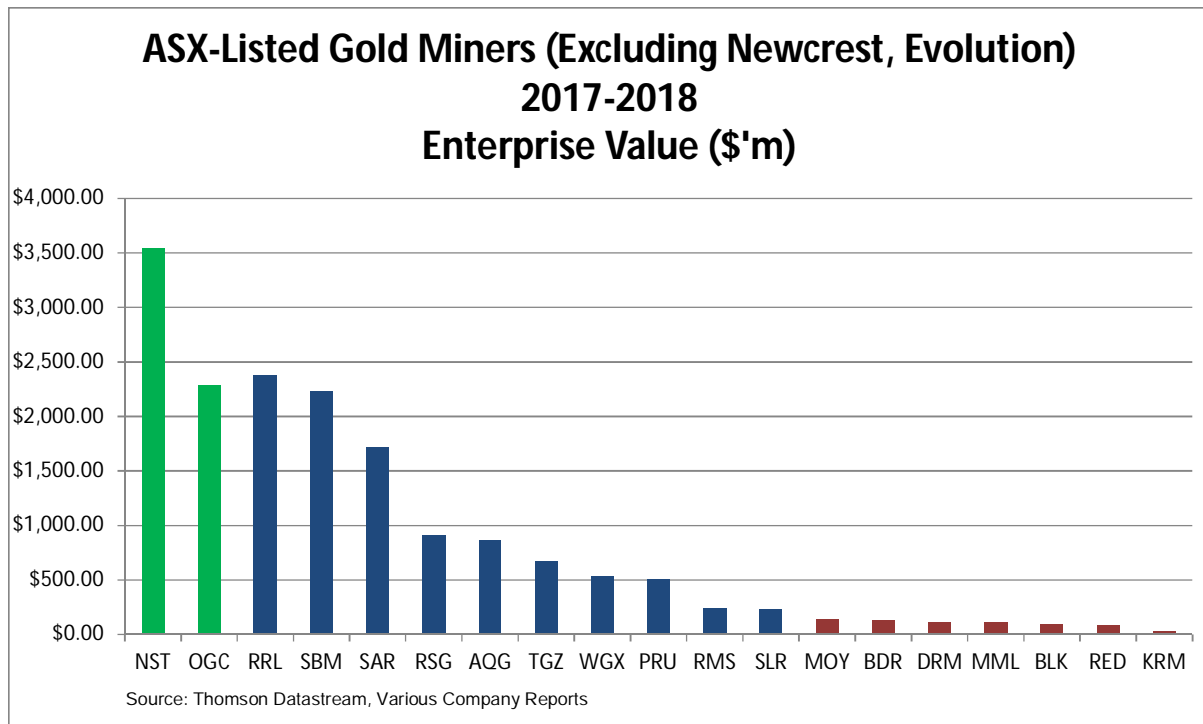
The 21 companies included in the analysis are given in the chart below, categorised by their annualised production for the year based on the production from the last three quarters. The major miner, Newcrest (NCM), is in yellow, large miners are in green, mid-tiers are in dark blue, juniors in red and the mini miner, Kingsrose (KRM), is in purple. Note that other ASX-listed gold mining companies exist, especially in the junior and mini categories.





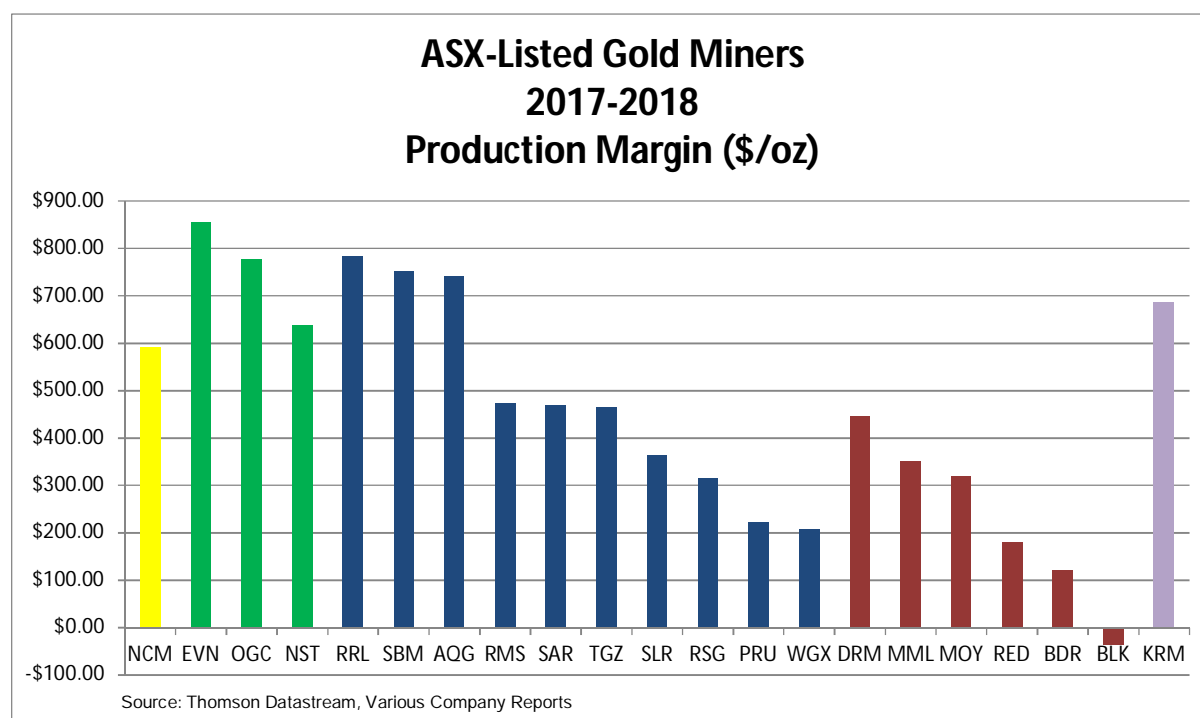
As we can see, Newcrest Mining (NCM) is a major gold mining company with production that dwarves the other ASX-listed mining companies. ASX-listed gold miners tend to predominantly be mid-tiers and junior mining companies with annual production between 80 000-400 000oz.

The enterprise value of these companies (excluding Newcrest Mining (NCM) that has an EV of \$17.6 billion and Evolution Mining (EVN) with EV of \$6.1 billion as at 14th June 2018) is given in the figure below:



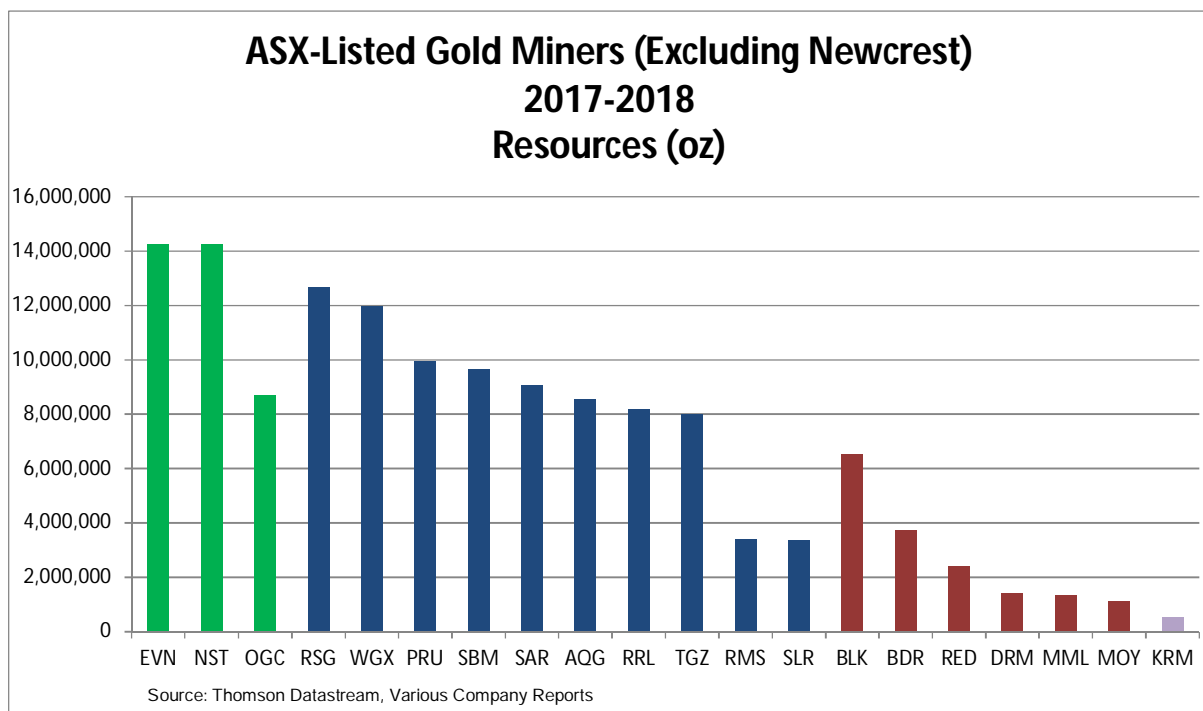
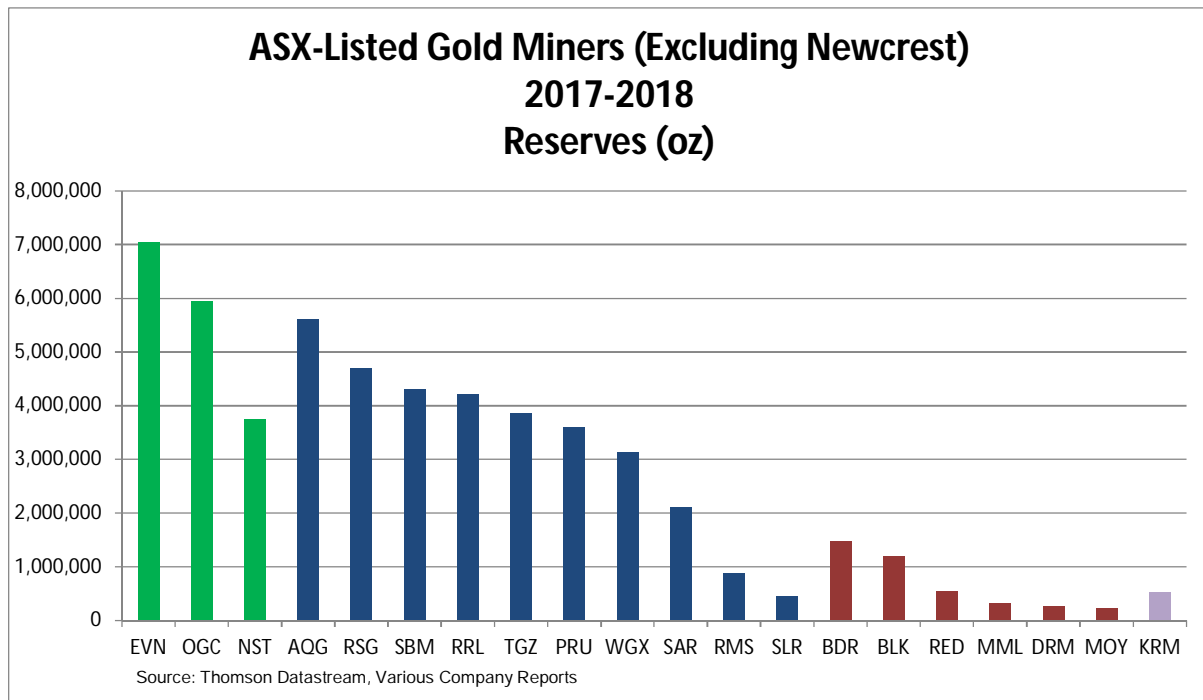
The figure shows that the market investors seem to determine the value of the gold miners by their categories. We also recognise that Regis (RRL), St Barbara (SBM) and Saracen (SAR) appear to have been re-rated and their EV are in the same league as Oceanagold, though not quite in the league with the large gold miners such as Evolution (EVN) and Northern Star (NST). Ramelius (RMS) and Silver Lake (SLR) are marginally classified as mid-tiers, though the market prices them more like they are junior miners.

The current operating performance, reflected by the production margin, is given in the figure below:



The production margin is broadly correlated with the size of the mining company as there is economies of scale.

The longer term profitability and sustainability of the companies, as reflected by their ore reserves (economic reserves beneath the ground at current prices) and mineral resources (deposits underground that can be extracted), are given in the figures below. Newcrest (NCM) has been excluded to avoid distortion. Their ore reserves is currently 64.9Moz and mineral reserves is 129Moz:

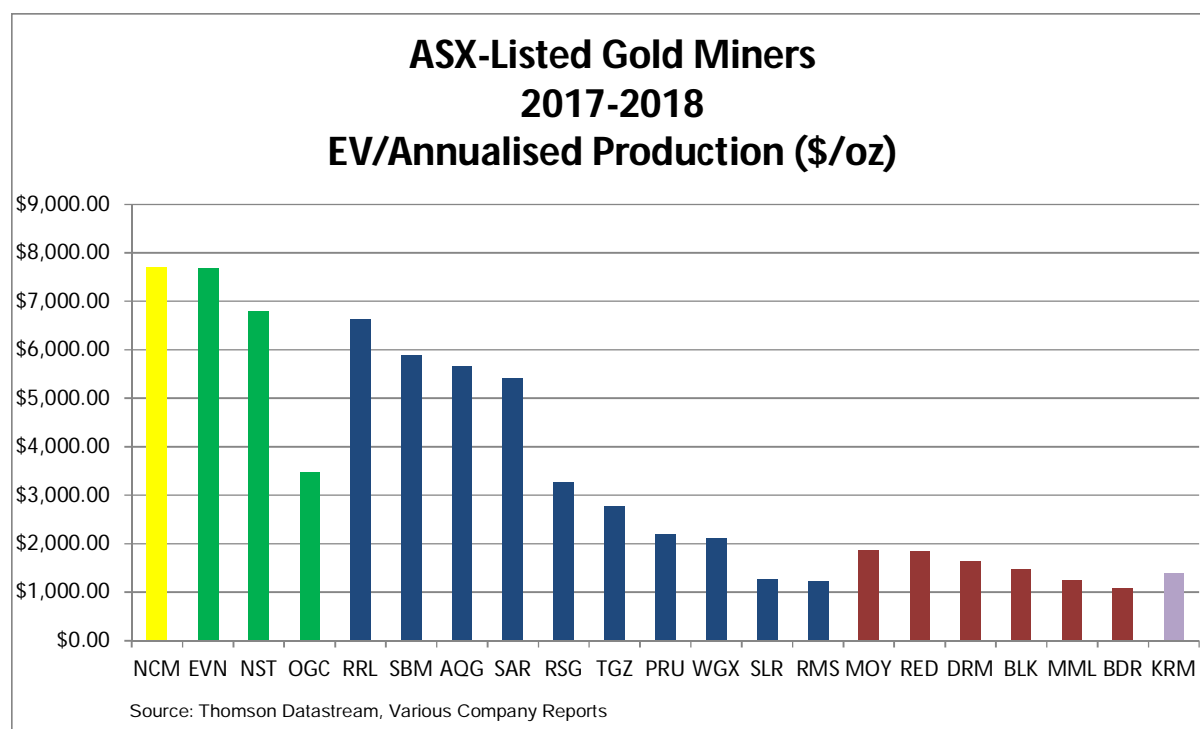


The figure here suggests that the market does not classify the mining companies so much by their reserves and resources, since there are miners we classify as one group with similar reserves and resources as miners in another group. I have also adjusted their reserves and resources for the acquisition of South Kalgoorlie Operations from Westgold (WGX). With Oceanagold (OGC), it is interesting to note that they have lower resources than Northern Star (NST) but more reserves. Resolute (RSG) and Westgold (WGX) have large reserves and resources, but their production is substantially lower, but they are in the process of developing their existing mines to increase production.

Valuation Analysis

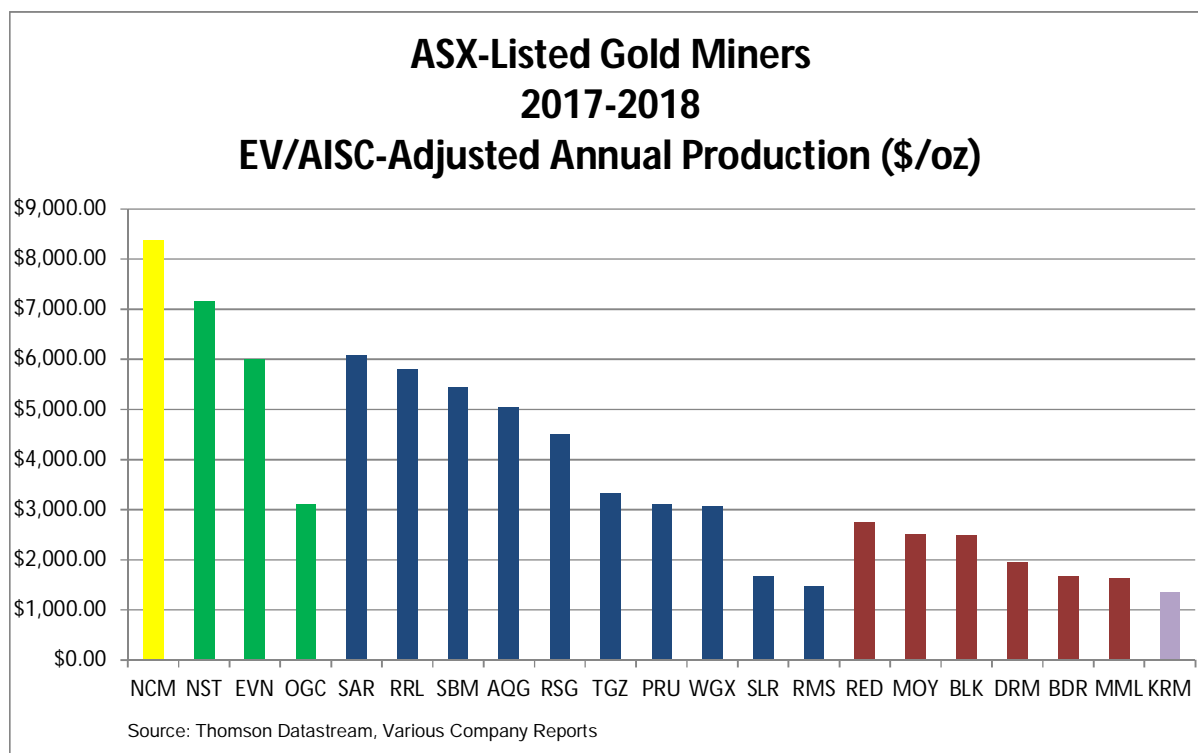
I now consider the relative value of the 21 companies using their EV against the annualised production, AISC-adjusted annualised production, AISC-adjusted projected production (based on management forecasts), reserves and resources. The production-based valuation metrics reflect more the short to medium term value while the longer term value is reflected by the reserves and resources. I discuss limitations in my valuation approach in the next section.

The annualised production is commonly used as a valuation basis. The EV/annualised production is given in the figure below:



The metric here shows that major and large miners are being priced at around \$6 000+/oz, the mid-tiers are priced at around \$2 000-5 000/oz, the juniors and mini companies are priced at around \$1 000-2 000/oz. Anything outside of that range may suggest the mining company (defined by their annualised production) is overvalued or undervalued, or alternatively may be waiting to be re-rated because of changes expected to occur in a short time.

Markets value mining companies not only by their production volume but their efficiency. This efficiency can be seen in the production cost. Thus, I have decided to adjust the valuation metric to take this into account using the EV/AISC-adjusted annualised production. So, let us also look at the valuation using the EV/AISC-adjusted annualised production and see the difference:



When adjusted for the AISC, we see that Newcrest has a richer valuation while Evolution has become cheaper than Northern Star as Evolution has been delivering lower cost gold ounces. Oceanagold stands more forlorn among its group, and even among mid-tiers, as lagging behind in its valuation relative to its production. Oceanagold has delivered consistently low cost ounces due to Didipio being a significant copper mine so allows for production credits that offset the cost of producing gold and silver.

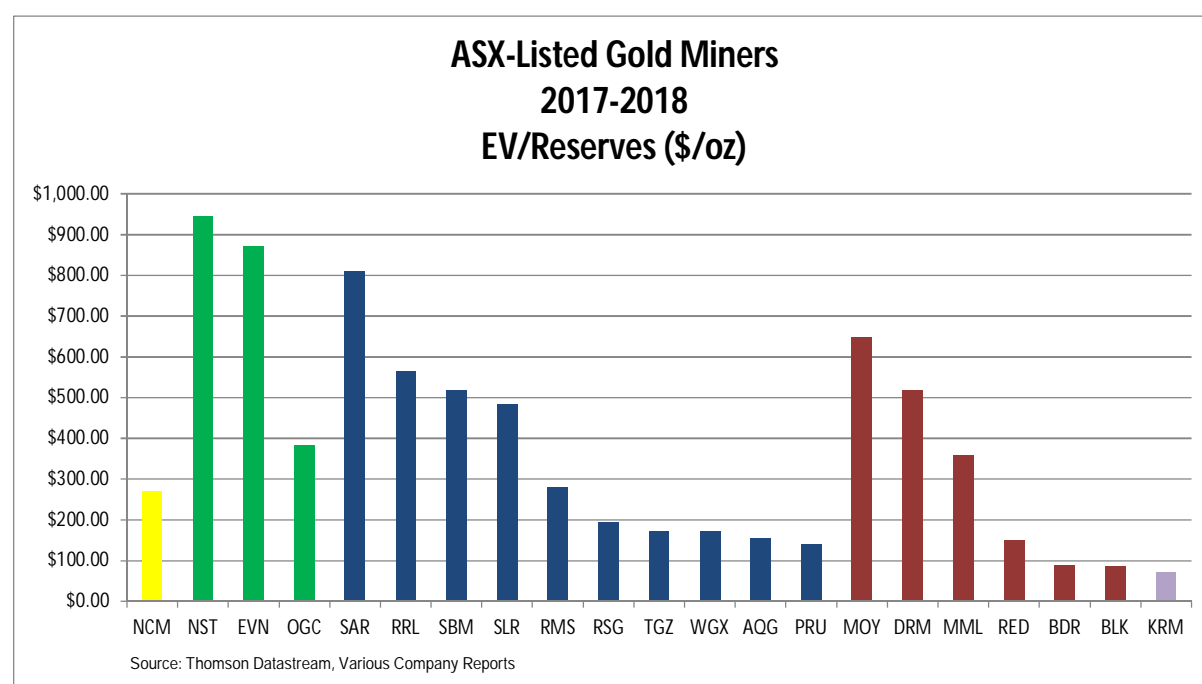
Among the mid-tiers, Saracen is slightly higher cost than Regis, St Barbara and Alacer, so it is the most richly valued gold miner of the group. That being said, Saracen is not overvalued by any measure since they have been growing their production significantly over the past two years. St Barbara has seen a stellar run since early 2015 when their Gold Ridge mine was handed over to the Solomon Islands government, thus jettisoning one of their albatrosses. Regis is fairly valued at this level as it is recognised as one of the most reliable low cost gold miners on the ASX. Resolute's value is higher when adjusted by AISC due to their higher cost from their Syama Sulphide development project and Ravenswood expansion as well. With Teranga, the valuation appears to be more towards the lower side given the mining cost is of a moderate level. I expect that this will improve as Teranga increases their production when their Wahgnion project starts producing. The higher costs of Perseus and Westgold are reflected in this valuation metric as their EV/production metric increase 50% from the low \$2 000 range to low \$3 000 range. Silver Lake and Ramelius are valued more closely to the junior miners even under this measure. Perhaps the market is waiting to see their production level for the next few quarters to ascertain that they have graduated out of the junior miner group before re-rating them.

For the junior miners, this metric leads to greater differences in the way the miners are ranked. At this level of production, the economies of scale are starting to take effect so the cost of production is more volatile. Under this measure, Red5 and Millennium swapped places so Red5 is the most richly valued in the group, Blackhams leads over Doray while

Beadell inches ahead of Medusa. Since the production volumes of these junior miners are quite similar, their AISC counts. Medusa is the most reliable in this group in terms of the AISC, although Doray is the lowest judging by the last three quarters.

Kingsrose is an interesting case as it has seen production volume reduce, albeit a low volume in the first place. They deliver these ounces at low cost although they did produce over ounces at over \$2 000/oz in some quarters last year. Thus, the valuation metric for Kingsrose may point to undervaluation but the market has placed a substantial risk premium because at such production volume, AISC could swing higher all of a sudden.

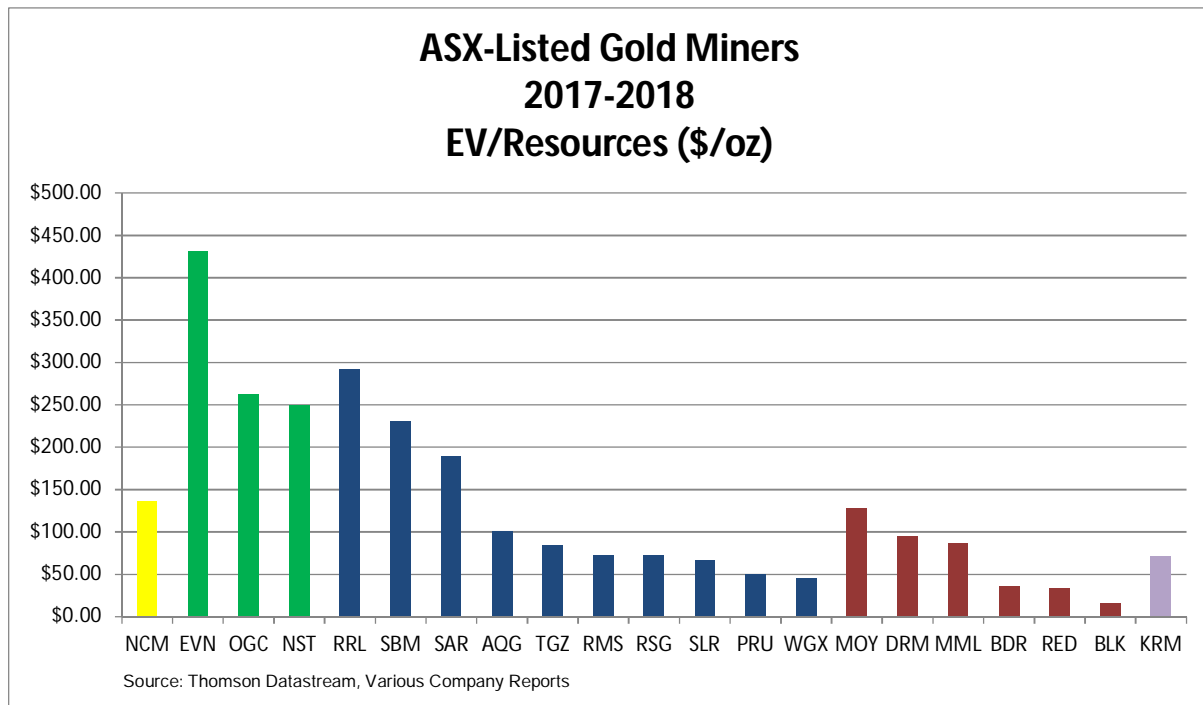
To measure the longer term growth and profitability potential, we consider the valuation based on ore reserves and mineral resources. The EV/Reserves is given in the figure below:



Investors do not appear to give much weight on valuing mining companies based on their reserves.

Before moving to the next section, the EV/Reserves metric can be compared against the production margin. The EV/Reserves can reflect the market's evaluation of the future profitability on what is below the ground while the production margin shows the realised profitability of extracting the ore.

The valuation based on mineral resources is given in the figure below:



Similar to ore reserves, most gold mining companies are not being valued with much emphasis being placed on mineral resources. However, based on this valuation metric, the following companies are being priced as being “dirt-cheap” (pun intended) - Blackhams (\$15.61), Red5 (\$34.37), Beadell (\$35.59), Westgold (\$45.27) and Perseus (\$50.77).

Conclusion

The valuation shows the market ascribes premiums on pricing for mining companies by production volume, production margin and also lower AISC, in that order. Major and large companies can be priced at above \$6 000/oz production adjusted for AISC, mid-tiers between \$3 000-5 000/oz, juniors between \$1 000-2 000/oz and minis are below \$1 000/oz. The better quality miners are being priced at over \$500/oz reserve and the poorer quality ones below \$200/oz. If one can find well-run gold mines below these ranges, it may be rewarding.

Based on the results, I believe that the valuation should be considered on a shorter term basis and a longer term basis. The shorter term basis would place more weight on the AISC-adjusted annualised production metric, and the longer term basis would place more weight on the ore reserves and mineral resources. Thus, on a shorter term basis, the most undervalued miners would be Oceanagold, Ramelius and Silver Lake. On a longer term basis, the most undervalued miners would be Blackhams, Westgold, Perseus and Beadell.

Disclaimer

The author holds at least 50% of the stocks mentioned in this article, with a larger holding on the mid-tiers and juniors. The author does not receive any commission or payments from the companies mentioned.