30 APRIL 2020

Stocks Down Under

The Gold Special

“Gold was a gift to Jesus. If it’s good enough for Jesus, it’s good enough for me!”

- Mr T. (born 1952), American actor

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Golden days ahead

Australia has been a major gold producer since the 1850s and as a consequence of this Australia's stock exchanges have almost always had a gold component to them. Since the 1970s that component has been quite substantial.

In 2020, Australia is the world's second largest producer after China. So while the world's largest gold miners today are based in the US, Canada and South Africa, Australia is home to Newcrest Mining (ASX: NCM) as well as dozens and dozens of smaller companies whose business is either mining gold, getting ready to mine it or exploring for it.

Indeed, ASX today is arguably the world's leading capital market for gold-related equities, having in recent years surpassed Canada's TSX and TSX-V.

To US$2,000 an ounce…and beyond?

For a while now we at Pitt Street Research have been of the view that gold is headed to US$2,000 an ounce. Our basic thesis on gold as 2020 got started was that there is too much trouble in the world and too much fiat currency being printed on top of all that trouble to ostensibly keep us from sinking. And when there's trouble in the world, the price of gold goes up. The current Coronavirus Crisis has only enhanced this view. Indeed, we believe gold will reach and surpass US$2,000 an ounce.

Plenty of ASX-listed companies to look at

ASX is home to a lot of quality emerging companies in the gold space. This report profiles many of them, including articles we've written on a number of promising companies in our flagship investor action report, Stocks Down Under. Who will become the next Norther Star, Evolution Mining or Saracen?

A wide range of valuations

Many emerging gold producers and developers on ASX are trading at a low valuation in terms of their Enterprise Value per Resource ounce. With some of these companies likely to become producers over the next few years the astute investor who does their homework may be able to profit not just from gold's re-rating but also the re-rating at the mine/project level.

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Stocks Down Under is bullish on gold

For a while now, as Stocks Down Under co-founder Marc Kennis will attest, Stuart Roberts has been telling anyone who would listen that gold was headed to US$2,000 an ounce. His basic thesis on gold in 2020 is that there is too much trouble in the world and too much fiat currency being printed on top of all that trouble to ostensibly keep us from sinking.

And when there's trouble in the world, the price of gold goes up (Figure 1). Back on 10 January we at Stocks Down Under published an article for our Stocks Down Under website headlined '2020 – Perhaps it will be the golden year?'. That article, which we've reproduced below, was more of a backgrounder on the complexities of gold investing than an article evaluating the outlook for gold in 2020.

However, three months on we want to say this: How golden a year has 2020 turned out to be so far? On Friday 10 January gold was US$1,549 an ounce at the Morning Fix in London[1]. On Friday 17 April it was 9% higher at US$1,693 an ounce.

ASX is one of the leading capital markets for gold

The ASX is home to many dozens of gold-related companies

Australia has been a major gold producer since the 1850s and as a consequence of this Australia's stock exchanges have almost always had a gold component to them. And since the 1970s that component has been substantial. While the world's largest gold miners today are based in the US, Canada and South Africa, Australia is home to Newcrest Mining (ASX: NCM) as well as dozens upon dozens of smaller companies whose business is either mining gold, getting ready to mine it, or exploring for it. Indeed, ASX today is arguably the world's leading capital market for gold-related equities, having in recent years surpassed Canada's TSX and TSX-V.

In this Special Report we first want to put forward a bullish thesis on gold for the remainder of 2020, which will have implications for those ASX-listed gold companies. Later in this Special Report is a list of a number of those companies that we think are worth watching. We don't formally cover most of those companies for Pitt Street Research or in our Stocks Down Under publication, so readers are encouraged to consider what we write in the light of our Disclaimers at the back of this document.

We regularly write about ASX-listed gold miners and companies developing gold projects in our four-times a week publication Stocks Down Under (www.stocksdownunder.com). We've included some examples in this special report. We encourage you to subscribe to our market-leading 'investor action report', which we believe is the best value for money investor intelligence to be found Down Under. Also, we encourage gold companies to get in touch with Pitt Street Research to provide in-depth coverage of their companies. All research is available at www.pittstreetresearch.com.

Regards,

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[1] The London Gold Fix is a twice daily setting of the price of gold designed to fix a price for settling contracts between members of the London bullion market. This practice was first instituted in 1919.

Figure 1: Gold price (US$/ounce), London Morning Fix

Source: LBMA

"Much have I travell'd in the realms of gold, And many goodly states and kingdoms seen."

- John Keats, On First Looking into Chapman's Homer

Why gold may be headed to US$2,000 per ounce ...and beyond

What's the right price for gold? In 2020 that's not an easy question to answer, if it ever was. However, we think there's a bull case and a bear case for the yellow metal. We're very much leaning towards the bull case. However, let's start with view that gold is overvalued.

The bear case on gold – Headed to under US$700 an ounce?

In 1978 an economics professor at the University of California, Berkeley named Roy Jastram (1915-1991) published an influential and much discussed book called The Golden Constant: The English and American Experience, 1560-1976[2]. Jastram tracked the general level of prices on both sides of the Atlantic back through the centuries – no mean feat given the amount of primary research that had to be done – and then compared those price levels with the price of gold. He found that, despite substantial fluctuations, gold had held its purchasing power over the centuries[3], something that many had suspected but no one had the comprehensive evidence to back up that view.

America ended its Gold Standard in 1971

The timing of Jastram's study couldn't have been better. US citizens had not long before regained the legal right to own gold, something they had been deprived of in the 1930s[4], and as a consequence the global community of 'gold bugs' bullish on the commodity[5] was now substantial. The US had had a serious inflation problem since 1973, as did most other advanced industrial countries. And the price of gold was soaring, as it had pretty much had since the Nixon Administration ended America's Gold Standard in August 1971. At the end of October 1978, the yellow metal stood at US$244 an ounce, some 52% higher than a year previous, at a time when the US inflation rate was a terrible 9%.

The trouble with Jastram's thesis is what happened to the purchasing power of people who bought gold on 21 January 1980 when the London Morning Gold Fix was an astronomical US$843 an ounce. That was a peak which gold didn't surpass again until the start of 2008. And if you adjust for US inflation figures, the peak still hasn't been surpassed 40 years on. Doubtless many 1980-vintage gold bugs, watching their investment decline in inflation-adjusted terms by 83% in the years to 2001, came to share the view attributed to the legendary British economist John Maynard Keynes (1883-1946) that gold is a 'barbarous relic'[6].

And yet, by September 2011, gold was only about 8% short of its January 1980 peak in inflation-adjusted terms. And, in 2020, after a four-year bear market from 2011 to 2015 and a four-year base-building period that ended late last year, gold has been strong again, and to some observers seems ready to go for the peak. What's going on?

There's a school of thought out there that Jastram's view has been correct all along, but that the fluctuations around the theoretically correct value have been much wider than was previously thought possible (Figure 2). That line of thinking may suggest that gold is overvalued right now.

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[2] With the help of the World Gold Council, Jastram's ground-breaking work was updated in 2009 and republished by Edward Elgar Publishing (ISBN: 978 1 84720 261 1).

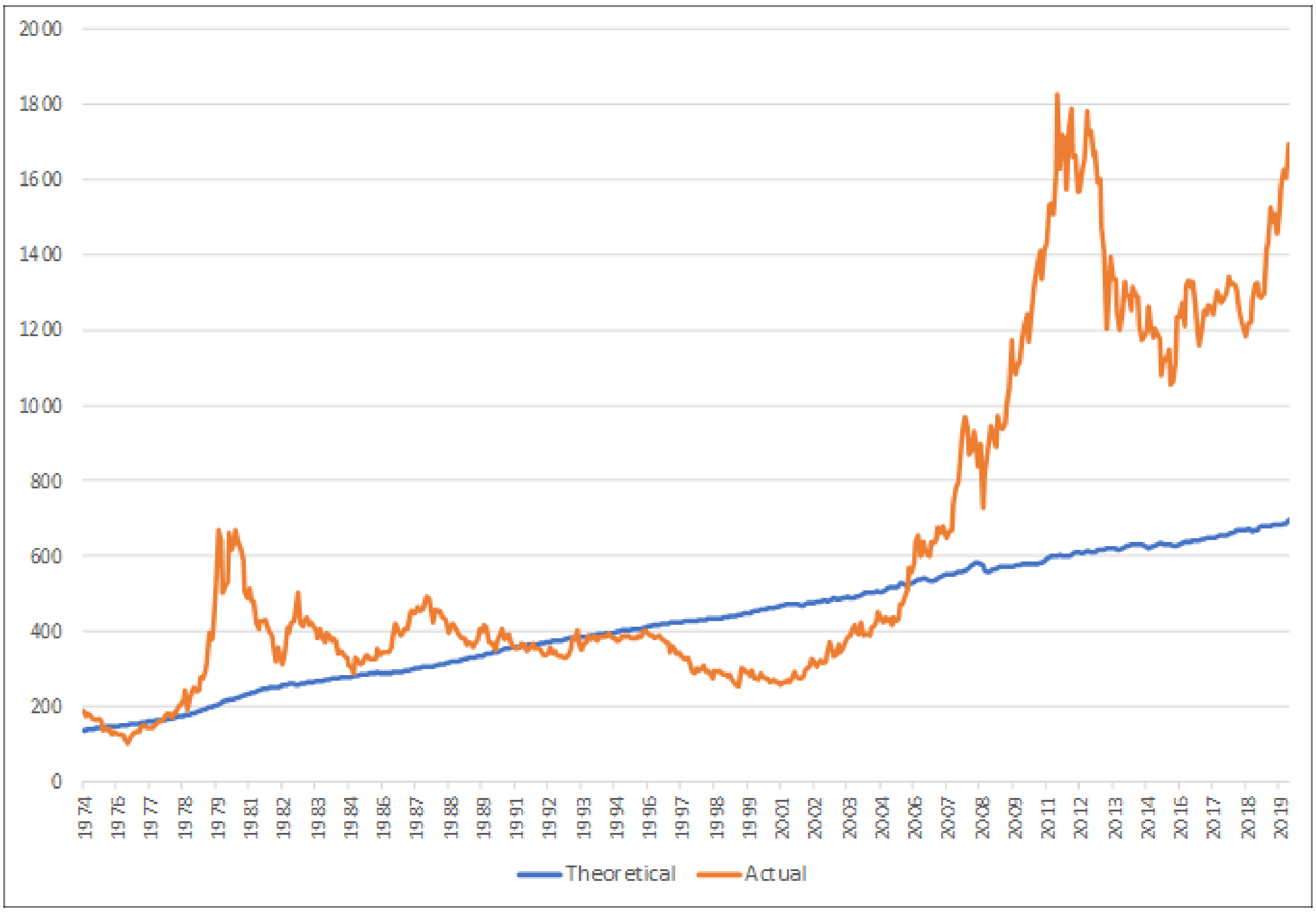
[3] For a review that came out around the time of publication, time check out one by Christopher Weber in the Libertarian Review of September 1978 (Vol 7, No.. 8, p. 38).

[4] The limitations on gold ownership came in via Executive Order 6102 of April 1933. They were ended by an Act of Congress in 1974 (Public Law No: 93-373 of August 1974) where the provisions in that Act related to gold ownership became effective in January 1975.

[5] The term actually originated in the 1870s for supporters of the Gold Standard (source: Merriam Webster).

[6] Actually what Keynes had said was 'In truth, the gold standard is already a barbarous relic'. The quote comes from A Tract on Monetary Reform, which was published in 1924.

Figure 2: Actual and theoretical gold price (US$/ounce)



Source: London Gold Fixing, Pitt Street Research

Gold used to be just US$35 an ounce

The price of gold was fixed at US$35 an ounce in January 1934 by America's Roosevelt administration[7]. Before that – indeed, since 1834, with only a short break during the Civil War – the price had been US$20.67 an ounce. The US$35 figure more or less stayed in place for both the US and the rest of the world until the end of the Bretton Woods system of exchange rates[8] in the 1970s. If one takes the US inflation rate going back to 1934[9] and assumes that gold should have risen with it – a reasonable view given that US dollars is the standard price for the metal – then in December 1974, just before US gold ownership was legal again, the price of gold should have been about US$138 an ounce. In fact, it was about US$188 at the time, but the price quickly compensated so that by August 1976, when gold should have been US$152 it had actually fallen to US$103 an ounce. This pattern has repeated itself multiple times in the decades since.

If you look at the long-term theoretical versus actual gold price chart, there have been long periods where gold was either theoretically overvalued (such as 1979 to 1984) or undervalued (such as 1996 to 2005). But until around 2007 gold tended to generally follow that long-term trend. And what that trend is telling you is that the 2011 to 2015 bear market should have taken the metal lower.

The currently theoretically correct price on our analysis today? A little under US$700 an ounce, which would be around 60% less than the current price. Which begs the obvious question as to why gold is running so hard in 2020. The bull case on gold – Over US$10,000 an ounce?

[7] See Money: Whence it came, where it went by J.K. Galbraith (Boston, Ma..: Houghton Mifflin Company, 1975.), particularly p. 210-212.

[8] The 1944 Bretton Woods Agreement effectively pegged all major currencies to gold but allowed devaluations or revaluations by policy makers, not the market.

[9] Source: US Bureau of Labor Statistics, US City Average, All Items, unadjusted.

The bull case on gold – Over US$10,000 an ounce?

If you studied economics at High School or university, you were no doubt taught about the Gold Standard and more or less told by your teacher that it was a dumb idea that belonged to history rather than current economic policy. To quote the noted American economist Paul Samuelson (1915-2009), whose textbook Economics has been studied by generations of students (and criticised by free market advocates), 'Those who hanker to launch a gold standard to do battle against inflationary government policy have found the winds of professional and political opinion blowing against them… funeral by funeral, the advocates of a revived gold standard lose their influence'[10].

Under the Gold Standard, the money in circulation in an economy had to have a certain amount of backing in gold. For example, were a Gold Standard in place in the US today and operated at the current price of gold, the value of the US dollar would be 1/1,600th of an ounce of gold. The thing about the Gold Standard is that it made for long periods of price stability since unlimited amounts of money couldn't be printed unless it was backed up by gold, which has a limited supply and therefore scarcity value.

Only 190,000 tonnes of gold have ever been mined

How scarce is gold? One estimate suggests that up to 2017 only around 190,000 tonnes of it had ever been mined going way back to centuries before the time of Christ[11]. That scarcity value has established gold as money for millennia.

The reason the Gold Standard is no more is because after 1914 it was perceived to be seriously limiting the flexibility with which policy makers could deal with economic crises, leaving it to be progressively dismantled after the Great Depression through to the early 1970s. However, believe it or not, there are still people who believe in it in 2020. It's not hard to find serious, reasoned arguments in favour of a Gold Standard, including arguments that a Gold Standard would not hinder appropriate policy responses to economic and financial crises[12].

The reason the concept of a Gold Standard is important to the price of gold today is because of the massive growth in the money supply that has taken place in the world economy since the Global Financial Crisis, as policy makers have sought to get the world out of the mess it was in back in 2008. The US Federal Reserve had to expand its balance sheet from US$800 billion back then to over US$6.2 trillion now to accommodate the crisis and its aftermath and then the current Coronavirus Crisis[13]. Meantime the current US national debt is around US$24 trillion, and we've known for years about the unfunded liabilities that would take the true debt figure up to US$100 trillion[14].

The current monetary base eventually has to trigger inflation

However, it's the monetary base right now that is significant and has been inflated significantly since 2008. Eventually, that has to contribute to inflation and if gold responds to that inflation, it will be as though a Gold Standard has been restored.

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[10] Samuelson and Nordhaus, Economics, 13th Edition (New York, McGraw-Hill, 1989), p. 949.

[11] Source: World Gold Council.

[12] See, for example, What if we had a Gold Standard system, right now? By Nathan Lewis, Forbes, 27 March 2020.

[13] See Fed balance sheet increases to record $6.42 trillion, Reuters, 17 April 2020.

[14] For background see Is Our Debt Burden Really $100 Trillion? By Derek Thompson, The Atlantic, 28 November 2012.

Gold price equivalent of US$10,000

What kind of number would gold go to at that point? One often quoted American commentator who is uber-bullish on gold is Jim Rickards, author of The New Case for Gold (New York: Penguin, 2016), who argues that a US$24 trillion monetary base across the US, the UK, Japan, the EU and China, backed by the 33,000 tonnes of 'official' gold (the part of the 190,000 tonnes held by governments or central banks) would, if the currency had 40% gold backing (which was the requirement for the US dollar when the Federal Reserve system was created in 1913), result in a gold price of around US$10,000 an ounce[15].

Bitcoin hasn't been around for anywhere near as long as gold has

The fact that from 2016 onwards we have had Bitcoin and other cryptocurrencies as emerging alternatives to the US dollar and other conventional currencies is telling you that the expansion of fiat currency has now generated the search for alternatives. However, long before Bitcoin was invented by a still unknown figure called 'Satoshi' around 2009[16], gold had functioned as a kind of Bitcoin.

If you want proof of the importance of gold as store of value in uncertain times, and why a lot of people will turn to gold before they turn to Bitcoin, look up the famous picture by the French photographer Henri Cartier-Bresson called The Last Days of the Kuomintang from late 1948 or early 1949. What it shows is a lot of scared people queuing in Shanghai in front of a bank to buy gold ahead of the communist takeover.

The bull case for gold suggests that eventually gold will compensate for the massive expansion of fiat currency. And, indeed, it already has, creating a 'premium' over the theoretical gold price we discussed above, which suggests US$700 an ounce is the more correct number.

Our view – Gold going higher rather than lower as the whole world grapples with a deadly disease

The bull case for gold got a massive boost this year with the emergence of Covid-19, for two reasons

- The disease itself, which created massive uncertainty from a public health perspective. The new virus was only unveiled on 7 January and the first death from the virus was only announced on 11 January. By 18 April some 2.2 million Coronavirus cases had been confirmed worldwide, including more than 151,000 deaths at the time of writing[17].

- The very serious global economic dislocation, which has involved significant percentages of GDP in advanced industrial countries being devoted to efforts to preserve the economy ahead of the day when normal economic activity can restart.

The first reason provided a near-term case for gold to go up, with the metal fulfilling its usual safe-haven status in times of uncertainty. The second reason is likely to be more compelling for gold in the medium term, since the gigantic budget deficits involved will doubtlessly swell the monetary base further and ultimately contribute to an inflationary environment that gold can prosper in. Interestingly, gold fell 13% between 6 March and 17 March as a result of the financial panic caused by the Coronavirus Crisis, but quickly recovered thereafter.

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[15] See Why gold could reach $US10,000 by Robert Guy, Australian Financial Review, 20 August 2019.

[16] For background on Bitcoin see Digital Gold: Bitcoin and the Inside Story of the Misfits and Millionaires Trying to Reinvent Money by Nathanial Popper (New York: Harper, 2016).

[17] https://www.aljazeera.com/news/2020/01/timeline-china-coronavirus-spread-200126061554884.html

Why US$2,000 an ounce?

We think US$2,000 is already exercising a psychological attraction for gold bulls and that if it goes above US$2,000 the next step will be US$2,250, which would be the equivalent, in inflation-adjusted terms, with the January 1980 peak.

Australian gold miners will be particularly well placed at US$2,000 an ounce, since at the current exchange rate the Australian dollar gold price at that level will be A$3,141, well above the cost of production of many mines in Australia.

2020 – Perhaps it will be the golden year

“All that is gold does not glitter, not all those who wander are lost”

- J.R.R. Tolkien, The Lord of the Rings.

As we all know, when there’s trouble in the world, the price of gold naturally spikes. So, for instance, on 3 January 2020 tensions flared in the Middle East after a US airstrike killed the Iranian general Qasem Soleimani. Suddenly spot gold was 2.6% higher at US$1,569 an ounce. To the uninitiated this tendency of gold to react to trouble may seem like the basis of a successful trading strategy – simply sell when it’s peaceful, buy when there are wars and rumours of war. Indeed, you don’t have to buy or sell gold, just the stock of ASX-listed gold miners like Evolution Mining (ASX:EVN), Newcrest (ASX:NCM), Northern Star Resources (ASX:NST), St Barbara (ASX:SBM) or Regis Resources (ASX:RRL).

Only it’s not as simple as that. For one thing, how do you define ‘trouble’?

Trouble may not be as troublesome as it looks

Middle East tensions aren’t what they used to be

Tensions in the Middle East rarely affect daily life in a place like Sydney, which is over 13,000 km from Teheran. Indeed, a large part of the advanced industrialised world powers on day after day regardless of whatever trouble spot was on the news last night. And now that the US has won its energy independence, tensions in the Middle East generally mean a lot less trouble than they did in 1979 or 1990 or even in 2003 when the second Iraq War got started.

If you’re old enough to remember, the world may have seemed to be a pretty troubled place in the first half of the 1980s with the Cold War still going on and all that, but gold still went from above US$800 an ounce at the January 1980 peak to under US$300 an ounce by early 1985. Or, how about that period from September 2011 to December 2015 when the world also seemed to be in a mess, but gold went from close to US$1,900 an ounce back down to a level not far from US$1,000 an ounce.

The big thing to appreciate about gold is that it tends to go through these long periods of rising or falling regardless of whether or not the evening news looks bad. Indeed, it’s been like that since the price of gold was fully decontrolled in the 1970s. If your memory stretches back far enough, you’ll recall that in the 1930s US President Franklin Roosevelt effectively pegged the price of gold at US$35 an ounce and, to keep it there, forbade US citizens to own gold. Gold traded freely in other parts of the world, but it didn’t really get much above US$35 an ounce until August 1971 when President Richard Nixon effectively ended America’s gold standard and the US dollar was allowed to float freely against other currencies. By the beginning of 1975, when it became legal once again for US citizens to own gold, the metal was close to US$190 an ounce.

1980 versus 2017 - the more things change…

In the mid and late 1970s, being the economically uncertain times they were, gold was off and running as the commodity people felt they needed to protect themselves against the inflation of 'fiat currencies', similar to people buying Bitcoin for the same reason not long ago. As the old French saying goes, 'plus ça change, plus c'est la même chose' - 'the more things change, the more they stay the same'.

Just like Bitcoin eventually topped out at nearly US$20,000 in late 2017, gold's 1970s bull run came to a screeching halt in January 1980 at around US$850 an ounce. It didn't get back there again until a couple of generations had passed, in early 2008. The gold bear market from 1980 in effect lasted for 21 years. In February of 2001 gold was trading near US$260 an ounce and it only ended the year at around US$280 an ounce, although there was a brief spike just after the terrible events of 11 September 2001.

Gold had a bear market from 2011 to 2015

Now, at that point you may be thinking, well, okay, so I buy when governments, particularly the US government, consistently run deficits, and sell when they begin to get their budgetary act together again, which they tended to do in the 1980s and 1990s thanks to the kind of economics espoused by Thatcher, Reagan et. al. But you need to be careful. Sure, gold rose steadily from 2001 to 2011 largely because of America's and Europe's fiscal irresponsibility, which became crazy in the aftermath of the Global Financial Crisis. But the peak was when profligate European countries were going bankrupt in 2011. Then, as we've noted above, another bear market kicked in, getting serious from 2013. Luckily for gold bugs, the downswing this time around was only four years.

How uncertain is the world these days?

The world is not as certain as it seemed 5 years ago

The lessons of the bearish period 2011 to 2015 seem to be this – sell when it seems like an economic problem is fixed and the world is returning to 'normal', buy when 'uncertainty' is on the rise, as opposed to the more nebulous 'trouble' we talked about above. And if there's one thing we seem to have more of in 2020 it's uncertainty. Just about no one we know predicted the Brexit vote in June 2016 or the Trump ascendancy in November 2016. Or the start of last year's US-China Trade War. Indeed, even the outcome of Australia's Federal election last May and Britain's General Election seemed to take everyone by surprise. And who saw coming the waves of popular discontent that have rolled around the world in places as diverse as Santiago, Beirut, Hong Kong and Barcelona? To some the world seemed a fairly certain place as recently as five years ago. No longer.

The new bull run is here

Which brings us to the current bull run for gold that has taken the yellow metal above US$1,500 an ounce and has many people saying that it will head to US$2,000 an ounce in the not too distant future. There's a lot that's attractive about that view. 2020 will likely remain a year of heightened uncertainty thanks to the Trade War and Brexit, neither of which is concluded. Not to mention COVID-19.

Central banks, when they aren't printing fiat currency, have lately been buying a lot of gold (Russia's central bank routinely buys a fair bit of Russia's gold output, for example). A lot of the metal outside central bank vaults is held in the Asian region by people of Chinese heritage, so the uncertainty regarding the future of Hong Kong will likely prove a continuing strong point for the metal in 2020.

On the supply side, there are fears that global gold production may be peaking after a long period where new gold mine discoveries have been slowing.

And, who knows, we might see some more inflation in the world this year – on that score it's worth noting that the Food Price Index, as calculated by the UN's Food and Agriculture Organisation, soared to a 5-year high in December 2019.

What to watch out for

Which brings us to how investors should invest in gold on the ASX, should they be convinced that the good times for the metal are set to continue. There are two main ways; firstly, through established gold producers, such as Newcrest or Evolution, and secondly through the emerging gold mine developers that are in a position to report Resource estimates as per the industry standard JORC Code.

The key when evaluating established gold producers is to check their production costs and their selling price as per the hedge book. Gold may be up, but future output of those miners may be sold forward at a level much lower than the price at which the metal has risen to. And some miners may have 'all-in sustaining costs' (AISC) that are high and others that are low. In our experience each mining company is different.

Watch the EV/Resource Ounce figure

For the emerging developers a good measure is 'Enterprise Value per Resource Ounce' (Figure 3). For instance, imagine a company with a market capitalisation of A$50m, no debt, A$10m cash and a 2-million-ounce deposit. The Enterprise Value per Resource Ounce of this company is A$20. Obviously, a host of factors come into play in the way the market prices a potential new miner, but, other things being equal, the lower the Enterprise Value per Resource Ounce, the better. Anything under A$20 is likely to be regarded by established resource sector investors as 'inexpensive'.

Sovereign risk is real for gold miners

A third factor also needs to be looked at for both established and emerging gold miners and that's location, or sovereign risk. A lot of gold comes out of countries that aren't so easy to operate in as the US, Canada or Australia. The West African country of Mali, for example, is currently emerging as major gold producer, and, while it is known as one of the more mining-friendly jurisdictions in the world, it can also be a dangerous place, as evidenced by active Islamic extremist groups in the mining zones. South African gold projects come with issues around rising costs of electricity and labour. Indonesia has been restructuring environmental and taxation policies, negatively impacting gold projects here. And so on.

Our message for would-be gold bugs is to do their own research and do it thoroughly. We at Pitt Street Research will likely be covering a few gold plays in 2020 and there are other sources out there that can help you check out the sector. Take a look at the presentations from the leading companies available on the ASX website and maybe even invest in a dictionary of geology and other books on mining so you can better understand what you may be getting yourself into.

Most important of all is to be aware of the historic tendency for bear markets in gold to start when people least expect it. The January 1980 high for gold came right when the Soviet Union had invaded Afghanistan. You'd think that would be a positive for gold but after a brief spike it proved a negative. One suspects that the current bull market that started in late 2015 could have a similar sudden ending.

And there's one more thing to keep in mind. Historically investors only had gold as a portable store of value to hedge against fiat currencies. Nowadays there's cryptocurrencies, like Bitcoin. Possibly the world's stock of gold bugs to fuel the current bull run is diminished by comparison to 2001-2011. That's yet another uncertainty to consider in our currently uncertain world.

Gold 101

Gold is an unusual metal. Gold, chemical symbol Au, atomic number 79, is probably the most interesting of all the metals produced by miners. About half of all gold mined goes into jewellery, and most of the rest Is bought for investment purposes or for 'official' uses by Central Banks as part of their efforts to maintain price stability. A relatively small amount of gold is used in industrial applications, such as electronics.

Why does gold exercise such a fascination for mankind? Apart from the fact that the yellow colour of gold makes it look good, the main reason for gold still being used in money of some sort is its scarcity value, combined with the fact that it is easily transportable. As we noted above, only 190,000 tonnes of the metal have ever been mined. Because gold has a very high specific gravity (19.32) a large amount of gold, in dollar terms, can fit into a very small space. If you melted down all those 190,000 tonnes and made a single cube of gold it would only measure around 21.5 metres on each side. That's pretty scarce[18].

Less than 4,000 tonnes of gold get produced each year

Australia is the world's second biggest producer of gold. In 2019 the world's gold mines produced around 3,460 tonnes of gold, which translates to 111 million ounces[19]. The world's biggest producer was China with 404 tonnes, followed by Australia with 315. Eight other countries produced over 100 tonnes of gold in 2019 –Canada[20], Ghana, Indonesia[21], Mexico, Peru[22], Russia[23], South Africa and the US[24]. Australia today has close to one-fifth of the world's gold reserves, with 9,500 tonnes or 17% of the world's reserves today of 57,000 tonnes[25].

The price of gold is set in a number of ways. We noted above the London Gold Fix, which is the twice daily price setting by members of the London Bullion Market. COMEX, a division of the Chicago Mercantile Exchange (CME), operates the world's main gold futures contract. The world's largest physical gold bullion market is the Shanghai Gold Exchange.

Gold is found in a variety of styles. There are many types of gold deposits, including epithermal vein deposits, intrusion-related breccia pipes, mesothermal turbidite- and greenstone-hosted deposits, contact deposits such as skarns, replacement deposits, disseminated ores, placers, and Archean-age banded-iron formation deposits. This variety of geological styles in which gold shows up has meant that gold mines can be found all over the world.

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[18] See How much gold is there in the world? by Ed Prior, BBC News, 1 April 2013.

[19] There are 32,151 troy ounces in a metric tonne.

[20] The Detour Lake Gold Mine of Kirkland Lake Gold and the Canadian Malartic Gold Mine of Yamana Gold and Agnico Eagle are among the world's largest.

[21] Thanks mainly to Grasberg in the Province of Papua.

[22] The Yanacocha Gold Mine, partly owned by Newmont, is one of the world's largest.

[23] The Olimpiada mine in the Krasnoyarsk region of eastern Siberia is one of the world's largest gold mines.

[24] The Cortez and Goldstrike mines of Barrick and the Carlin mines of Newmont are among the world's largest gold mines.

[25] Source: Western Australia Department of Mines, Industry Regulation and Safety.

Australian gold 101

Australia is a country that has been built on gold

Australia's history has been significantly shaped by gold. The first discoveries of payable gold were at Ophir, around 280 km west of Sydney, in 1851. However, the discovery of the gold fields in central Victoria later in 1851, initially at Clunes, but then at the major fields of Ballarat, Castlemaine and Bendigo, were probably Australia's most significant driver of economic growth in its history because of the sudden influx of immigrants that those discoveries prompted.

The Victorian discoveries started a series of rushes that transformed the other Australian colonies - Tasmania from 1852, Queensland from 1857 and the Northern Territory from 1871 – as well as contributed to New Zealand's growth as a colony when gold was discovered in the Otago region in 1861 and many Victorian miners went there. In the 1890s in Western Australia a new series of rushes were triggered by the discovery of huge gold fields at Coolgardie in 1892 and Kalgoorlie in 1893.

Australia's main gold fields today are in Western Australia. Australia currently has around 66 operating gold mines. The main gold-producing region in Australia is the Eastern Goldfields of Western Australia, so called because those fields lie east of Perth. The Eastern Goldfields centres on the famous gold town of Kalgoorlie, 600 km northeast of Perth. Other important gold regions in Western Australia include Laverton-Leonora and the Pilbara. Elsewhere in Australia Bendigo in Victoria remains an important field, particularly since the massive discovery at Fosterville. The list of the largest gold mines in Australia include Cadia (Newcrest, NSW), Boddington (Newmont, WA), the Kalgoorlie Super Pit[26] (Saracen and Northern Star, WA), Jundee (Northern Star, WA), Telfer (Newcrest, WA), Cowal (Evolution Mining, NSW) and Sunrise Dam (AngloGold Ashanti, WA).

The ASX is the world's leading gold equities market

The Australian Securities Exchange is a world-leading gold equities market. Australia's first stock exchange was established in Melbourne in 1861 as a direct result of the emergence of the Victorian gold fields. The stock exchanges in Sydney (1871), Hobart (1882), Brisbane (1884), Adelaide (1887) and Perth (1889), all of which eventually coalesced into what is now the Australian Securities Exchange, also owed part of their existence to gold, particularly the Perth Stock Exchange since it became an important market to fund the Eastern Goldfield and other mines in Western Australia.

The ASX today is arguably the world's leading gold equities market, because of the large number of emerging gold companies listed on the Exchange capitalising on continued domestic gold discoveries, as well as developing new gold mines the world over, but particularly in emerging gold countries in Africa, South America and Southeast Asia.

[26] See superpit.com.au.

Established gold miners publicly traded on ASX

Newcrest Mining (ASX:NCM, Melbourne, newcrest.com.au). This company produced 2.49 million ounces in the year to June 2019 from operating mines in Australia, Canada and Papua New Guinea. The company's main asset is the Cadia mine in central western NSW, which produced 913,000 ounces in FY19 at a very low AISC of A$132 per ounce. Telfer in the Pilbara region of Western Australia produced 452,000 ounces. Lihir in Papua New Guinea produced 933,000 ounces. In August 2019 it acquired 70% of Red Chris, a 20-million-ounce resource in the Canadian province of British Columbia. The company also owns 50% of the Wafi-Golpu gold-copper project in PNG.

Northern Star Resources (ASX:NST, Perth, nsrltd.com). This company produced 813,000 ounces in the year to June 2019. It owns a suite of gold mine in the vicinity of Kalgoorlie (335,000 ounces in FY19), the Jundee Gold Mine near Wiluna in Western Australia (295,000 ounces) and the Pogo Gold Mine in Alaska (184,000 ounces in FY19). In December 2019 the company announced the acquisition of 50% of the Super Pit at Kalgoorlie from Newmont for US$800m.

Evolution Mining (ASX:EVN, Sydney, evolutionmining.com.au). This company produced 753,000 ounces in the year to June 2019. The company's five mines are Cowal in western NSW (252,000 ounces in FY19); Cracow (81,000 ounces), Mt Carlton (107,000 ounces), and Mt Rawdon (95,000 ounces) in Queensland and Mungari in Western Australia (121,000 ounces). The company also owns 100% of the future gold and 30% of the future copper and silver from the Ernest Henry copper-gold mine in Queensland.

Saracen (ASX:SAR, Perth, saracen.com.au). This company produced 355,000 ounces in the year to June 2019 from two other Western Australian mines - Carosue Dam, 120 km northeast of Kalgoorlie (200,000 ounces in FY19) and Thunderbox, 45 km south of Leinster (155,000 ounces in FY19. In November 2019 Saracen acquired 50% of the Super Pit at Kalgoorlie from Barrick Gold for US$750m.

Regis Resources (ASX:RRL, Perth, regisresources.com.au). This company produced 363,000 ounces in the year to June 2019 from the Duketon Gold Project, which covers three gold mines – Moolart Well, Garden Well and Rosemont – in the North Eastern Goldfields of Western Australia around 130 kilometres north of Laverton. The company currently controls virtually all the Duketon Greenstone Belt. In central west NSW Regis is developing the McPhillamys Gold Project around 8 kilometres from the town of Blayney.

St Barbara (ASX:SBM, Melbourne, stbarbara.com.au). This company produced 362,000 ounces in the year to June 2019. The company flagship operation is the Gwalia Gold Mine, located 3 km south of Leonora in WA (220,000 ounces in FY19). The Simberi in Papua New Guinea produced 142,000 ounces in FY19. St Barbara bought the Atlantic Gold Mine near Halifax, Nova Scotia in May 2019 for A$768m. This mine is currently expanding to a >200,000 ounces p.a. production profile.

Silver Lake Resources (ASX:SLR, Perth, silverlakeresources.com.au). This company produced 167,000 gold-equivalent ounces, mostly from the Mount Monger Gold Camp, located around 50 km southeast of Kalgoorlie. In 2019 it acquired Doray Minerals for its Deflector Gold Copper Mine 160km east Geraldton, as well as Egan Street Resources, which had completed a Definitive Feasibility Study over its Rothsay Gold Project.

Gold Road Resources (ASX:GOR, Perth, goldroad.com.au). This company poured its first gold from the Gruyere Gold Mine, 200 km east of Laverton in Western Australia, which it owns 50/50 with the South African company Gold Fields. Gruyere is intended to produce 300,000 ounces p.a. over 12 years.

Perseus Mining (ASX:PRU, Perth, perseusmining.com). This company produced 272,000 ounces in the year to June 2019 from the Edikan Gold Mine in Ghana (192,000 ounces in FY19) and the Sissingué Gold Mine in Côte d'Ivoire (80,000 ounces in FY19). Perseus commenced construction of the Yaouré Gold Mine, also in Côte d'Ivoire, in May 2019, with first production expected in late 2020.

Resolute Mining (ASX:RSG, Perth, rml.com.au). This company produced 384,000 ounces in the twelve months to December 2019. The company's main asset is the Syama Gold Mine in Mali (243,000 ounces in calendar 2019). It also owns the Mako Gold Mine in Senegal (87,000 ounces in calendar 2019). In March 2020 the company sold its underperforming Ravenswood Gold Mine in Qld, which in calendar 2019 had contributed 54,000 ounces. It is currently undertaking a strategic review of the Bibiani Gold Project in Ghana where a feasibility study has been completed.

Ramelius Resources (ASX:RMS, Perth, rameliusresources.com.au). This company produced 197,000 ounces in the year to June 2019 from the processing plants at the Mt Magnet Gold Mine (115,000 ounces) near the Western Australian town of the same name, and at the Edna May Gold Mine (82,000 ounces) near Southern Cross. Mt Magnet also takes ore from the Vivien Gold Mine while Edna May takes ore from the Marda and Tampia Hill mines.

Westgold Resources (ASX:WGX, Perth, westgold.com.au). This company produced 255,221 ounces in the year to June 2019 from three gold mines in the Central Murchison region of Western Australia – Meekatharra (95,000 ounces in FY19), Cue (68,000 ounces in FY19) and Fortnum (59,000 ounces). Late in FY19 the company sold its Higginsville Gold Operations, which had produced 34,000 ounces during the year.

Emerging gold miners publicly traded on ASX

Antipa Minerals (ASX:AZY, Perth, antipaminerals.com.au). This company is exploring in the Paterson Province of Western Australia, with a tenement holding in the Province of 5,000 sq km. So far there is a global resource of 827,000 ounces across a number of deposits. The Winyari and WACA deposits to the north of Newcrest's Telfer mine look particularly promising. The Citadel Joint Venture with Rio Tinto is looking at some ground east of Rio's Winu copper-gold-silver deposit, which was discovered in 2019.

Apollo Consolidated (ASX:AOP, Perth, apolloconsolidated.com.au). This company's Lake Rebecca Gold Project in the Eastern Goldfields of Western Australia now covers a 1.035 million ounce JORC 2012 resource which was announced in February 2020. Lake Rebecca is located 145km east of Kalgoorlie in a greenstone belt on the eastern margin of the Norseman-Wiluna Greenstone Belt. The Carosue Dam Gold Mine of Saracen (ASX: SAR) is nearby.

Ausgold (ASX:AUC, Perth, ausgoldlimited.com). This company's Katanning Gold Project is located 275km south-east of Perth and approximately 40km north-east of the town of Katanning in southwest Western Australia. The project covers a 1.2 million ounce JORC 2012 resource. There has been a positive scoping study on a mine producing 350,000 ounces p.a. over seven years. Ausgold considers the upside potential for further resources to be strong given the underexplored nature of the Katanning Greenstone Belt.

Bardoc Gold (ASX:BDC, Perth, bardocgold.com). This company's Bardoc Gold Project is located 40 km north of Kalgoorlie in the Eastern Goldfields of Western Australia. The project covers six different deposits – Mulwarrie, Zoroastrian, Aphrodite, Excelsior, North Kanowna Star and Mayday North. A Pre-Feasibility study has suggested an eight year mine life producing 135,000 ounces p.a.. The NPV of the project in this study was A$252m. The JORC 2012 resource base at Bardoc is 3 million ounces.

Bellevue Gold (ASX:BGL, Perth, bellevuegold.com.au). This company is seeking to bring back into production the Bellevue Gold Mine, which is 400km north west of Kalgoorlie in the Wiluna-Norseman gold belt. Bellevue previously produced 800,000 ounces 1986 to 1997 at an average 15 g/t grade. The current owners have established a JORC 2012 resource of 2.2 million ounces at 11.3 g/t. The resources is open and Bellevue Gold is seeking to increase it.

Breaker Resources (ASX:BRB, Perth, breakerresources.com.au) . This company's Lake Roe Gold Project is located 100km east of Kalgoorlie, between the Carosue Dam Gold Mine of Saracen (ASX: SAR) and the Karonie Project of Silver Lake Resources (ASX: SLR). A JORC 2012 resource of 1 million ounces has been identified at the Bombora deposit which is open-pittable. Drilling to increase the resource base is ongoing.

Calidus Resources (ASX:CAI, Perth, calidus.com.au). This company is developing the Warrawoona Gold Project in the East Pilbara district of the Pilbara Goldfield in Western Australia, near the town of Marble Bar. Currently a JORC 2012 resource of 1.25 million ounces has been identified. A 2019 Pre-Feasibility Study suggested strong economics for this project, with an NPV on a 100,000 ounce per year mine greater than A$200m at a A$2000 per ounce gold price.

Capricorn Metals (ASX:CMM, Perth, capmetals.com.au). This company's Karlawinda Gold Project is located in the Pilbara region of Western Australia, 70km by road south-east of Newman. The JORC 2012 Resource at Karlawinda is currently 1.5 million ounces over the Bibra deposit at the coer of the project. A Feasibility Study on a 100,000 ounce mine with an 8.5 year life suggested an All-In Sustaining Cost of A$1,177 an ounce.

Cardinal Resources (ASX:CDV, Perth, cardinalresources.com.au) . This company's Namdini Gold Project is located in northern Ghana, around 50km southeast of the regional town of Bolgatanga. Namdini covers a JORC 2012 resource of 7.0 million ounces. A Feasibility Study has suggested a post-tax NPV of US$590m at a gold price of US$1,350 and All-In Sustaining Costs of US$895m. Cardinal is targeting commissioning of Namdini in 2022.

De Grey Mining (ASX:DEG, Perth, degreymining.com.au). This company Mallina Gold Projectin the Pilbara Region of Western Australia covers a >1,200 sq. km tenement package on 80 kilometres to the south of Port Hedland, within the Pilbara region. De Grey has established a JORC 2012 resource of 2.2 million ounces at Mallina and a targeting 3 million ounces. So far there are four major deposits in the project – Mallina itself as well as Toweranna, Withnell and Mt Berghaus. A major discovery was recently registered at the Hemi deposit in early 2020.

Genesis Minerals (ASX:GMD, Perth, genesisminerals.com.au). This company's Ulysses Gold Project is located around 30 km south of Leonora and 200 km north of Kalgoorlie in Western Australia. The Ulysses Deposit was mined by Sons of Gwalia in 2002 producing 25,000 ounces. Genesis acquired Ulysses in 2015 and following exploration success, was able to completed two open pit mining campaigns. A Scoping Study was completed in late 2018and feasibility Work is ongoing. The JORC 2012 resource base is currently 867,000 ounces.

Horizon Minerals (ASX:HRZ, Perth, horizonminerals.com.au). This company's Boorara Gold Project is 10 kilometres east of Kalgoorlie's Super Pit on the eastern edge of the city of Kalgoorlie-Boulder. Boorara, which has a 507,000-ounce resource, is intended for first production in 2020. Various deposits in the neighbourhood of Boorara are being considered for addition to the project.

Kin Mining (ASX:KIN, Perth, kinmining.com.au). This company's Cardinia Gold Project covers 414 sq km of around 30 km northeast of Leonora in the North-Eastern Goldfields region of Western Australia. The project covers a 841,000 ounce JORC 2012 resource. A Pre-Feasibility Study for an operation producing 51,000 ounces p.a. for eight years has an NPV of $66m at a A$2,000 gold price.

Middle Island Resources (ASX:MDI, Perth, middleisland.com.au). This company's Sandstone Gold Project is located 12 km south of the town of Sandstone, which is about 400 km northwest of Kalgoorlie between Mt Magnet and Leinster in the East Murchison Mineral Field of Western Australia. The Sandstone Project covers around six deposits. Middle Island has proved up a 624,000 ounce JORC 2012 resource at Sandstone, centred on a deposit called Two Mile Hill. There is a gold processing plant on site. A Pre-Feasibility Study update is planned for 2020.

Musgrave Minerals (ASX:MGV, Perth, musgraveminerals.com.au). This company's Cue Gold Project is located between Mt Magnet and Meekatharra in the Murchison Region of Western Australia. The Break of Day and Lena deposits are currently considered the basis of a mining operation. Cue currently has a total JORC 2012 resource of 441,000 ounces. Evolution Mining (ASX: EVN) is spending $18 to earn 75% of a part of the project called Lake Austin.

Nova Minerals (ASX:NVA, Melbourne, novaminerals.com.au). This company's Estelle Gold Project is located 110 miles northwest of Anchorage in Alaska and covers a JORC 2012 resource of 2.5 million ounces at Korbel, one of around 15 identified prospects. Nova believes that Estelle can host multiple large bulk-mineable deposits based on historic exploration.

NTM Gold (ASX:NTM, Perth, ntmgold.com.au). This company's Redcliffe Gold Project is located 45 km northeast of Leonora in the Eastern Goldfields Region of Western Australia. NBTM is targeting new gold deposits in an area that has historically yielded over 12 million ounces. The company believes the Mertondale Shear Zone as it passes through NTM's project area hists multiple targets that have yet to be tested. So far NTM has outlined a JORC 2012 resource of 538,000 ounces at Redcliffe.

Ora Banda Mining (ASX:OBM, Perth, orabandamining.com.au). This company's Davyhurst Gold Project is located 120 km north-west of Kalgoorlie in the Eastern Goldfields region of Western Australia. The project comes with a 1.2 Mtpa processing hub. Multiple deposits are being pursued including Riverina, Waihi, Siberia, Callion and Golden Eagle. Currently the JORC 2012 resource base is 1.8 million ounce.

Prodigy Gold (ASX:PRX, Perth, prodigygold.com.au). This company has a large tenement position in the Tanami region of the Northern Territory. Currently it has a million-ounce resource over four 100% owned deposits in the Tanami – Bluebrush, Hyperion, Tregony and North Arunta – while Newcrest is farming in to two projects called Euro and Tobruk

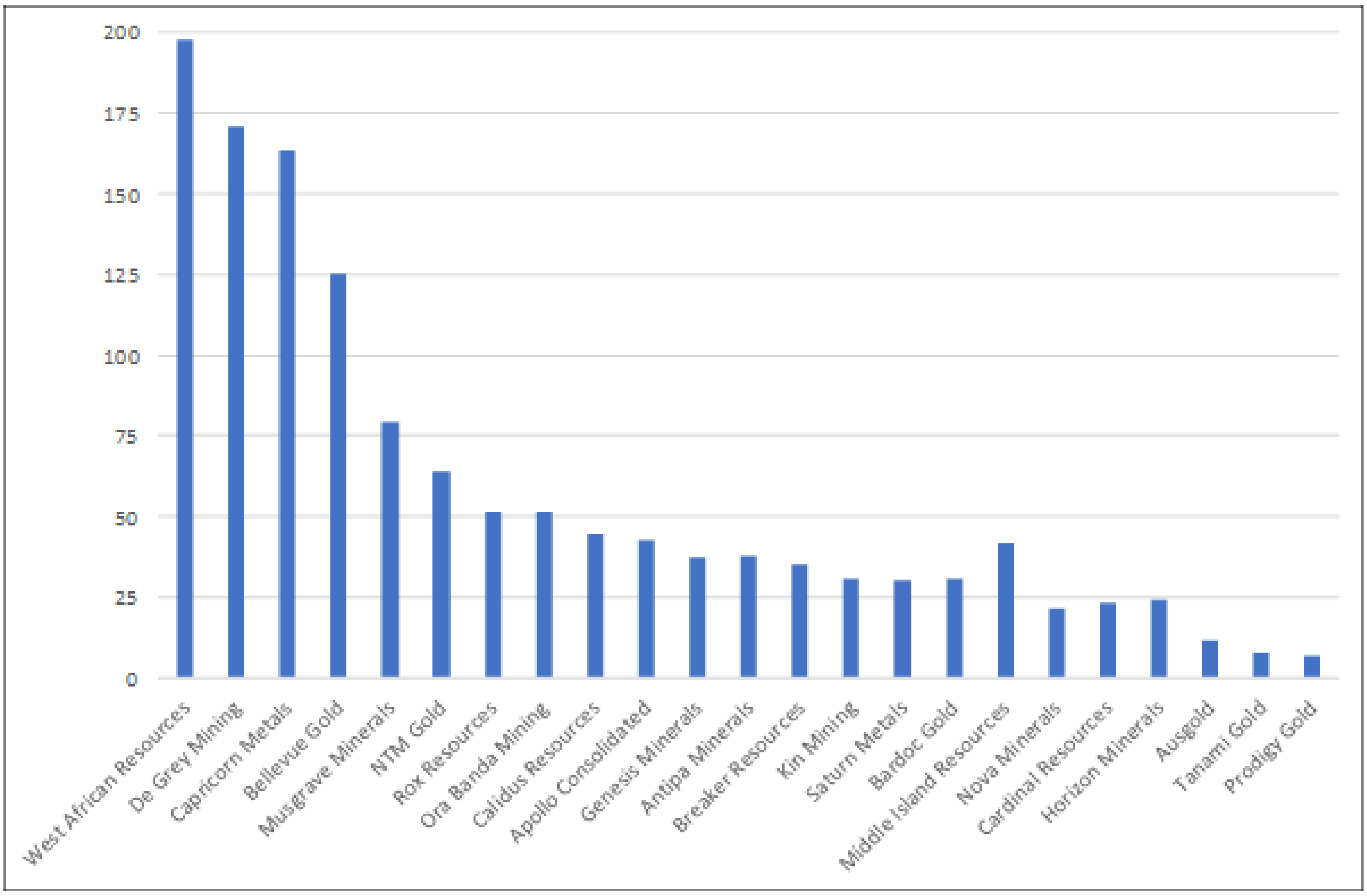
Rox Resources (ASX:RXL, Perth, roxresources.com.au). This company owns 50% of the Youanmi Gold Project, which covers the old Youanmi Gold Mine 480 km north of Perth in the Southern Cross region of Western Australia. Youanmi currently has a JORC 2012 resource of 1.19 million ounces. The other 50% of Youanmi is held by Venus Metals (ASX:VMC).

Saturn Metals (ASX:STN, Perth, saturnmetals.com.au). This company's Apollo Hill Project covers around 1,000 sq km of tenements in the Eastern Goldfields of Western Australia 50km southeast if Leonora. The current JORC 2012 resource is 781,000 ounces. Drilling to prove up this deposit is ongoing.

Tanami Gold (ASX:TAM, Perth, tanami.com.au). This company owns 60% of the Central Tanami Project in the Northern Territory, which has a JORC 2012 resource of 2.7 million ounces. The Groundrush and Ripcord deposits have looked promising. The Joint Venture partner in Central Tanami is Northern Star (ASX: NST)

West African Resources (ASX:WAF, Perth, westafricanresources.com). This company's Sanbrado Gold Project in Burkina Faso poured its first gold in Matrch 2020. Sanbrado is expected to produce more than 300,000oz gold in the first 12 months of production at AISC of less than US$600/oz. The Sanbrado JORC 2012 resource is 3.1 million ounces. Sanbrado has an initial 10-year mine life, including 6.5 years of underground mining. The April 2019 optimised feasibility Study suggested a post-tax NPV of US$444m at a 5% discount rate.

Figure 3: Peer group valuations as measured by EV / Resource ounce



Source: Pitt Street Research

ASX as a market for gold projects from emerging countries

Time was when Britain ruled an Empire on which the sun never set. And financiers in London who knew the layout of that Empire intimately backed mines in every corner of it, from tin mines in Malaya to lead mines in Burma to copper mines in Rhodesia to gold mines on the Witwatersrand. But not only mines in the Empire. Those same London financiers backed mines in countries like Chile or Mexico or China or, indeed, even in that emerging country called the United States.

But that was a long time ago. Today, we argue that the financial leadership formerly provided by London or maybe Toronto in terms of backing new mines in emerging countries has now moved to Australia. If you look down the list of mining companies publicly traded on the ASX you'll find many where the potential 'company-making' projects are in far flung places, like Burkina Faso, Tanzania or Cambodia.

The reason so many of these kinds of companies have emerged on ASX is, we argue, because of the success of the pioneering companies like Resolute (ASX: RSG), that have proven that Africa is a great place to grow shareholder value. Also, there has been increased risk appetite on the part of Australian-based brokers and investors who have become more global in outlook over the past two decades.

The rise in mining opportunities in emerging countries has not been without its risks. For a good recent example of this, consider Tanzania. That East African country had been considered 'mining friendly' and had many ASX-listed companies operating in it when in mid-2017, without warning, the government of President John Magufuli introduced radical changes to the Mining Act that included compulsory 16% state ownership of mining operations and increased royalties on metal exports[27]. The share prices of many ASX-listed companies took a hammering. Tanzania's reputation with investors has yet to recover.

Traditionally mining companies operating in emerging jurisdictions tended to trade at a discount on ASX

Traditionally mining companies operating in emerging jurisdictions tended to trade at a discount on ASX to companies operating in 'safe' places like Australia, the US or Canada. We believe that gap is reducing as investors growing their knowledge base about emerging countries, and as those countries become safer. But the gap remains and we believe that can create opportunities for investors. Below is a list of the key countries ASX investors interested in gold need to learn more about. After each country we have listed its Investment Attractiveness Score as per the Fraser Institute's 2019 Annual Survey of Mining Companies, which was published in February 2020.

Australia scores quite high on average at 79.3 with Western Australia at 92.5, the highest score of all regions covered in the survey.

Argentina (56.0[28]). This South American nation took a swing to the left in October 2019 with the election of Alberto Fernandez as its President. The country's strength in mining recently has been lithium, however **Dark Horse Resources** (ASX: DHR) has two gold projects in the country.

Brazil (63.4). Jair Bolsonaro, Brazil's President since January 2019, is very pro-business and pro-mining. We note elsewhere in this report the work that **Big River Gold** (ASX: BRV) is doing with its Borborema Gold Project in the northeast of the country.

[27] See Tanzania's president signs new mining bills into law, Reuters, 11 July 2017.

[28] The Fraser Institute rates Argentina by provinces rather than at the national level.

Burkina Faso (61.2). Roch Marc Christian Kaboré, who is generally pro-mining, became Burkina Faso's President in December 2015. Burkina Faso, which is the fourth largest gold producer in Africa, has faced an upsurge in Islamic militant groups in recent years targeting the gold industry. In November 2019 gunmen attacked a convoy taking works to a gold mine owned by a Canadian company where the Australian mining services company Perenti Global (ASX: PRN) was a contractor. **West African Resources** (ASX: WAF) poured the first gold at its Sanbrado Gold Mine, 90km east-southeast of Ouagadougou, the capital of Burkina Faso, in March 2020. **Arrow Minerals** (ASX: AMD) has a number of projects in Burkina Faso.

Chile (77.7). This traditionally mining-friendly South American country, governed by the pro-business President Sebastian Pinera since March 2018, is best known for its copper mines but gold is starting to emerge. **Tesoro Resources** (ASX: TSO) is currently drilling at its El Zorro Gold Project in the Antofagasta Region of northern Chile.

Colombia (58.0). This country, with pro-business President Iván Duque Márquez, has a large belt of gold-prospective ground in the Andes, which has yet to be fully explored. **Los Cerros (ASX: LCL)** is currently working on proving up resources in its Quinchia Gold Project in the Mid-Cauca region.

Côte d'Ivoire (No Fraser rating). Alassane Ouattara, President of Côte d'Ivoire since December 2010, is strongly pro-mining. The mining code of this West African nation was modernised in March 2014. **Mako Gold** (ASX: MKG) has the Napie Project in the north-central Côte d'Ivoire as its main project. **Exore Resources** (ASX: EXR) is developing three projects in the north of the country. **Tietto Minerals** (ASX: TIE) is developing the Abujar Gold Project in central western Côte D'Ivoire. **Manas Resources** (ASX: MSR) has two projects in the country.

Democratic Republic of the Congo (39.2). In January 2019 this country made its first peaceful transition of power since independence in 1960 when Félix Tshisekedi succeeded Joseph Kabila as President. Tshisekedi appears to be pro-mining[29]. The Kilo-Moto gold belt in the north-eastern part of the country has historically been a prolific gold producer and **AngloGold Ashanti** (ASX: AGG) and Barrick operate the gigantic Kibali Gold Mine there. **Amani Gold** (ASX: ANL) with its Giro Project, 35 km west of Kibali, has identified a 4-million-ounce deposit called Kebigada. **Vector Resources** (ASX: VEC) is currently seeking to acquire and complete a Feasibility Study over AngloGold's former Adidi-Kanga Gold Project in the Kilo-Moto region.

Ecuador (56.8). This country's President since May 2017 is Lenín Moreno, who ran as a left-wing candidate but has since been more market friendly and pro-mining than some expected. **Sunstone Metals** (ASX:STM) is developing its Bramaderos copper-gold project in southern Ecuador.

Ghana (No Fraser Institute rating). Ghana is the world's eighth largest gold producer. AngloGold Ashanti operates the Obuasi Gold Mine in the south of the country. The President of Ghana, Nana Akufo-Addo, has spoken publicly of the need for country's like his not to give 'unusual tax and royalties incentives'[30]. **Cardinal Resources** (ASX: CDV) is developing its Namdini Project in the north of the country.

[29] The Canadian mining entrepreneur Robert Friedland has spoken favourably of the DRC under Tshisekedi -see Why this billionaire thinks the DRC is set for a copper boom by Elena Mazneva, the Australian Financial Review, 27 November 2019.

[30] See Ghana to miners: 'Respect the land that provides the riches' by Joe Bavier, Reuters, 5 February 2019.

Guinea (76.6). Alpha Condé has been a strong pro-mining President of Guinea since December 2010. **Predictive Discovery** (ASX: PDI) has the Siguiri Basin in eastern Guinea as its main focus, which hosts AngloGold's large Siguiri Gold Mine.

Guyana (65.2). David Granger, President of Guyana since May 2015, has tended to be pro-business as his country emerges into a new petro-state thanks to large offshore oil discoveries by Exxon-Mobil. The result of the 2 March 2020 election has not been finalised. **Troy Resources** (ASX: TRY) produced 35,000 ounces from the Karouni Gold Mine 165km southwest of the Guyana capital of Georgetown. The mine was shut down in October due to a fatality, but restarted in January 2020.

Indonesia (73.1). Under President Joko Widodo, who took office in October 2014, Indonesia has generally been regarded as a safe place for foreign investors in the mining industry. Indonesia is currently the world's seventh largest gold producer. **Nusantara Resources** (ASX: NUS) is bringing the Awak Mas Gold Mine in the province of South Sulawesi into production. **Kingrose Mining** (ASX: KRM) owns 85% of the Way Linggo Gold Project in South Sumatra. **Sihayo Gold** (ASX: SIH) is developing the Sihayo Pungkut Project in North Sumatra.

Mali (39.5). This country is a rapidly emerging gold producer with a strong history of artisanal mining. It is currently Africa's third-largest gold producer after South Africa and Ghana. Mali's President Ibrahim Boubacar Keïta is pro-mining. **Resolute** (RSG) operates the Syama Gold Mine 300 km southeast of the Mali capital of Bamako. **Oklo Resources** (ASX: OKU) has eleven gold projects in western and southern Mali. **Indiana Resources** (ASX: IDA) has licenses in western Mali.

Mexico (65.4). Mexico's President since December 2018, Andrés Manuel López Obrador, is left-leaning, but the mining industry in Mexico is long-staying. Gold is generally mined in Mexico as part of gold-silver mines. **Mithril Resources** (ASX: MTH) recently acquired the Copalquin Gold-Silver Project in Durango state of northern Mexico.

Peru (75.1). This country's pro-business President is Martin Vizcarra. Peru is the world's sixth largest gold producer. **Titan Minerals** (ASX code: TTM) is developing a number of gold projects in southern Peru.

Senegal (No Fraser rating). The President of Senegal is Macky Sall. Under Sall, Senegal modernised its mining code in 2017. Resolute owns the Mako Gold Mine in Kédougou region of eastern Senegal. **Bassari Resources** (ASX: BSR) recently started up its Makabingui Gold Project in the same region. **Chesser Resources** (ASX: CHZ) is developing its Diamba Sud project in Kédougou.

South Africa (64.8). This country was basically built on Witwatersrand and South Africa is still the world's ninth largest gold producer. Cyril Ramaphosa, who became President in February 2018, is pro-business. **West Wits** (ASX: WWI) is developing a 3.67-million-ounce resource in the West Wits region of the Witwatersrand Basin. **Theta Gold Mines** (ASX: TGM) is developing the 6-million-ounce Theta Project near Pilgrim's Rest, in Mpumalanga Province, 370 km east of Johannesburg.

Focus on Big River Gold (ASX: BRV)

The following pages contain a summary of research for which Pitt Street Research has been commissioned by Big River Gold. Readers are encouraged to view our initiation report on Big River Gold, published on 12 February 2020, at www.pittstreetresearch.com.

Big River Gold has been trading between 2 and 3 cents per share recently[31]. Our research suggests a valuation range of 9.4 cents to 15 cents per share. We argue Big River Gold is a classic case of the valuable gold companies that can be found on ASX right now, which investors have yet to fully discover.

Big River, big opportunity

The post-tax NPV of Big River Gold's Borborema Gold Project is A$323m

Big River Gold is developing the Borborema Gold Project in north-eastern Brazil. The company completed its Definitive Feasibility Study (DFS) for Borborema in December 2019. Subject to financing, Big River Gold intends to commence mine construction, potentially in 2020, and envisages a ~71,000 oz p.a. operation with an >10-year mine life. The post-tax NPV for this project at an 8% discount rate is US$203m (A$323m) after capital costs of US$99m. Pitt Street Research initiated coverage on Big River Gold on 12 February 2020 and our initiation report is available at www.pittstreetresearch.com

Big River Gold has been working on Borborema since 2010, when it first acquired the project. The company announced its first pre-feasibility study results in September 2011 along with a JORC resource estimate of 2.43 million ounces of gold. Feasibility Study results for a mine processing 4 million tonnes or ore p.a. were announced in 2013, which estimated a JORC reserve of 1.61Moz gold while the most recent optimisation study came out in February 2018 which looked at a 2 mtpa operation using many of the assumptions of the previous Feasibility Study. Big River Gold stock was suspended from the ASX in September 2018 when it was previously listed as Crusader Resources Ltd, at which time the company moved to sort out its strategy, capital structure and funding. A new management team was installed in March 2019[32], the company removed itself from the London AIM listing, reduced corporate and management overheads across the board and established a strong financial footing for the company and its refocus on the development of the Borborema project.

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[31] As at market close on Tuesday 21 April 2020.

[32] Currently Big River Gold has a four-person board. Andrew Richards, Executive Chairman, is a geologist and company manager with over 35 years of experience in the international mining and banking industry. John Evans is a Victorian based business consultant and senior accountant. John Cathcart is an investment analyst. Beau Nicholls is a geologist and mining project manager.

Figure 4: BRV's share price re-rated after the December 2019 DFS but has suffered during the Coronavirus Crisis

Source: Tradingview

The company's financial standing was improved through disposal of non-core assets, raising $1.5m in a placement at 1.2 cents per share in July 2019 and in September 2019 Big River Gold's major shareholder, the Copulos Group[33], raised its stake to 38% after the conversion of $1.5m in notes[34] which rendered the company debt-free. Shortly thereafter Big River Gold sold its 5.6% stake in Meteoric Resources to realise $2.75m[35]. As we noted above, the DFS for Borborema was completed in December 2019. As at December 2019 Big River Gold had $3.2m cash, sufficient to fund operations through to the end of 2020.

Chairman has been buying shares on market

If Big River Gold is this good, why is currently capitalised at only A$26.4m/US$16.5m (Figure 4)? We think the very high capex for a 4Mtpa operation and the low gold price in 2013, as well as the company's decision to move on to other projects, have all contributed to the current low market capitalisation. There was project fatigue among shareholders and continued equity raisings to support high overheads. BRV went from a market cap of ~$170m in a steady downward drift over the last few years until the current leadership team stepped in and rejuvenated it. With the DFS now complete, a business-friendly and mining-friendly government in office in Brazil and the price of gold rising since late 2015, we believe the stock is in a position to re-rate from here. In September 2019 the current Executive Chairman, Andrew Richards, was an on-market buyer of stock[36].

[33] Stephen Copulos is an Australian businessman with extensive interests in a wide variety of industries including resources, real estate, manufacturing and hospitality.

[34] At 1 cent per share.

[35] Big River Gold retains the opportunity to receive a further $1.5m in shares from Meteoric subject to certain milestones including JORC resource targets and decision to mine.

[36] See Big River's 26 September 2019 Appendix 3Y filing with the ASX.

The Borborema Gold Project has a post-tax NPV of US$203m

The Borborema Gold Project is located 30 km east of the mining town of Currais Novos in the north-eastern Brazilian state of Rio Grande do Norte. The project is 140 km west of the state capital of Natal. Borborema is covered by three separate leases with a total area of 29 sq km. The area covers an old heap leach gold project from the 1980s and owns all the necessary freehold land required for the 2Mtpa project over 10+ years.

Favourable geology. The Borborema Gold Project lies within the Seridó Fold Belt, characterised by banded arkosic metapelitic schists. Borborema sits within a north-north-east-trending structure that forms part of the Santa Mônica shear zone. The mineralised zones are largely controlled by remobilisation along structures within a major shear and associated with minor (<5%) re-crystallised sulphides, mostly pyrrhotite with minor amounts of pyrite, chalcopyrite, sphalerite and galena.

The mineralised zone is consistently up to 35m-40m wide striking north-east and dipping at approximately 35 degrees south-east to a depth of at least 300m. The depth is limited only by drilling, which did not test below this point. The Borborema ore is amenable to conventional processing techniques and recoveries of over 93% are expected with low reagent consumption based on test work.

The Big River Gold's Borborema Gold Project covers a 2.43-million-ounce resource

A large resource. The current JORC 2012 resource is 2.43 million ounces at 1.1 g/t gold, with the orebody open along strike and at depth. Higher grades averaging approximately 1.5 g/t gold are targeted to be mined in the first few years. We regard this resource as more than sufficient for an operation with a mine life of in excess of 20 years. BRV's stock is current trading at a low price per resource ounce.

All major permits for Borborema are now granted. Importantly, the key environmental and installation (construction) licenses were granted by the Rio Grande do Norte state government in April 2017. Given that historically permitting for mining projects has been a lengthy process, this is a major plus for Borborema.

Logistics for the project are excellent. The project is located on the main highway from the state capital of Natal, 1.5 hours' drive to the coast. Major regional towns are 30-35km located to either side of the project and power and services are readily available. It is in a semi-arid part of Brazil so there are no issues with jungle access or rainfall. As part of the water conservation plan, tailings were to be dewatered and dry stacked on surface without any need for a tailings dam. In hindsight, this lack of a tailings dam requirement was considered very favourably in obtaining the environmental and mining permits given the recent issues surrounding tailings dams in Brazil. Agreements have also been obtained for supply of processing water and negotiations are advanced to connect with the power lines that cross the Borborema leases.

Brazil in the last year or so has become an attractive investment destination for mining companies

The December 2019 DFS describes a valuable gold project, with a post-tax NPV, at an 8% discount rate, of US$203m (A$323m) after capital costs of US$99m. That US$99m comprises US$88m in capital expenditure and US$11m in contingencies. The project only used a US$1,400 per ounce gold price and the life-of-mine All-in Sustaining Cost has been estimated at US$839 an ounce while cash costs were US$642 an ounce. The DFS only covered 'Stage 1' of Borborema, which would mine only half the current JORC reserve of 42 million tonnes, so the long-term upside may be significant indeed. Stage 1 will see 20 million tonnes of ore processed containing 784,000 ounces gold with an average grade of 1.22 g/t. The first 4.5 years sees higher grade ore (average 1.5 g/t Au) preferentially treated with mill-feed subsequently supplemented from medium grade stockpiles. This coincides with a reduction of costs as mining activities scale down. In its February 2018 optimisation study Big River Gold had proposed a similarly sized operation to the one now envisaged. The difference is slightly lower capital costs due to the evidence from metallurgical test work that a simple-crush-grind-cyanidation circuit, involving a single-stage SAG milling, would be sufficient. Offsetting the lower capital costs here was the cost of filtration circuits, which have increased in Brazil recently due to issues in the country concerning tailings dams. Big River Gold will now dry stack its tailings above the ground, removing the need for a tailings dam.

An attractive operating environment and tax regime. The election of Jair Bolsonaro as Brazil's President in October 2018 was widely regarded as a positive for Brazil's mining industry, because of his pro-business policies. Bolsonaro took office at the start of 2019. Under Bolsonaro's Mines and Energy Minister, Bento Albuquerque[37], the country is moving to simplify Brazil's mineral prospecting process as well as open up indigenous reserves to mining[38]. The administration of Bolsonaro's predecessor, Michel Temer, was also considered pro-mining[39]. Brazil's rating has jumped sharply in the last two editions of the Fraser Institute Surveys of Mining Companies, published in February 2019 and February 2020 respectively. In Brazil the standard corporate tax rate is only 15%, however with other social taxes on top of this the effective rate for most companies operating in the country is 34%[40]. This does not differ greatly from most other emerging countries. However, the Borborema project is situated in a region of Brazil, which makes it eligible for Sudene tax concessions. These are designed to encourage project and industry development in the area. This will see the total effective rate reduced from 34% to around 15.5%.

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[37] Who has tested positive for Covid-19 – see Brazilian government security advisor, a minister and the head of the Senate, self-isolated with coronavirus, MercoPress, 19 March 2020.

[38] See Brazil's government to present bill allowing mining on indigenous reserves, Reuters, 4 October 2019.

[39] Consider that the country's new Agência Nacional de Mineração, established to make the country's industry more competitive and sustainable, was launched in the last days of the Temer Administration, in December 2018.

[40] There is a 10% surtax on income in excess of 240,000 Brazilian reals (~US$59,000) and a 9% CSLL tax (Contribuição Social sobre o Lucro Líquido, or 'Social Contribution Tax) levied on adjusted net income.

Articles on gold companies in Stocks Down Under

The following pages contain articles we have written for Stocks Down Under (www.stocksdownunder.com) on various ASX-listed gold miners

AngloGold Ashanti (ASX: AGG)

Out with the high cost, in with the low cost (13 April 2020)

There are not many stocks listed on the ASX that can claim to have held up during the Coronavirus Crisis. The Johannesburg-based gold major AngloGold Ashanti has been one of them. As at 3 April the S&P/ASX200 was down 29% compared to the 20 February 2020 all-time high. AngloGold stock was down just 6%. And no wonder. Gold is set to become pretty valuable as the long-term implications of this crisis become apparent, and AngloGold knows how to find a lot of it and mine it profitably.

When institutional investors in New York or London decide they need exposure to gold, they often buy just a few of the larger listed gold miners to make the job easy. They'll typically buy Newmont (NYSE:NEM) and Barrick (NYSE:GOLD), two companies built mainly on North American gold mines although they are global in focus. One company investors tend to look at less is the next one on the list of gold majors, the Johannesburg-based AngloGold Ashanti, whose stock trades in Johannesburg, New York and Australia. AngloGold isn't as big as the other gold companies, but it is still pretty sizeable. In 2019 Newmont's attributable output was 6.3 million ounces of gold. Barrick's was 5.5 million ounces and AngloGold's was 3.3 million ounces.

Who wants to buy a gold mine in South Africa?

Of these three, AngloGold doesn't look so good on cost. Newmont's All-In Sustaining Cost of production (AISC) in 2019 was US$966 an ounce, Barrick's was US$894 whereas AngloGold's was US$992. However, AngloGold's cost base is likely to improve over time because the company isn't averse to selling out of assets where the economics or the sovereign risk don't make sense. In December 2019 the company sold its share of the Sadiola Gold Mine in western Mali after the government of that major West African gold producer failed to provide attractive terms for a 'down deep extension' of the Sadiola main pit.

And, significantly, the company last month let go of its remaining South African assets for about US$300m, chief among them Mponeng, the world's deepest gold mine, located in the West Wits part of the Witwatersrand. When AngloGold flagged the potential for this sale in May 2019 it prompted a significant re-rating of its stock.

The transfer, to fellow South African miner Harmony Gold (JSE:HAR), was a true 'end of an era' moment. If you know your South African history you'll remember that AngloGold has its roots in Anglo American, the South African mining giant which the legendary Sir Ernest Oppenheimer started in 1917 and which dominated the South African mining scene, and therefore the world scene, for generations.

Obuasi more than makes up for Mponeng and Sadiola

What Sadiola and Mponeng represented was the high cost assets. AngloGold is now replacing them with lower-cost operations that are the fruits of its ability to find a lot of gold every year. On average for the last fifteen years it has found about 3.3 million ounces a year, much of it brownfields but some of it greenfields as well.

The Obuasi Gold Mine in the Ashanti region of southern Ghana, which AngloGold inherited in the 2004 merger with Ashanti Goldfiields, is a classic example of this Midas touch when it comes to brownfields. Obuasi restarted in December 2019 after a five-year hiatus. AngloGold's budget to rehabilitate this century-old mine was around half a billion US dollars but what it got was an AISC of only US$800 an ounce for 350,000 to 400,000 ounces a year over the next ten years. AngloGold expects similar or better upside for upcoming potential mines such as Gramalote and Quebradona in Colombia, and a gold project in the US state of Nevada oddly called Silicon.

Currently the market is pricing AngloGold at a P/E of just 10.7x calendar 2020 earnings. Newmont is 23.9x and Barrick 26.3x. Based on these valuation differences we see potential for AngloGold to re-rate to be more like its two larger peers so long as the Obuasi ramp-up is effected successfully through 2020. Gold is likely to help here. Since late March it's back to about US$1,600 an ounce.

Dacian Gold (ASX: DCN)

Mt Morgans appears to be fixed (4 February 2020)

Dacian Gold is one of those relatively new gold miners on ASX, having got its start with the recent reboot of the old Mt Morgans Gold Mine in Western Australia. Don't confuse this Mt Morgans with the famous Mt Morgan copper-gold mine near Rockhampton in central Qld. Dacian's Mt Morgans (note the 's' at the end) sits in that gold rich Kalgoorlie-Laverton-Leonora region of Western Australia, around 20km west of Laverton. The Western Australian Mt Morgans was first mined in the 1890s and, after a mid-20th century closure, was revived intermittently in the second half of the century. It came into Dacian's hands in 2012 and, after around $200m in capital costs, poured its first gold in March 2018.

Mt Morgans 1.0 was a disappointment

Dacian's intention at the commencement of Mt Morgans was to produce 180,000-210,000 ounces in FY19 from two mining centres 15 km apart – underground at Westralia, open cut at Jupiter – with ore being processed at a 2.5 million tonnes p.a. plant in between. Under the original mine plan, Mt Morgans would produce 200,000 ounces or more over the following ten years at an All-in Sustaining Cost of around A$1,000 an ounce. That looked conservative because Mt Morgans was backed by a resource of 3.5 million ounces. A slow March 2019 quarter due to equipment availability issues cut the FY19 forecast to 150,000-160,000 ounces, but then, on 5 June 2019, came a revelation that took Dacian's share price down by 68% in a day.

Dacian indicated that the June quarter would only bring the total output for FY19 to around 140,000 ounces. Worse still, the grades at both Westralia and Jupiter weren't coming in as expected. The expectation, therefore, was that FY20 would only see 150,000-170,000 ounces produced at an AISC of A$1,350-1,450 and production for the next five years would be in the order of 160,000-180,000 ounces.

Mt Morgans 2.0 looks better

Dacian was only able to come back from this downgrade after its engineers went back over what they knew, particularly with regard to grade, and the company reported back to the market on 10 July what seemed credible numbers on production and costs at Mt Morgans. The current guidance, which is reasonably close to the 10 July estimates, is 150,000-170,000 ounces at A$1,400-1,500 an ounce in FY20 and 150,000-170,000 ounces over eight years at A$1,340-1,440 over an eight-year mine life.

The current resource at Mt Morgans is 3.65 million ounces, higher than at the time of the first gold pour. Interestingly, Mt Morgans stock is currently in voluntary suspension on ASX while the company prepares to disclose what it thinks the correct resource and reserve should be. A resource/reserve downgrade probably doesn't change the current mine life by much, and it comes at a time of rising gold prices that could offset this. Moreover, we think the Dacian board, which includes the noted Perth mining entrepreneur Barry Patterson, has been conservative on its production outlook since mid-2019.

So, there is potential for this company's share price to go forward after the resource announcement, helped by the fact that as of 6 January it has a new CEO, Leigh Junk, who succeeded the founding CEO, Rohan Williams. Junk's previous port-of-call was Doray Minerals, which merged last year with Silver Lake Resources (ASX: SLR) and whose company-maker was the successful Deflector Gold-Copper Mine in the southern Murchison region of Western Australia.

People who like gold stocks right now need to watch this one carefully post the recommencement of trading. Should Dacian stock be weak, this could be a great opportunity given what the yellow metal has been doing lately.

Emerald Resources (ASX: EMR)

Another wonder from the land that gave us Angkor Wat (10 February 2020)

The timing couldn't be better for Emerald Resources, the Perth-based company that owns 100% of the Okvau Gold Project in Cambodia. Gold's recent move above US$1,500 an ounce, and favourable fiscal terms in Cambodia, has made Okvau's transition to a producing mine relatively easy. With the project now funded, Emerald is on track to be a 100,000+ ounce p.a. gold miner from the middle of next year at an All-In Sustaining Cost (AISC) of just US$754 an ounce.

When investors in Perth or Vancouver or Denver think 'mining' they don't generally think 'Cambodia'. Indeed, this small southeast Asian nation – population 16 million, capital Phnom Penh – didn't even get rated as to its attractiveness to mining companies when Canada's Fraser Institute conducted its most recent Annual Survey, because there weren't enough responses from those surveyed. That, however, may be about to change given the favourable terms on which Emerald Resources will be developing its 'company maker' at Okvau, a gold deposit with a 1.1-million-ounce resource in Cambodia's eastern province of Mondulkiri.

Great fiscal terms

Cambodia, which has a long history of 'artisanal' mining (that is, small-scale, subsistence-style informal mining conducted by individuals or small groups on mineral-rich fields), began to mainstream its mining industry in 2016, offering terms Western miners would find attractive. Under Emerald's Mineral Investment Agreement with the government, the company gets to own 100% of Okvau rather than having to take in a local partner, as is commonplace elsewhere in the region. The company will pay a 3% royalty on gold sales to the Cambodian government, and its tax rate will be 25% for the first five years and 30% thereafter. There's also an exemption from import duties for the first three years.

That kind of fiscal regime adds to the attractive economics of Okvau itself. The May 2017 Definitive Feasibility Study, which proposed processing 2.0 million tonnes or ore p.a. to produce 106,000 ounces a year over seven years, suggested a post-tax NPV of A$213m on a 5% discount rate at a mere US$1,250 an ounce gold price. The capital cost for the operation was envisaged at US$98m. Okvau is relatively straightforward from a processing point of view, with the single stage crushing circuit and SAG mill, sulphide flotation, regrind mill and cyanide leaching all par for the course in the gold industry. When Emerald updated the DFS in late 2019 to assume US$1,450 an ounce gold, and bumped AISC from US$731 to US$754, the post-tax NPV came out a lucrative A$345m.

Funded and ready to go

Some investors may worry that in a 'frontier' mining country like Cambodia, Emerald's project is too remote. We don't think so - Okvau is only 90 km from Kratie, a Mekong River port town about five hour's drive north of Phnom Penh. Interestingly, Okvau has access to grid power at under 12 US cents per kilowatt hour in a country where the grid is only available for around 72% of the population. Sometimes the new frontiers aren't as 'frontier' as you think.

Emerald Resources found the debt funding for its project in mid-2019 via a US$60m term sheet with the Toronto-based Sprott Inc. (TSX:SII), an asset management firm that often does precious metal financing and is associated with billionaire and noted 'precious metal fanatic' Eric Sprott. The equity component of the Okvau financing has, in effect, just kicked in via a A$75m placement at 4 cents per share that Sprott assisted with. With funding now more or less in place and Okvau's Mining Licence, Environmental Approval and Mineral Investment Agreement all nailed down, Emerald is on track for its first gold pour in the second quarter of 2021.

Room to expand

Beyond Okvau, Emerald is sitting on 1,400 sq km of exploration territory in the neighbourhood that could considerably expand the upside of Emerald from the original project. The geologists reckon the region looks ripe for 'intrusive-related' gold structures like those which created the Pogo Gold Mine of Northern Star (ASX:NST) in Alaska. The folks at Sprott like what they see in Cambodia – alongside the US$60m project finance facility they have also extended to Emerald a US$100m 'acquisition and development facility' to help the company find other gold opportunities in Cambodia. So how do you say 'large upside' in Khmer?

Gold Road Resources (ASX: GOR)

The big cheeses have been buying (2 April 2020)

It's been an amazing recovery. The share price of the Perth-based emerging gold miner Gold Road Resources more than halved between 24 February 2020, right after the general market peak, and 16 March 2020. The fall was from $1.77 to just 80.5 cents. Then, just as suddenly, Gold Road stock turned around and retraced a lot of that fall, so that by late March it had rallied towards $1.40. That's the power of gold in this current era of uncertainty. We think there's more rallying power for Gold Road where that came from.

A mine named after a cheese

Gold Road Resources is a newly arrived gold miner on the ASX whose 'company maker' was the recently opened Gruyere Gold Mine, around 200 km east of the town of Laverton in Western Australia. Why they named a gold mine after that hard cheese that originated in Switzerland and is pronounced 'gree-yair', we don't know. What we do know is this mine represents some serious cheddar for the shareholders of Gold Road.

A large resource at a low AISC

Gold Road owns 50% of Gruyere, a 300,000 ounces p.a. mine that commenced production in June 2019, less than six years after discovery of the deposit. The other half belongs to the Johannesburg-based Gold Fields (JSE:GFI), one of the world's largest gold miners. Gruyere sits on a JORC 2012 resource of 6.6 million ounces, making it one of the largest virgin gold discoveries in Australia in a long while.

The current mine plan will see 300,000 ounces produced every year for at least the next 11 or 12 years at an average All-In Sustaining Cost (AISC) of US$745 an ounce. This is a very low cost of production given the current gold price of around US$1,630 an ounce, but no surprise given the fact that Gruyere is a simple open pit with a conventional and noncomplicated flowsheet.

Gold Fields liked this project so much that its entry price in November 2016 for just 50% was A$350m cash plus a 1.5% royalty on production over 2 million ounces. Gruyere is currently in ramp-up mode and Gold Road's guidance for calendar 2020 is 250,000-285,000 ounces at an AISC of A$1,100-1,200.

Underexplored greenstones can mean more of the green stuff

Beyond Gruyere, Gold Road's mission is to discover more gold mines in the Yamarna Greenstone Belt, within which the company-making mine is situated. In geology, 'greenstone belts' are large belt-like areas of volcanic rocks where those rocks are low in silica but where various minerals within the rock have a greenish hue because of the way they have metamorphosed.

Greenstone belts are great places to explore for gold as illustrated by Kalgoorlie's Golden Mile. This exists because it sits in the Norseman-Wiluna Greenstone Belt, while Canadian investors have done well over the years out of the Abitibi greenstone belt and gold camps such as Val D'Or.

Gold Road considers the Yamarna Greenstone Belt underexplored by the standards of Australian gold exploration and the company is spending a large exploration budget on the 4,500 square km of ground it holds in the belt looking for the next >1 million-ounce discovery. It may already have one with a 260,000-ounce resource to the south of Gruyere at a deposit called Gilmour. Given the success of Gold Road with Gruyere and Gold Road's longstanding commitment to the Yamarna, there's probably more where Gruyere came from.

Directors have been buying

Which brings us back to Gold Road's bounce back to life. Part of it was gold itself, which crashed suddenly between 6 March and 17 March before stabilizing as investors realized the economic stimulus to deal with Coronavirus meant lots of paper money out there. Part of Gold Road's bounce was also the recognition that low-cost producers are best placed to take advantage of the still-high gold prices we have at the moment. Most of all, though, we think investors recognised that the market wasn't paying much for the company's attributable reserve base, even before the crash. At December 2019 this stood at 1.9 million ounces.

That makes for a current EV/resource ounce of around A$600, which is low compared to recent valuations for other emerging miners such as Northern Star (ASX:NST) or Kirkland Lake (ASX:KLA). No wonder, then, that several directors of Gold Road - Chairman Tim Netscher, Executive Director Justin Osborne and Non-Executive Director Brian Levet - chose to take advantage of the market rout of March 2020 and buy some stock on market. Like those directors, we rate Gold Road as a Four-Star stock right now.

Kirkland Lake Gold (ASX: KLA)

A buy and improve strategy (30 March 2020)

When the Coronavirus crisis started and oil collapsed, gold ran up with all the confusion, reaching US$1,687 on 6 March. Then gold crashed as well, back to US$1,472 an ounce by 17 March. That wasn't great for the major Canadian producer Kirkland Lake Gold, whose stock trades in Toronto and New York as well as Australia. Kirkland Lake Gold stock was over A$76 a share on ASX last September. It's since been as low as $39. However, we think good times for gold will resume shortly, with Kirkland Lake's current suite of mines positioning it to grow with the yellow metal.

Acquire and improve

Kirkland Lake Gold is one of those rare gold miners that always seem to buy good assets at the right time. Its history starts in late 2001 when gold was a mere US$270-280/oz and a junior explorer called Foxpoint Resources had just convinced an established miner, Kinross Gold (TSX: K), to sell to it a number of former gold mines in the neighbourhood of Kirkland Lake, Ontario, a town around eight hours drive north of Toronto nicknamed 'the Mile of Gold' because of the productivity of its gold mines back in the day. The cost was C$5m.

One of the idle properties Kinross offloaded was an underground mine called Macassa. Kirkland Lake Gold, which is what Foxpoint Resources renamed itself, dewatered Macassa and started exploring, finding a major new gold resource, which Kirkland Lake Gold has since profitably exploited. It took a while to develop Macassa into a substantial mine but by 2012 it was a 100,000-ounce producer at a cash cost of about US$800 an ounce. In calendar 2019 the comparable figures were 241,000 ounces at US$414 an ounce.

Kirkland Lake Gold's next big move after Macassa was a late 2015 merger with fellow Canadian producer St Andrew Goldfields in an all-scrip deal worth C$178m. The timing was exquisite – gold was at a major low of US$1,100 an ounce. This merger brought three mines together called the 'Holt Complex' at Matheson, Ontario, around 70 km north of Kirkland Lake. These days the Holt Complex assets are non-core for Kirkland Lake Gold but in 2011 they started the company on a path to becoming a gold major by adding 140,000 ounces of output.

Into the big league

After St Andrew came the pivotal Newmarket Gold merger of September 2016. That C$1bn transaction brought Kirkland Lake Gold into the big time because it added the Fosterville Gold Mine in central Victoria. In 2015 Fosterville, which is 20 km from the gold town of Bendigo, had delivered some of the highest-grade gold discoveries in Australia in recent decades in exploration drilling. Therefore, it could reasonably expect to be a strong producer for the new Kirkland Gold. That, indeed, proved to be the case.

At the start of 2016, Newmarket Gold had been expecting 110,000-120,000 ounces from Fosterville that year at an operating cash cost of US$500-575 an ounce. In 2019 Kirkland Lake Gold got 619,000 ounces from the mine at a cash cost of US$119 an ounce. It was Fosterville that prompted Kirkland Lake Gold to add an ASX listing because of strong local interest in gold miners in the Fosterville area.

A 4-star strategy

Notice a pattern here? Kirkland Lake Gold buys an asset and then transforms it via smart exploration or mine engineering, so that costs go down and production goes up. The company is expecting its acquisition, the Detour Lake Gold Mine in northern Ontario, to follow this same path. Detour Lake is Canada's second largest gold mine and currently a 600,000 ounce-a-year producer at an AISC of US$1,100 an ounce. Kirkland Lake Gold paid C$4.9bn in scrip for its owner, Detour Gold, late last year and expects to realise a strong return on that investment over time.

As a 1.5-million-ounce producer Kirkland Lake Gold is now a prime target for any institution that needs easy exposure to gold and a management team with a track record of adding value. At a P/E of around 11.9x forecast 2020 earnings, those institutions don't have to pay much to get that exposure right now. But even if they're not buying, the company itself is. On 18 March Kirkland Lake Gold announced it had bought in one fell swoop some 10.1 million shares of its scheduled 20 million share buyback. This stock is Four Stars in our book.

Nusantara Resources (ASX: NUS)

A new gold mine ready to go (3 February 2020)

The good times have continued for gold in 2020, with the yellow metal reaching US$1,580 an ounce on 30 January, as against close to US$1,520 at the start of the year. Now is, in our view, a good time to be looking at companies with new gold projects, and one of the best available on ASX belongs to the Perth-based Nusantara Resources. This company's Awak Mas Gold Project in Indonesia can potentially be producing by late 2022 at an All-In Sustaining Cost (AISC) of US$758 an ounce. All it will take is US$110-120m in bank debt, which is now being sought. We predict the search will be completed successfully before too much of 2020 has passed.

Nusantara is so-called because that's the Indonesian word for 'archipelago'. Indonesia has traditionally been a strong gold producer, and in 2018 was the world's seventh largest, with output of around 137 tonnes. Awak Mas is expected to be the country's next gold mine. The project is located on Sulawsi, that funny-looking island with four long peninsulas that lies to the east of Borneo and the northeast of the main Indonesian island of Java. The project covers a 2-million-ounce resource in the province of South Sulawesi that, under the current mine plan as per the October 2018 Definitive Feasibility Study, will yield 100,000 ounces a year over 11 years from an open pit. The capex bill to get this operation started is only US$146m after pre-production mining costs of USD$16m.

Awak Mas's time has finally arrived

Awak Mas was first discovered in 1991 and was owned by a string of companies before it was finally placed into Nusantara and listed on the ASX in 2017, under the aegis of the well-regarded mining investment house Lion Selection, which owns 23%. The reason it's taken so long for Awak Mas to get going is that either low gold prices or political risk in Indonesia or both have tended to conspire against the project. Gold is obviously doing well right now, and Indonesia under President Joko Widodo, re-elected last year, is proving to be attractive to foreign miners moving into the country. In Awak Mas's case all the infrastructure is in place, including good roads, a nearby port, and grid power, and there are no forestry issues that would hinder the completion of permitting.

In a place like Indonesia, an Australian company needs to have a local partner, and under an agreement struck in December last year Nusantara will own Awak Mas 60/40 with Indika Energy, one of Indonesia's largest integrated resources companies. That bodes well for the current discussions around bank debt, as does the decision by Petrosea, an Indika subsidiary that among other things provides mining engineering and construction services, to defer around US$40m in costs to lower Awak Mas's overall up-front capital costs.

A decision to mine in late 2020

Currently, Nusantara and Indika are getting ready for early works at Awak Mas like road construction and land clearance at the site. Nusantara is funding its share from an $11m share placement done at 34 cents in December 2019. The decision to mine is expected to take place late this year once the bank debt has been negotiated. Nusantara has plenty of upside to enjoy from Awak Mas once it gets going. There's room to expand the resource with new exploration drilling and Nusantara is already working on project optimisation that would increase production beyond 100,000 ounces annually.

Nusantara stock has run hard since the May 2014 low of 14 cents, buoyed by Indika's entry into Awak Mas and the bullish environment for gold in 2019. While the stock has eased back since the placement, there's room for it to continue rising given the quality economics of the project as per the October 2018 DFS and the imminence of a decision to mine. Not bad when at the moment you can buy Nusantara for an Enterprise Value to Resource ounce of only a little over A$40. That low figure leaves a fair bit up upside. No wonder a couple of Nusantara's directors have bought stock on-market recently.

OceanaGold (ASX: OGC)

Hey, where'd our mine go? (25 January 2020)

Now is generally a good time for a company to have the word 'gold' in its title. The yellow metal started 2019 at US$1,282 per ounce and ended it at US$1,523 per ounce. Currently it's US$1,558 an ounce and some commentators are seeing US$2,000 an ounce in the medium term. The Melbourne-based mid-tier gold miner OceanaGold, however, hasn't benefitted much from gold's recent good times, mainly because of a disastrous situation in a mine in the Philippines.

How bad was 2019 for OceanaGold shareholders? The stock closed at $5.23 on 3 January 2019, but by Christmas Eve it was only $2.50. OceanaGold's leadership demonstrated some optimism regarding their company's prospects in November when several directors bought stock on market, including CEO Mick Wilkes. However, that hasn't prevented shorts recently showing up in the stock. Indeed, the short position increased suddenly on 17 January from 1.4% to 2.2% and one suspects there is more where that came from.

Oceana has lost the jewel in the crown

The issue for OceanaGold is Didipio, a copper-gold mine on the main Philippines island of Luzon which produced 115,000 ounces of gold in 2018, or just over a fifth of that year's total output for the company, as well as 15,000 tonnes of copper. Didipio used to be the jewel in the crown for OceanaGold in terms of its cost of production. Measured as All-in Sustaining Cost (AISC) – the direct cost of producing the gold plus the recurring capital expenditure at the mine site – Didipio produced in 2018 at just US$427 an ounce, as against the rest of the OceanaGold group where the AISC was US$863.

We say 'used to be' the jewel in the crown with regard to Didipio because in July 2019 this mine was more-or-less shut down by order of a man called Carlos Padilla, Governor of Nueva Vizcaya, the province in central Luzon where Didipio is located, around 300 km north of Manila. The governor, freshly re-elected in May 2019, regarded Oceana's mine as bad for the environment, and when a provincial court of appeal refused an injunction to stop him, there wasn't much OceanaGold could do. The company didn't even have an official license to operate from the national government because Philippines President Rodrigo Duterte had not pinned his all-important signature to a new 'Financial or Technical Assistance Agreement' (FTAA) that was due for renewal in June 2019. The mercurial Duterte, whose term of office doesn't expire until 2022, is on record as saying he wants to shut down the entire mining industry of the Philippines, so it's fair to say that OceanaGold's prospects of getting its jewel back are not very good.

Not all is lost at OceanaGold

Now, OceanaGold is not a complete disaster. The Haile Gold Mine in the US state of South Carolina plus a couple of gold mines in New Zealand – Waihi in the North Island and Macraes in the South Island – are all solid producers with profitable mine lives ahead of them and no danger of sovereign risk incidents. In 2019 they probably did around 400,000 ounces at an AISC of US$950 an ounce. The trouble is that costs were up at all these mines in 2019. Longer term, all three have major expansions in the works, but these projects will not likely deliver on costs in the near term.

Ordinarily we're bullish on gold miners with a decent medium-term outlook. Here, with Didipio offline for the foreseeable future and potentially a source of commentary for the mainstream media – who love a good Duterte story – we'd be cautious.

Resolute Mining (ASX: RSG)

Balance sheet improved (21 January 2020)

Back in August 2019 the stock of Resolute Mining, owner of three gold mines in Africa and one in Australia, was trading above $2.00 a share. The company was won track to produce 400,000 ounces at an All-In Sustaining Cost of US$960 per ounce in calendar 2019 and in 2020 the expectation was 490,000 ounces at US$920 an ounce. So the outlook was bright. Only three months later it was pummelled down to around $1.10 and it has been boxed in to a narrow trading range of $1.10-$1.30 since then. With 11% of the stock shorted, it's fair to say that Resolute has become something of an out-of-favour company in a sector that is otherwise doing well.

What's gone wrong, and what can now go right?

What went wrong, we think, was the company's debt position and a minor problem at the Syama Gold Mine in Mali. In June 2019 Resolute had $142m in net debt. In August the company announced it was acquiring the privately-owned Toro Gold for $US274m, which owned the Mako Gold Mine in Senegal. Resolute paid US$130m cash and the rest in shares at A$1.45 each, and funded it through a bridging finance facility provided by Taurus Funds Management. The market became concerned that Resolute was over-borrowed, particularly when a debt facility to replace the bridge wasn't announced quickly. Combine that with the roaster at Syama having to go offline for a while for cracks to be repaired in its external shell, which raised the expected AISC for 2019 to US$1,020 an ounce, and Resolute was out of favour.

Debt to be paid down

We argue that Resolute can come back into to favour now that it is raising up to A$196m in equity to pay off the bridge at $1.10 per share. This would take away the main reason for the 11% short position we noted above. Also, the company has chosen to sell the Ravenswood Gold Mine in Queensland to private equity for long-run total proceeds of up to A$300m, more than the pro-forma net debt post the equity raising of A$191m. Ravenswood was the highest cost of Resolute's mines and while it had a bright future as it transitioned to open-pit mining, from a previous underground operation, the company can rightly argue that it enjoys more opportunity in two lower-cost African mines - Syama, which is believd to be one of the most automated mines in the world, and Mako.

Currently Resolute is trading at a P/E of only 5 times calendar 2020 consensus. That seems low given how gold is holding about US$1,500 an ounce this year and Resolute is guiding to 500,000 ounces of production at an AISC of US$980 pre the Ravenswood sale. With a large resource base of 19 million ounces, there's plenty of room to grow improve these numbers over time.

St Barbara (ASX: SBM)

Moving beyond the Gwalia story (21 January 2020)

On 22 March 2019 St Barbara, the major Australian gold miner, made a somewhat technical market release where it reported that it had completed the so-called 'Gwalia Mass Extraction Feasibility Study'. With this study St Barbara's engineers had looked into the best way to extend the orebody of the Gwalia Gold Mine near Leonora in Western Australia, a mine with a history stretching back to the 19th Century. Up until 2019 St Barbara had trucked out of the Gwalia mine. St Barbara's engineers had evaluated the economics of hydraulic hoisting and decided trucking was still the better option.

Sounds pretty ordinary, doesn't it? That announcement, however, was the start of a bad time for St Barbara shareholders because on page 2 there was guidance that Gwalia would only produce 235,000-240,000 ounces of gold in FY19 at an All-In Sustaining Cost (AISC) of A$980-1000 per ounce. Previously the guidance had been 245,000-255,000 ounces of gold at A$930-970 per ounce. The reason for the change was the timing of when a 'paste aggregate fill' circuit would be brought into operation at Gwalia. Paste aggregate fill is simply rock and paste mixed together to fill up mined-out stopes. The market didn't care that paste aggregate fill was a normal part of a life in a mine that would produce 200,000-230,000 ounces p.a. until 2031. And it was particularly testy to learn in late May, not long after an equity raising of A$355m at $2.89 per share, that Gwalia production in FY19 would be only 220,000 tonnes because of a problem with the machinery that sent the past down the stopes being filled. By June 2019 St Barbara stock was down 35% on the levels of three months previous, to around $2.50.

Another Gwalia downgrade

Gwalia stock did recover between June and August but then crashed again. This time the issue was an October 2019 downgrade at Gwalia, which in FY20 is now only expected to product 175,000-190,000 ounces because of the way in which the Gwalia extension will temporarily constrain capacity down the mine. The bottom here was once again around $2.50 per share.

Interestingly, St Barbara stock is now levitating off this well-tested $2.50 resistance level, maybe because, as they say in the markets, downgrades always come in threes, and St Barbara has now had its three. Leaving aside Gwalia, the company is set for a good year at the Simberi Gold Mine in PNG (110,125,000 ounces in FY20) and at the Atlantic Gold Mine in the Canadian province of Nova Scotia (95,000-105,000 ounces), which have proved fairly problem-free for St Barbara in the current year. We suspect that St Barbara management have been conservative in its estimate of Gwalia production. Any number closer to 190,000 ounces when the full year results hit the streets in August is likely to be well received.

Gold is in favour right now at over US$1,500 an ounce so the market is in a forgiving mood for St Barbara. We think the risk of another Gwalia downgrade is already factored in to the current P/E on consensus numbers of around 10.

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