Investors' Chronicle | Alpha

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Alpha small company research

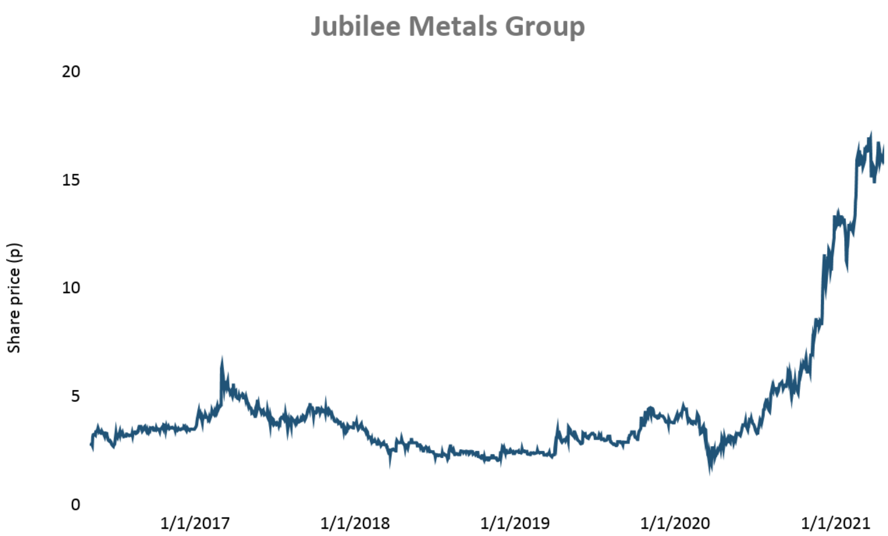
26 April 2021

A copper bottomed investment

It's not often a company is priced on less than four times cash-adjusted forward earnings, but that's the tantalising prospect offered by Jubilee Metals, a mining company that makes its money by extracting platinum group metals (PGMs) and copper from mine tailings in South Africa and Zambia.

Simon Thompson's view:

Jubilee not only offers investors exposure to the South African mining industry, but a play on some of the top performing commodities: rhodium, palladium and platinum. Underpinned by robust demand from the automotive industry, and a strongly rebounding global economy, the pricing outlook is so favourable that analysts believe Jubilee's pre-tax profits could double over the next 12 months. Moreover, the company has timed its entry into the Zambia copper market to perfection as the copper price is now making record highs, thus offering scope for a rapid payback on Jubilee's internal cash flow funded investment. The share price looks primed to make record highs, too.



Source: FactSet

Bull points

1. Robust outlook for PGM and copper prices.
2. Low operating costs and high margins.
3. Highly cash generative.
4. Low production risk.
5. Copper expansion plans in Zambia.
6. ESG credentials through the clean-up of mining waste products.
7. Experienced management team.
8. Diversification across various commodities.
9. Internal cash flows funding ongoing expansion.
10. Strong end market demand for PGM and copper.

Bear points

1. Increased electric vehicle production.
2. No dividend.
3. Execution of expansion plans.
4. Shares are volatile.

Jubilee Metals Group (JLP)	
Ticker	JLP
Current price	15.8P
Target price	25p
Market cap	£354m
52 week high	17.3p
52 week low	2.6p
Net debt	£0.9m (31 December 2020)
Shares in issue	2.24bn
Financial year end	30 June
Next event	Operations update, May 2021
Website	jubileemetalsgroup.com

Jubilee Metals (JLP), an Aim-traded mining company that is also listed on the Alternative Exchange of the Johannesburg Stock Exchange, makes its money by extracting valuable metals from chrome tailings in South Africa and Zambia. It's doing rather well having just reported an eye-catching 272 per cent increase in pre-tax profit to £24.4m on 110 per cent higher revenue of £53m in the six months to 31 December 2020.

To put the financial performance into perspective, the company reported a £13.7m pre-tax profit for the whole of the 2019/20 financial year on revenue of £54.8m. The marked improvement reflects the operational leverage of the business to both rising commodity prices – Jubilee's basket includes PGMs, chrome, copper, lead, zinc, vanadium and copper – and rising output, too. Jubilee's PGM output also ramped up, increasing by a third to 28,187 ounces in the latest half year period and hitting record levels in December.

Jubilee financial performance

Group	6 months to 31 Dec 2020	6 months to 31 Dec 2019	12 months to 30 Jun 2020
Revenue	£53.4m	£25.4m	£54.8m
Gross profit	£30.9m	£9.9m	£25.1m
Gross profit margin	58%	39%	46%
Ebitda	£28.9m	£10.3m	£22.2m
Adjusted Ebitda	£29.3m	£8.7m	£22.6m
Adjusted Ebitda margin	55%	34%	41%
Pre-tax profit	£24.4m	£6.6m	£13.7m
Pre-tax profit margin	46%	26%	25%

Source: Jubilee Platinum interim results (March 2021)

PGM prices have been hitting record highs, too, which is why first-half revenue from Jubilee's two South African chrome tailings operations – Inyoni and Windsor in South Africa's Bushweld Complex – surged 125 per cent to £36.6m and delivered 85 per cent of the group profit of £30.9m.

It's hugely profitable, too. That's because Jubilee's average PGM split includes rhodium (8 per cent share by volume), palladium (18 per cent) and platinum (60 per cent). In the past 12 months, spot prices for the commodities have increased by 440 per cent, 30 per cent and 58 per cent, respectively. There are strong reasons why prices of these PGMs are likely to remain high.

Jubilee PGM financial and operational performance

PGM	6 months to 31 Dec 2020	6 months to 31 Dec 2019	12 months to 30 Jun 2020
PGM revenue	£36.6m	£16.3m	£34.6m
Attributable PGM gross profit	£26.4m	£9.7m	£21.5m
Attributable PGM gross profit margin	72%	50%	62%
Attributable PGM ounces produced	28,187	21,082	40,743
PGM revenue per ounce	$1,696	$973	$1,070
PGM attributable gross profit per ounce	$1,223	$580	$665
Adjusted PGM production unit cost	$470	$519	$541

Source: Jubilee Platinum interim results (March 2021)

Demand drivers for PGM complex

Stricter emissions standards for passenger cars in China, new EU legislation limiting nitrogen oxide emissions in on-the-road driving tests from September 2022, and rebounding China car sales are the key drivers behind the booming price of rhodium, a mining by-product used as a catalyst in three-way catalytic converters in cars. Rhodium is two to three times more effective than platinum in an autocatalyst, hence its appeal to car makers. In fact, autocatalysts account for almost 90 per cent of global rhodium demand, so there is limited scope for value destruction (due to the higher commodity price) to free up supply from other market segments (chemical, glass and electrical).

At the same time demand from car makers is increasing, a lack of new mines coming on stream means that global supply is incredibly tight, so much so that the rhodium market is forecast to be in a 60,000 ounce (oz) deficit in 2021, or 5 per cent of estimated market demand (source: Johnson Matthey). This is further accentuating the price move. The constrained rhodium supply also reflects the fact that the majority of global rhodium supply is a by-product of platinum production in South Africa, the country accounts for 80 per cent of global supply. As a result, rhodium supply can only increase along with production of all the other PGMs.

Jubilee is benefiting from its exposure to palladium and platinum, too. Alongside rhodium, the PGMs are widely used in autocatalysts for petrol powered vehicles. Additional demand has been responsible for a deficit in the palladium market and has fuelled the recent price increase.

PGMs also have multiple uses in industry including in the manufacture of nitric acid, speciality silicones, PC hard discs, electronic components on integrated circuit boards, dental uses, crucibles, and glass manufacturing. In addition, PGMs are used in hydrogen fuel cells such as the proton exchange membrane (PEM) fuel cell, which contains platinum catalysts. PEM fuel cells can be used in power generation for buildings and in mobile equipment (replacing batteries and generators) and as replacements for the internal combustion engine (ICE) in a vehicle.

Jubilee Metals (JLP)				
Ord Price:	15.8p	**Market Value:**	£ 354m	
Touch:	15.7-15.9p	**12-Month High/Low:**	17.3p	2.6p
Dividend Yield:	nil	**PE Ratio:**	4	
Net Asset Value*:	5.1p	**Net Debt:**	1%	
Year to	**Revenue**	**Pre-tax**	**Diluted adjusted earnings**	**Dividend**
30 Jun	**(£m)**	**profit (£m)**	**per share (p)**	**per share (p)**
Year to 30 Jun	Revenue (£m)	Pre-tax profit (£m)	Diluted adjusted earnings per share (p)	Dividend per share (p)
2019	23.6	8.0	0.47	nil
2020	54.8	13.7	0.93	nil
2021	113.3	47.8	1.90	nil
2022^	243.4	96.3	3.40	nil
2023^	321.9	117.4	4.00	nil
% change	**32%**	**22%**	**18%**	**-**

SETSqx *Includes intangible assets of £70.5m, or 3.1p a share ^WH Ireland estimates

Accelerated shift to electric vehicles unlikely to dampen demand

Although the global movement to reduce carbon emissions is gathering momentum, it's worth pointing out that it's going to take decades for hydrogen and battery powered vehicles to replace the ICE in vehicles. Furthermore, unless green stimulus efforts are targeted on purely electric vehicles rather than hybrids, that still require high PGM loadings, then it is difficult to envisage a scenario where there is demand destruction for PGMs.

Analysts at research consultancy LMC Automotive forecast an 11 per cent decline in sales of gasoline and diesel vehicles globally between 2019 and 2027, but a quadrupling for hybrids, leading to a 9 per cent increase overall for vehicles needing PGMs in the catalyst. Aside from meeting the requirements of fleet emissions standards, the car makers typically make far better margins on gasoline and petrol cars than on electric vehicles, so are heavily incentivised to maximise ICE vehicle sales as much as possible, and extend their longevity.

Interestingly, analysts at Liberum Capital have quantified the price point at which car makers will earn a better margin on a battery electric vehicle than an ICE vehicle. Research consultancy McKinsey estimates it costs roughly $12,000 (£8,800) more for an electric vehicle than a comparable ICE vehicle in the small to mid-size segment. However, car manufacturers can charge a premium as an electric vehicle has lower running costs (around $650 per year) and consumers typically tend to factor in three years' worth of these savings into the price they are willing to pay. Liberum calculates that car makers earned around US$7,000 higher margin on ICE sales than on electric vehicles in 2020.

McKinsey estimates that through various levers this margin could drop to zero by 2025, particularly through cost reduction of the battery pack. This would be a clear inflection point in electric vehicle demand forecasts as mass adoption for electric vehicles should follow thereafter. However, without the requisite countrywide charging network in place then many buyers are still likely to opt for ICE vehicles, thus dampening demand for new electric cars.

It's also worth considering that for rhodium to absorb the entire margin differential for ICE over electric vehicles, prices would have to go vastly higher at current loadings (US$100,000 per oz until 2024) to make a difference to the economics of car manufacturing. The current spot price of rhodium is only US$27,000 per oz.

The implication being that there is an incentive for car makers to continue to absorb the current rhodium price on ICE vehicle sales given the far higher profit margin they earn over electric vehicles, and they can pay far higher rhodium prices before this margin is eroded completely. This is good news for PGM producers.

Environment, social & corporate governance credentials

Jubilee also offers strong ESG credentials. That's because the PGMs extracted from chrome tailings reduce carbon emissions in the auto-catalyst at a time when there is increasing global awareness of the need to reduce both mine waste exposure and the vast amount of historic on-surface waste material.

Jubilee is one of a few companies that has the expertise to implement mine waste recovery projects and turn potential waste liabilities into assets through implementing environmentally conscious metal recovery that ensures a zero-effluent policy. Importantly, its projects have defined reserves with the tonnage and a grade known in advance, and don't have the expenses related to traditional mining techniques.

From a financial perspective, its specialised production processes have exceptionally low capital intensity and operating costs, which delivers robust profit margins. In fact, Jubilee's spot PGM basket price is currently over US$3,000 per oz, or more than six times higher than unit operating costs of US$470 per oz reported in the six months to 31 December 2020.

It's low risk production, too. That's because the material treated by Jubilee is at surface and usually pre-ground, thus reducing the two major costs in a typical mining operation (mining and comminution) and eliminating the risks of mining almost entirely. As a result, the company provides investors exposure to South African PGMs without the normal risks associated with deep mining.

Aggressive chrome growth strategy underpins PGM feed circuit

Another major take from the interim results was the marked ramp up in Jubilee's earnings from chrome operations.

Jubilee Chrome financial and operational performance

Chrome	6 months to 31 Dec 2020	6 months to 31 Dec 2019	12 months to 30 Jun 2020
Revenue	£11.6m	£9.1m	£17.2m
Attributable gross profit	£1.3m	£0.3m	£0.8m
Attributable chrome gross profit margin	11%	3%	5%
Attributable chrome tonnes produced	319,834	186,249	377,883
Chrome $ revenue per tonne	$47	$62	$57
Chrome attributable $ earnings per tonne	$5	$2	$3

Source: Jubilee Platinum interim results (March 2021)

These operations play a vital role to secure a sustained PGM-tailings rich feed supply to both Jubilee's chrome and PGM operations. Chrome ore is processed at the company's chrome beneficiation plants to produce a saleable chrome concentrate and a PGM containing discard which is then fed to the company's PGM recovery plants. Jubilee has expanded its chrome operations to reach an overall processing capacity of chrome ore of 115,000 tonnes per month, which is in addition to the 55,000 tonnes per month chrome tailings facility at Inyoni.

Jubilee's Inyoni PGM and chrome plants and processing facilities in Bushweld, South Africa

Jubilee has also commenced the construction of 80,000 tonnes per month of chrome ore processing facility near its Inyoni operations, which will increase overall processing capacity to 250,000 tonnes per month. It will be fully commissioned in the second quarter this year. The company entered a third-party Run-Of-Mine chrome ore offtake agreement with Samancor which will fully commit both its Windsor chrome beneficiation plant as well as the future capacity of the new 80,000 tonnes per month chrome facility for the next three years, with an option of an extension. This will supplement its secured surface chrome tailings stockpiles. The chrome will be supplied to Samancor on a fixed margin contract.

More importantly, Jubilee now controls the source feed to its fine chrome and PGM circuits which ensures stability of operations and means that it can capture 100 per cent of the value. Effectively, the chrome production is paying to pre-concentrate the PGM circuit feed. Previously, the company had purchased the old Hernic tailings dump to start-up its PGM flotation plant. At the same time, Jubilee's Inyoni plant is being expanded to 70,000 tonnes per month to produce 4,500 PGM oz per month at a relatively modest capital cost of £2m.

As a result of the agreements, as well as efficiency improvements, Jubilee's chrome earnings and revenue have increased dramatically during the latest six-month trading period. Attributable chrome earnings (effectively gross profit) increased almost fivefold to £1.3m year-on-year on 27 per cent higher revenue of £11.6m. Admittedly, this is not a huge amount in the context of group profits, representing less than 5 per cent of the total. However, every few years the chrome market sees a price spike, the last one being in March 2017 when the price exceeded $350 per oz, or more than double the current spot price. So, even if Jubilee doesn't receive the full market price from its production at Inyoni and Windsor, then it could still do well in the next cycle.

Copper

Jubilee is focused on replicating its success in South Africa with PGMs and chrome in Zambia where there is a huge supply of on-surface copper waste material, with the view to taking a leading role in the processing of surface tailings by applying technical know-how and IP. Vital to the strategy is the company's commitment to significantly reduce environmental hazard and waste left behind from centuries of mining activity in Zambia.

Using Jubilee's proprietary knowledge and expertise in physical and chemical processing, this clean-up can be incentivised by extracting the metals contained at attractive cash margins, before re-depositing the tailings in an environmentally secure tailings facility, minimising the future environmental impact.

In August 2019, the company acquired the multi-metal Sable Refinery that is adjacent to its Kabwe tailings resource, and subsequently completed the commissioning of the copper circuits to enable it to produce 16,000 tonnes of copper cathodes. A cobalt refining line was commissioned last year.

Sable Refinery, Kabwe and The Copper Belt Region, Zambia

Jubilee then signed an agreement with a private Zambian company to secure the rights to process 2m tonnes of copper Run-Of-Mine material containing more than 2 per cent copper. There is potential to increase the supply of copper ore to 4m tonnes in addition to a further 2.5m tonnes of copper containing tailings for processing. A newly constructed copper concentrating facility will target a processing rate of 600,000 feed tonnes per year, producing copper concentrate for further refining at Sable Refinery. It is one of three processing facilities under construction. The first delivery of copper units to the Sable Refinery is due imminently and the first stage of the project is aiming to produce

10,000 tonnes of equivalent copper units. US$17m of capital expenditure is being funded internally from Jubilee's robust cash flows.

Jubilee has also secured access to more than 300m tonnes of copper/cobalt tailings with a view to ramping up output to 25,000 tonnes of copper per annum within three years once all the processing facilities are completed. The company's timing couldn't be any better given that Jubilee is targeting a unit cost of US$4,000 per tonne of copper cathode, or less than half the current spot price, thus offering a potential pay-back of its project capital within one year.

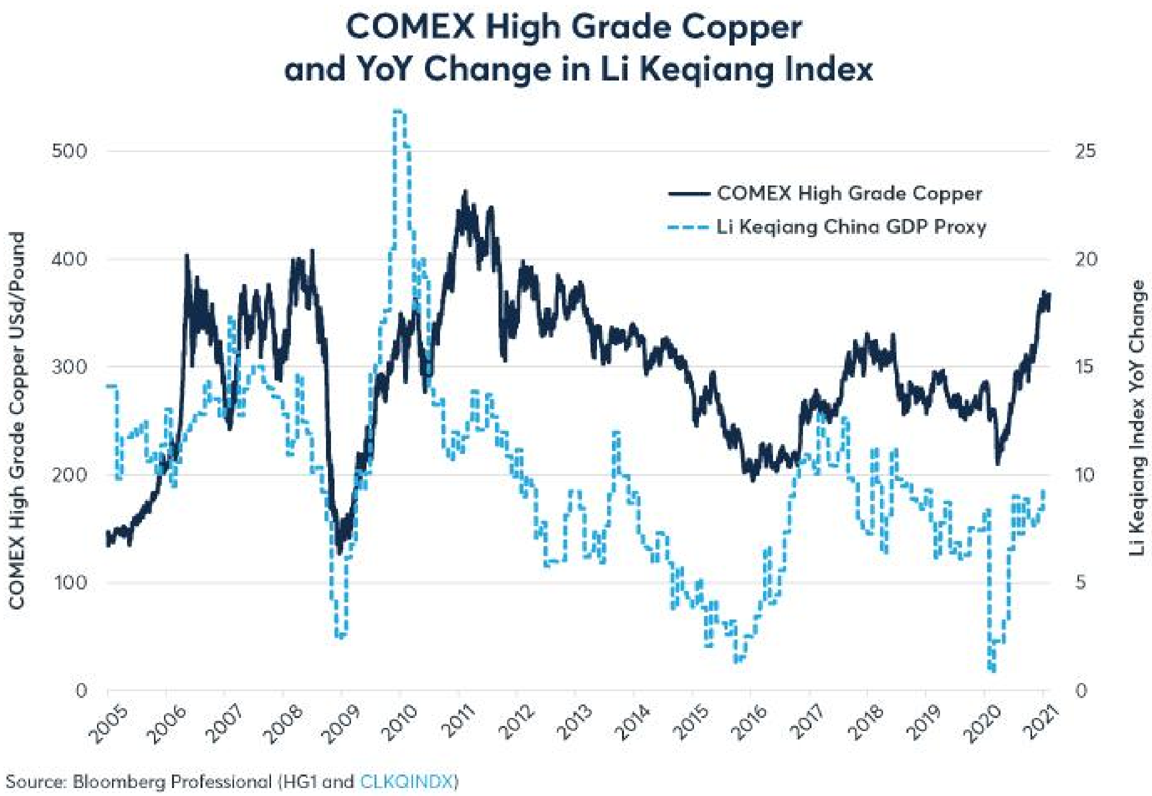
Copper rally based on sound fundamentals

The copper price recently hit an all-time high of US$9,600 per tonne (US$4.36 per pound), having doubled in the past year. Demand from China has been a key driver behind the surging price, it accounted for 50 per cent of global demand in 2020 but only produced 8 per cent of supply (source: UBS).

China consumes 40 to 50 per cent of global copper ore production each year, which is refined and turned into semi-finished and finished products, many of which are re-exported. It's hardly surprising that copper prices show a strong, positive correlation to the state of the Chinese economy. Bearing this in mind, the International Monetary Fund (IMF) is expecting China's GDP to grow at 8.4 per cent in 2021, having posted 2.3 per cent growth in 2020. The economy reported 18 per cent GDP growth in the first quarter this year, albeit the comparable was soft given the Covid-19 pandemic outbreak in the country early last year.

The strong correlation of the copper price with the Li Keqiang Index, a proxy for the strength of the Chinese manufacturing sector, adds further weight to a rebounding Chinese economy. Over the past 15 years, copper prices have shown a correlation as high as +0.55. The Li Keqiang Index has been following the copper price upwards, suggesting that there is more to China's buying spree in 2020 than stockpiling.

Copper prices show a strong co-movement with the Li Keqiang Index
(Source: CME Group: *The Economics of Copper Demand, Supply and Options*, March 2021)



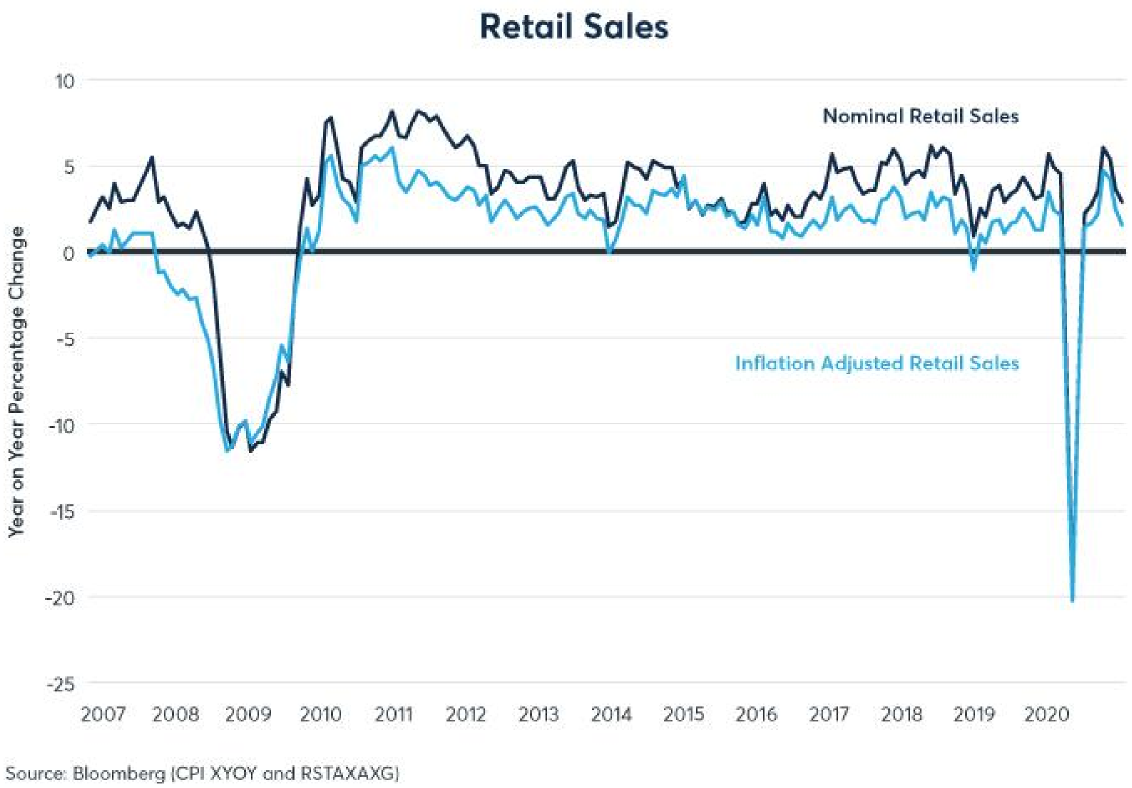
The resurgent North American economy is another reason why the copper market moved from surplus to deficit in 2020 with estimated global demand of 26.1m tonnes exceeding supply of 25.5m tonnes. The IMF. is predicting 6.4 per cent GDP growth in 2021 for the U.S. economy, perhaps a low estimate given that investment bank UBS is pencilling in 8 per cent plus growth. The economic data certainly backs this up as housing starts and building permits have rebounded sharply, so much so that by the beginning of 2021 they were at their best levels since before the global financial crisis in 2008. The construction industry accounts for 30 per cent of global demand for copper, so has a major impact on global demand.

US housing starts and building permits are back to pre-Great Recession highs
(Source: CME Group: *The Economics of Copper Demand, Supply and Options*, March 2021)

Source: Bloomberg Professional (NHSPSTOT, NHSPATOT, USP TOT), US Census Bureau

Another positive for the copper price is rebounding US retail sales, which posted 9.8 per cent growth in March 2021, an eye-catching recovery from the sharp declines seen at the onset of the Covid-19 pandemic 12 months ago.

US retail sales grew quickly in H2 2020 from H2 2019
(Source: CME Group: *The Economics of Copper Demand, Supply and Options*, March 2021)

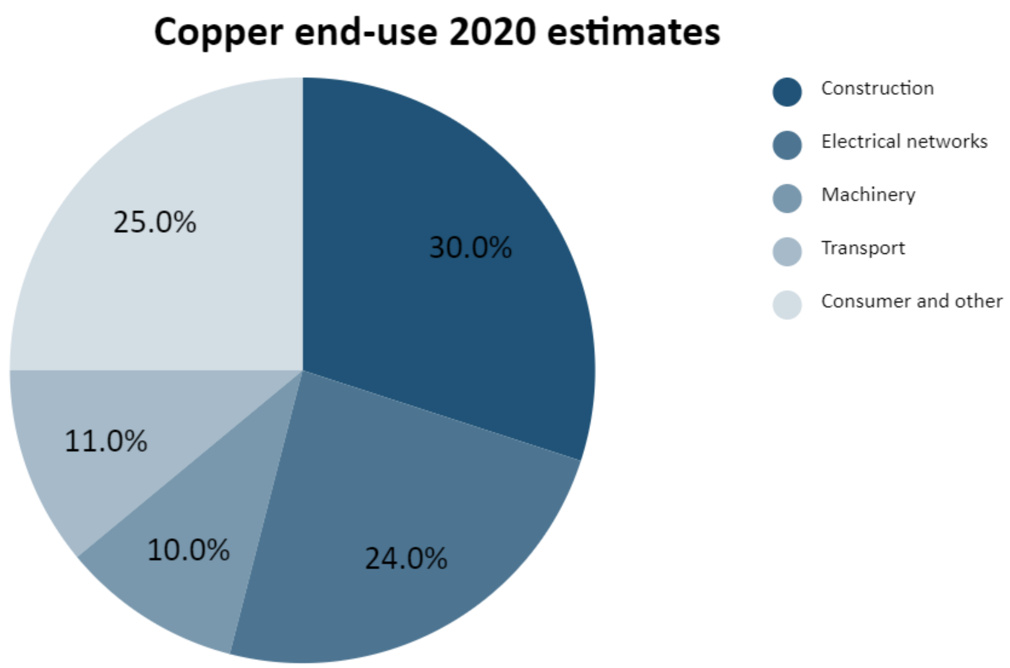


Furthermore, around US$30 trillion of fiscal stimulus programmes have been unleashed around the world to revive economies in response to the Covid-19 pandemic. These programmes all have one common factor — they are copper-intensive.

For instance, copper is expected to benefit from greater demand for electricity in a shift away from fossil fuels. Wind farms and solar panels require as much as five times more copper than that needed for fossil fuel power generation. Also, electric vehicles use four times as much copper as ICE vehicles.

In the USA, President Biden's mandate was based on a commitment to spend US$2trn on clean-energy infrastructure that will see the installation of 500m solar panels and 60,000 wind turbines within four years, and 500,000 charging stations for electric cars by 2030. Analysts at Bernstein estimate that copper demand from renewables and electric vehicles could grow more than seven times by the 2050s, if the world is going to meet its net zero greenhouse gas emissions target.

However, with few new large copper mines coming into production over the next decade, investors are now realising that there is insufficient mining capacity to enable a rapid transition to a more environmentally-conscious global economy. The construction sector and electronic networks accounted for 30 per cent and 24 per cent, respectively, of end-use demand last year.



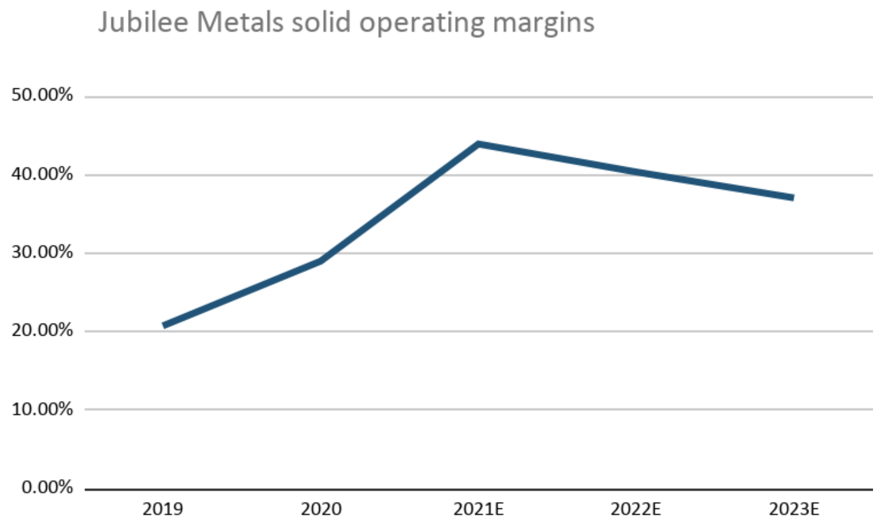
Source: WH Ireland (March 2021), Woodmac (from UBS)

These are not the only reasons for the surging copper price. A rise in inflation expectations is also behind the rally given that some investors buy commodities as an inflation hedge. As the velocity of money ramps up as more economies come out of their national lockdowns, and central banks around the world continue to resort to quantitative easing programmes, then the commodity complex should continue to do well in a negative real interest rate environment where the US dollar remains relatively weak. Copper is a major beneficiary.

Improving financials

With PGM prices rallying strongly this year, the price of rhodium alone has doubled from US$14,500 to US$28,800 per oz since the start of January 2021, then WH Ireland's expectation that Jubilee's pre-tax profits will more than treble from £13.7m to £47.8m in the 12 months to 30 June 2021 look in the bag. If anything, the risk is skewed to the upside.

That's because a high proportion of the incremental gross margin earned on rising sales is converted into operating profit given the company's relatively fixed cost base and stable depreciation charges. To put this into perspective, annual gross profit is forecast to increase by £37.3m to £62.5m in the 12-month trading period on £58.5m higher revenue of £113.3m, but with annual overheads only expected to rise from £4.2m to £6m. The depreciation charge is stable at £6.7m, so pre-tax profit is forecast to increase by £34.1m, to £47.8m, thus capturing over 90 per cent of the increase in gross profit.



Source: Jubilee Metals annual report, WH Ireland forecasts (2021-2023)

Although annual PGM production is expected to be around 27 per cent higher at 51,700 oz, the vast majority of the forecast 248 per cent increase in full-year pre-tax profit is being driven by higher PGM prices.

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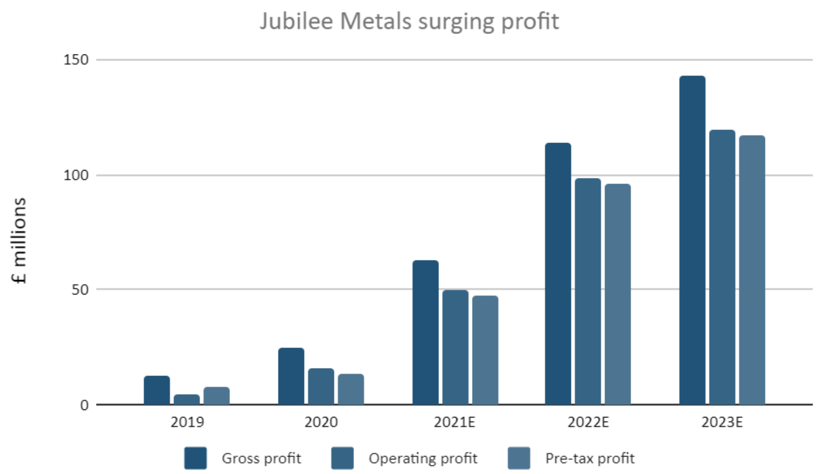

Source: Jubilee Metals annual report, WH Ireland forecasts (2021-2023)

Jubilee Metals surging profit on high margins

12 months to 30 June	2019	2020	2021E	2022E	2023E
Revenue	£23.6m	£54.8m	£113.3m	£243.4m	£322.0m
Gross profit	£12.9m	£25.1m	£62.5m	£114.1m	£143.2m
Margin	*54.7%*	*45.8%*	*55.2%*	*46.9%*	*44.5%*
Other costs	£0.4m	£1.5m	£0.0m	£0.0m	£0.0m
Overheads	-£4.4m	-£4.2m	-£6.0m	-£7.0m	-£8.0m
Depreciation	-£3.9m	-£6.5m	-£6.7m	-£8.8m	-£15.8m
Operating profit	£4.9m	£15.9m	£49.8m	£98.3m	£119.4m
Margin	*20.8%*	*29.0%*	*44.0%*	*40.4%*	*37.1%*
Other adjustments	£3.1m	-£2.2m	-£2.0m	-£2.0m	-£2.0m
Pre-tax profit	£7.9m	£13.7m	£47.8m	£96.3m	£117.4m

Source: Jubilee Metals annual report, WH Ireland forecasts (2021-2023)

Furthermore, the company will enter the 2021/22 financial year at a far higher production run-rate and with a higher PGM basket price than 12 months ago. This explains why analysts at WH Ireland expect revenue, pre-tax profit and earnings per share (EPS) to double again to £243m, £96m and 3.4p, respectively.

Cash flow from operating activities will more than double, too. WH Ireland are pencilling in an inflow of £48m to drive up the net cash position from £8.6m (30 June 2021) to £64.9m (30 June 2022). On this basis, the shares are trading on a prospective price/earnings (PE) ratio of 4.6. The PE ratio drops to 3.9 on a cash-adjusted basis.

Jubilee Metals improving cash flow generation

12 months to 30 June	2020	2021E	2022E	2023E
Operating profit	£15.9m	£49.8m	£98.3m	£119.4m
Cash from operating activities	£19.4m	£47.8m	£86.9m	£113.5m
Net cash	-£4.4m	£8.6m	£64.9m	£156.8m

Source: Jubilee Metals annual report, WH Ireland forecasts (2021-2023)

If that's not compelling enough then assuming Jubilee hits WH Ireland's PGM production forecast of 53,500 oz for the 2022/23 financial year, and after factoring the contribution from the Sable and Kabwe facilities in Zambia, then group revenue could soar to £322m in the 12 months to 30 June 2023.

On this basis, WH Ireland expects pre-tax profit and earnings per share (EPS) of £117m and 4p, respectively and an operating cash inflow (pre-investment) of £113m to drive up net cash to £156.8m (30 June 2023). That cash sum equates to 45 per cent of Jubilee's current market capitalisation, implying the shares are rated on 2022/23 cash-adjusted PE ratio of 2. On any basis, that's a bargain.

Peer group comparison

The listed space for companies processing mine tailings and dumps is small. A favourite of mine, Sylvania Platinum (SLP) is the closest listed peer, operating a tailings-dump operation in the Bushweld Complex, but doesn't offer Jubilee's diversification in other countries and metals. Tharisa (THS) is another peer producing chrome and PGMs from its own Run-Of-Mine material.

All three companies are lowly rated by any measure. Tharissa trades on an enterprise valuation to operating profit multiple of 1.6 times for the 2021/22 financial year (September year-end), dropping to 1.1 times in 2022/23. The same is true for Sylvania which is also priced on a multiple of 1.6 times for the 2022 financial year, falling to 0.9 times for the 2023 financial year (December year-end).

Peer group comparisons

Company	Share price	Market Cap	NTM Op. profit	Forecast net cash	EV/ Op. profit	Op. profit (FY+2)	Forecast net cash (FY+2)	EV/ Op. profit
Jubilee Metals	15.7p	£354m	£98m	£65m	2.9	£119m	£157m	1.7
Tharisa	145p	£401m	$270m	$132m	1.6	$286m	$248m	1.1
Sylvania Platinum	118p	£316m	$158m	$188m	1.6	$178m	$286m	0.9

Source: London Stock Exchange. Financial forecasts are from the following broking houses: Jubilee Metals (WH Ireland - 30 March 2021); Tharisa (Peel Hunt (15 April 2021); Sylvania Platinum (Liberum Capital - 22 February 2021).

By comparison, Jubilee is rated on an enterprise valuation to operating profit multiple of 2.9 times for the 2021/22 financial year (June year-end), falling to 1.6 times in 2022/23. However, there is greater scope for the company to continue to ramp up earnings as its Zambia copper operations scale up, so arguably it should command a higher rating than its rivals. In any case, all three companies are anomalously priced given the undeniably positive backdrop for PGM and copper prices.

To put the pricing anomaly into context, large cap mining giants **BHP (BHP)**, **Antofagasta (ANTO)**, and **First Quantum Minerals (FM:TOR)** are all priced on low to mid-teens multiples on a standard PE ratio basis (FY+2 reporting period). By comparison, Jubilee is rated on a PE ratio of four, and both Tharissa and Sylvania on PE ratios of around 3.3 for the same reporting period.

Management

The board's chair is **Colin Bird**, a Fellow of the Institute of Materials, Minerals and Mining and a UK Chartered Engineer. The formative part of his career was spent in the UK coal mining industry and thereafter he moved to the Zambian copper belt and then to South Africa to work in a management position with Anglo Coal and BP Coal. On his return to the UK he was Technical and Operations Director of Costain Mining, which involved responsibility for Costain's interest in the UK, Latin-America and Spain. Bird has had senior technical and operational experience in commodities including coal, nickel, gold, copper and industrial minerals.

Dr Mathews Phosa is non-executive vice-chairman. He established the first black law firm in Nelspruit in 1981 and is a well-known strategic and business leader who has had a great impact on the lives of numerous South Africans. He was part of the ANC delegation which successfully negotiated a peaceful transition into a fully democratic South Africa. Phosa was elected as the first Premier of Mpumalanga Province in 1994. He sits on a number of listed company boards (Waterberg Coal Company, Value Group, Jubilee Platinum.

Chief executive **Leon Coetzer** is a qualified chemical engineer. Before joining Jubilee, he was employed for 20 years within the Anglo American (AAL) stable, of which 16 years were spent at Anglo Platinum. Throughout his career, he has managed both technical and production units of large operations, including both platinum concentrators and smelters, and was selected to partake in Anglo American's global leadership programme. He is a member of the South African Institute of Mining and Metallurgy, and a member of the South African Institute of Directors.

Technical Director **Dr Evan Kirby** is a metallurgist with over 40 years' experience in the mining sector. He worked for 16 years in South Africa with Impala Platinum, Rand Mines and then Rustenburg Platinum Mines. In 1992, he moved to Australia and was employed by Minproc Engineers and then Bechtel Corporation, where he had management and technical responsibilities. In 2002, Kirby established his own consulting business, Metallurgical Management Services. His experience base includes gold, platinum group metals, base metals, battery metals (graphite, lithium, vanadium), diamonds, coloured gemstones and mineral sands.

Jubilee has two non-executive directors: **Christopher Molefe** and **Nicholas Taylor**. Molefe was formerly the chief executive of Royal Bafokeng Resources and served as chairman of Transfrontier Capital Proprietary and Sabicor Proprietary. He has held several positions in corporate banking and industry for the past 20 years.

Mr Taylor qualified with Price Waterhouse as a Chartered Accountant, and then spent over 20 years in investment banking. His roles include European Head of Metals & Mining and Co-Head of Asia Pacific Natural Resources Investment Banking at Deutsche Bank, and latterly as European Head of Natural Resources Investment Banking at The Royal Bank of Canada.

While his background extends across sectors, Taylor has a specific focus on the mining and minerals sector in corporate transactions, particularly public and private mergers & acquisitions, and deal structuring. He is also a non-executive director at Maya Gold & Silver Inc., a TSX listed mineral exploration and development company.

The board owns a combined total of 3.8m shares, but also have share options over a further 38.5m shares with strike prices between 3.5p to 6p. The directors were paid a total remuneration of £678,000 in the 2019/20 financial year, a modest sum in relation to the company's operating profit of £15.9m. The major financial upside will be derived from value enhancement on their share options, thus aligning their interests with those of outside shareholders.

Shareholders

The top six shareholders control 39 per cent of the shares in issue and include some shrewd fund managers, Hargreaves Hale, Slater Investments and Jupiter Asset Management. Jupiter acquired its holding in January 2021 when Jubilee placed 100m shares, at 13p.

By way of background, when Jubilee acquired Sable Refinery in August 2019 it funded the £9.2m purchase through a placing of new shares and the issue of a three-year convertible loan note of US$8m (£6.1m) to ACAM LP which pays a 12 per cent annual coupon. ACAM converted part of the loan note in January in return for 80m shares which formed part of the 100m share placing. US$5.5m (£4m) is outstanding under the convertible loan note at a conversion price of 2.81p. Once converted this would result in 140m shares being issued, representing 6.2 per cent of Jubilee's current issued share capital.

In addition, Jubilee has 111m warrants in issue with exercise prices between 3.4p and 6.1p and expiries from March 2022 to June 2023. Both the warrants and convertible loan note have been taken into consideration in this analysis. Given Jubilee's robust financial outlook, there is unlikely to be any shortage of demand from new shareholders in the event of ACAM converting its remaining loan stock in the next 16 months, or if warrant holders decide to cash in.

Jubilee Metals significant shareholders

Shareholder	Percentage (%)
Hargreave Hale	10.38
Slater Investments	8.49
Veddis Capital	7.09
Quantock Plc	4.21
Miton Group	4.98
Jupiter Asset Management	3.65
Total	**38.8**

Source: Jubilee Metals annual report, London Stock Exchange regulatory filings

Target price

Jubilee Metals' operational performance more than warrants the strong share price performance over the past 12 months and looks set to drive positive momentum over the next 12 months.

Moreover, investors have yet to fully cotton onto the transformation in the business and the potential for the Zambian copper operations to produce eye-watering amounts of cash flow and profit. WH Ireland estimates Sable Refinery's copper revenue at US$119m in the 2021/22 financial year based on 13,000 tonnes of production, an outcome that underpins operating profit of US$48.7m from that one activity alone.

If the copper price continues to perform robustly, then there could be even more upside given Sabre's relatively fixed operating costs and a targeted unit cost of US$4,000 per tonne. Indeed, every incremental US$1,000 per tonne increase in the copper price adds around US$13m operating profit based on 13,000 tonne production given that Jubilee has 100 per cent ownership of Sable.

So, having taken the risk factors below into consideration, as well as dilution from the conversion of outstanding convertible loan notes and exercise of warrants, I feel a realistic price target is 25p on a 12-month basis. This values the equity at £625m on a fully diluted basis, or six times analysts' £97m net profit estimate for the 2022/23 financial year.

There could yet be further upside to this target if PGM and copper prices continue their upward move**. Buy.**

Risk assessment

The following are the major risks to consider before making an investment:

Currency risk. PGMs, chrome and copper metals are priced in the US dollar, while Jubilee's operating costs are incurred in South Africa Rand and Zambia kwacha. The directors minimise the impact of currency movements on revenue by agreeing with selected customers to invoice in US dollars to protect revenues from being dependent on prevailing exchange rates and commodity prices which are largely impacted by global economic climates. Movements in exchange rates and commodity prices do though impact profitability as certain operating costs are incurred in South Africa and Zambia. Jubilee doesn't hedge its currency risk.

Commodity risk. The price earned for minerals could fall to a point where it becomes uneconomical to extract them from the ground or to process them. The principal metals in Jubilee's portfolio are PGMs, chrome, nickel, copper, lead, zinc and vanadium. However, the combination of a robust pricing outlook and unit costs that are a sixth of Jubilee's average basket price, means that there is substantial 'margin of safety' built into Jubilee's operational business.

Political risk. This is the risk that assets will be lost through expropriation, unrest or war. Jubilee tries to minimise political risk by operating in countries with relatively stable political systems, established fiscal and mining codes and a respect for the rule of law.

Also, the business model is based on the processing of primary and secondary waste and discard streams. Jubilee's responsible processing of these streams assists in reducing the negative impact on the environment and reduces the health risks of the environmental liability that is created by the above ground material. In turn, this makes the business model attractive, as Jubilee doesn't require any mining rights or mining licenses to process its streams, so can to an extent lessen its exposure to political instability.

Exploration and production risk. This is the risk of investing resources on projects which may not provide a satisfactory return. This is mitigated by the fact that Jubilee is solely focused on production from on-surface assets rather than from deep mining, so by securing supply feed for its plants and keeping a lid on operating costs, financial forecasting is far less susceptible to cost overruns and/or unseen events.

Liquidity risk. The board's goal is to finance its surface processing activities from cash flows from operations, but in the absence of such cash flows Jubilee relies on the issue of equity share capital, project debt funding and option agreements to finance its activities. This is not an issue at present as Jubilee is expected to end the 2020/21 financial year with net cash of around £9m and estimated operating cash flow of £48m in the 2021/22 financial year is double the forecast investment spend in projects.

Operating risk. Jubilee's production is of an intermediate material for further treatment. In South Africa, the electricity problems of ESKOM are well documented and have brought problems to the ferrochrome producers with rolling electricity cuts. Jubilee produces a chromite concentrate that has a market in China and locally. Its chrome-PGM operations are clean and efficiently run.

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