WEEK 48

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Friday, 29 November 2019

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AUSTRALIA

BlueScope Affirms Solid First Half Outlook

Brokers are relieved BlueScope Steel reiterated first half guidance at its AGM and signalled there were no heightened areas of risk heading into the second half.

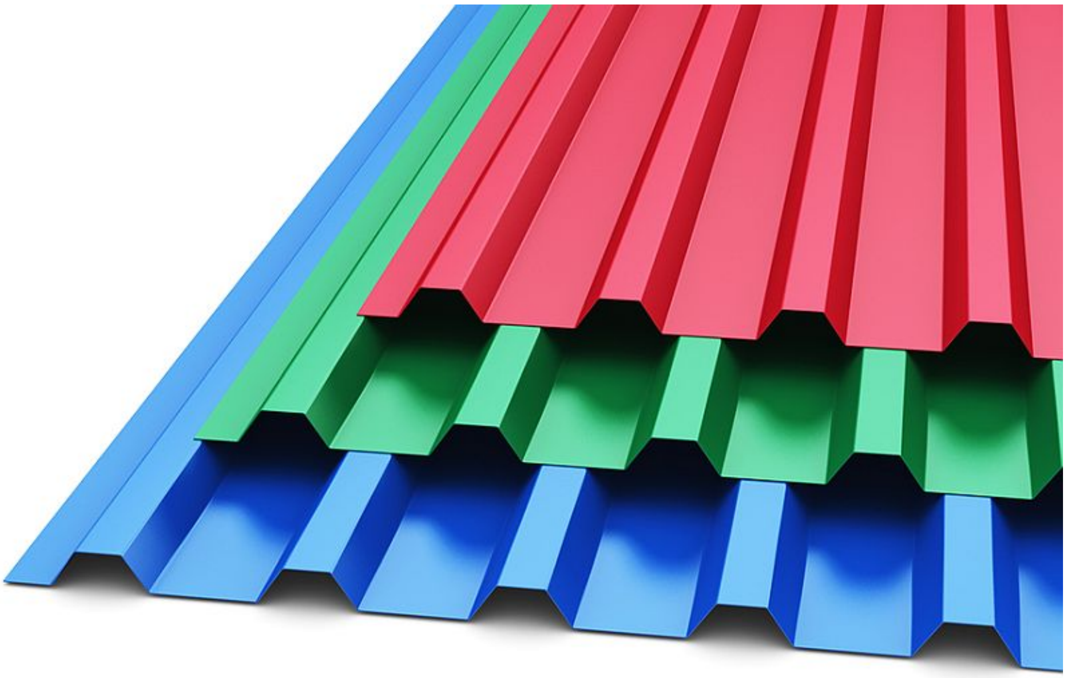
-Demand appears relatively stable in major markets
-Steel spreads better than many feared, and improving
-Macro uncertainties remain a risk but outside the company's control

By Eva Brocklehurst

BlueScope Steel ((BSL)) appears to be negotiating a turbulent global market relatively smoothly, with small areas of weakness being offset by a strong performance more broadly. The company has reiterated first half guidance for underlying earnings (EBIT) of around $275m, which still implies a -45% decline vs the second half of FY19.

The main earnings drivers are readily visible, Credit Suisse points out, and there were no heightened areas of risk heading into the second half, rather the company moderated volume concerns as demand appears relatively stable in major markets.

The Australian business is in line with most expectations. Domestic volumes are slightly better than previously expected, supported by the building segment and distribution channel.



That said, Australian detached housing activity has been compressing, UBS points out, and peers have noted soft trading conditions, so it appears that the company's Colorbond product is taking share. Despite this positive aspect, UBS is cautious, as lower volumes in Australia could lead to increased low-margin exports.

BlueScope Steel is also experiencing better pricing and costs at the US North Star operation, which has been operating at full capacity. The company's US$700m, 850,000t expansion of North Star is progressing on schedule with all permits received and contracts with major equipment manufacturers signed.

UBS believes that improved realised prices signal competence in the company's timing and execution and the **potential upside at North Star, as a result, is likely to offset the drag from other divisions**.

Citi assumes the expansion project will reach full utilisation by FY24 and contribute earnings of around $140m on a long-term spread (the difference between the raw buying price and the finished selling price) assumption of US$300/t.

Spreads

Credit Suisse suspects the second half will start from a position of weak, albeit improving, steel spreads in Australia and "reasonable" spreads in the US. For the former, the low point in spreads should coincide with seasonally softer volumes in January that may limit the earnings impact, while recent increases in hot rolled coil prices and moderating raw material prices indicate an improvement thereafter.

UBS cuts second half estimates for earnings by -6% and assumes an Asian spread of US$220/t and a North Star spread of US$260/t, both in line with spot or current spreads. Essentially, any suspected weakness in the outlook has been shifted to the second half. UBS recently downgraded BlueScope Steel to Sell, citing weak US steel demand and weakness in Australian housing.

The broker acknowledges Australian steel products appear to be doing a little better but, given spreads are close to long-term averages, considers the stock expensive relative to US peers.

In contrast, Credit Suisse believes the stock is cheap versus the medium-term opportunity, and is pricing in Australian steel product business at below mid-cycle, which remains its largest contributor to earnings and cash.

In the US, conditions for the North American building industry appear reasonable to Credit Suisse, buoyed by ongoing strength in demand, while macro headwinds are outside of the company's control.

Macquarie agrees macro uncertainties remain a risk, given soft global demand indicators, but asserts building conditions in North America appear worse and that has led to a softer outcome in the engineered building solutions business. Manufacturing challenges at a single location have generated higher costs and lead times are extended, although the broker concedes demand and order intake are solid.

Meanwhile, **China continues to perform strongly, amid robust demand and margins**, and India is also performing well, as higher margins offset lower volumes. This is countered by weak macro economic conditions in Thailand and Malaysia, which are pressuring margins and volumes.

Robust demand in residential construction in the Pacific has been countered by softening in the infrastructure segment. NZ Steel expects a soft first half, similar to the prior half, because of lower vanadium prices and higher production costs.

FNArena's database has two Buy ratings, three Hold and one Sell. The consensus target is $14.20, signalling -0.4% downside to the last share price. Targets range from $12.40 (UBS) to $15.30 (Credit Suisse).

See also, BlueScope's North Star Expansion Compelling on August 20, 2019.

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AUSTRALIA

Mayne Pharma Aspires To Specialisation

Mayne Pharma aspires to have more than 60% of its FY24 revenue from US specialty products, although significant challenges in generics are likely to beset the business in the interim.

-Generic earnings expected to be down sharply in first half
-Is a change of management required to execute the business plan?
-Contract services revenue the main bright spot in the update

By Eva Brocklehurst

Mayne Pharma ((MYX)) aims to transition away from its generics business, which is under increasing pressure, outlining at the company's AGM aspirations for more than 60% of FY24 revenue to be generated by US specialty products.

This rebalancing will be led by the commercialisation of the licensing deal with Mithra, ramp up of new specialty products and optimising the women's health portfolio.

UBS believes the plan makes strategic sense, with the Mithra deal regarding E4 DRSP, in particular, providing a branded product that will not face generic competition before the end of 2029. The theoretical market size of this product is large, although execution will be key, the broker adds.

Yet Credit Suisse asserts the market needs evidence of successful execution in some of the company's product launches before factoring in the earnings benefit, particularly given a short-term earnings profile that remains challenging and volatile.

The generics division accounted for 61% of revenue in FY19, as per financial statement, compared with 45% in the AGM presentation. Citi attributes the difference to the classification of some generic products as part of its US specialty division for the purpose of the presentation. The broker considers this categorisation significant, given generics are more susceptible to competition.

Generic sales are down -26% over the year to date and the company provided a cautious outlook regarding its generics business, which remains the largest division of 58% of sales. Credit Suisse expects first half earnings will be down -54% given the competition in liothyronine, dofetilide, BAC capsules, methylphenidate and generic Acticlate.

Gross profit was down -33% and gross margin reduced to 47% from 39% in the year to date. Excluding an FX benefit, Credit Suisse estimates revenue declined around -21%. The broker expects less contribution from new products in development in the outer years, assuming greater price erosion. Gross margin assumptions are reduced on continued stock obsolescence.

UBS believes growth in specialty brands can only offset competitive pressures in generics to some extent. Moreover, a timing mismatch could mean continued weakness in FY20-21, as competition and erosion of base prices in generics has an impact. The timing of Lexette and Tolsura to ramp up could also take longer.

Multiple Downgrades

Wilsons, not one of the seven stockbrokers monitored daily on the FNArena database, noted some disappointing aspects of the AGM update could be reversed but these remain emblematic of the broader issues that the company faces.

If revised FY20 forecasts are met, the broker calculates Mayne Pharma would have averaged -55% sequential declines in underlying net profit over three years without any significant changes to board or management.

Moreover, while there are interesting growth options, **the balance sheet is too weak to transform at a pace that can benefit investors**. Wilsons downgrades to Underweight and reduces the target to $0.36 from $0.62, anticipating re-engaging with the stock when it reaches the target. The database has four Hold ratings and the consensus target is 54.3c, suggesting 10.7% upside to the last share price.

The company is rationalising operating costs and has guided to lower costs in FY20 vs FY19. It remains to be seen what the net impact on the Australian dollar conversion will be, Citi notes, given a large portion of operating costs are in US dollars.

The broker initiated coverage of the stock in January 2019, when FY20 operating earnings (EBITDA) of $219m were forecast. This forecast now stands at $98m, which highlights the difficulty of forecasting, the broker asserts, particularly for generics. As a result, Citi agrees consecutive earnings downgrades may cause the market to question whether a change is needed to execute on the business plan.

Specialty Brands

The company is focused on developing dermatology (Tolsura) and women's health franchises, with the US approval of the Nuvaring contraceptive pending in 2020. Citi believes these products should make a positive contribution, but there are execution risks.

The broker was disappointed with the performance of the existing product portfolio of Doryx, Sorilux and Fabior, which more than offset the contribution from new products Tolsura and Lexette.

Credit Suisse notes **both Sorilux and Doryx have been affected by product launches**, including a new tetracycline antibiotic for treating acne, and does not anticipate any significant improvement in these products going forward. Moreover, Tolsura is yet to show any significant prescription volumes.

The bright spot, in Citi's view, is the contract services revenue, which grew 16% in the year to date and increases sales forecast for this division by 3% for FY20-22, expecting Mayne Pharma will continue to supplement its R&D pipeline with partnerships.

The company has recently licensed the rights to market a generic topical dermatology product from Encube Ethicals in the US which will start selling in the second half of 2020. The product is already generic and generates sales of more than US$40m per annum.

Macquarie suggests the delivery on products in the pipeline will be a key catalyst in order to offset competition. The broker expects modest growth over FY20 in specialty brands with increased revenue in FY21 in line with the assumed launch of E4 DRSP. Any delay would present downside risk.

See also, Mayne Pharma Expands In Women's Health on October 3, 2019.

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AUSTRALIA

Metcash Under Scrutiny After Losing 7-Eleven

Grocery wholesaler Metcash has lost its second major contract in 18 months, exacerbating speculation around the scale and sustainability of the company's distribution channel.

-Mostly lower margin convenience sales but a loss nonetheless
-Inflationary backdrop in packaged grocery improving
-Share of earnings in hardware expected to increase to 29% by FY23

By Eva Brocklehurst

A significant contract loss, the second in 18 months, has put grocery wholesaler Metcash ((MTS)) in a difficult position. The 7-Eleven convenience store supply agreement, currently representing around $800m in annualised sales, will not be renewed when it expires on August 12, 2020.

This follows the loss of the Drakes distribution contract in South Australia. Metcash remains in discussions with 7-Eleven regarding Western Australian volumes and some small categories on the east coast.

Citi expects Metcash will retain this contract in WA and anticipates an earnings impact from the loss of east coast distribution of -$14m in FY22. 7-Eleven only operates 40 stores, or around 6% of its total network, in Western Australia.

Moreover, while 7-Eleven is a larger contract in wholesale terms versus the Drakes contract, which was worth $270m, the level of profitability Metcash derives is likely to be lower than it was with Drakes. This is because of the higher volumes of tobacco products sold through the convenience channel relative to a traditional supermarket.

Supply chain proposals by 7-Eleven meant the existing deal was no longer viable for Metcash. No cost savings have been specifically attributed to 7-Eleven, nor Drakes SA for that matter, and, Citi points out, **following two successive cost reduction programs, easy gains have been realised already**.

Macquarie notes 7-Eleven accounted for around half the convenience sales for Metcash, with the next largest customer in this segment being BP. The broker believes margins are at risk through increased stranded costs and there is the threat of BP renegotiating its contract.

Citi upgrades to Neutral from Sell now that a key negative catalysts has played out. This Sell rating was based on the risk of Metcash losing the 7-Eleven contract. While further losses could occur, the boost from better inflation in the upcoming result in December 5 makes the outlook more balanced, in the broker's opinion.

The broker's measure of supermarket inflation has improved by 200 basis points in the September quarter versus a year ago. While Metcash typically under indexes in fresh categories, which may drive some of this inflation, packaged grocery inflation is now also improving. As a low-margin wholesaler, Metcash is the most leveraged to the inflation trend and Citi expects this to support the near-term sales outlook.

Ord Minnett estimates a -$16m earnings loss on around $700m of the $800m in sales generated by the agreement and assesses the multi-year burden of food deflation is moderating and a trend towards dry grocery inflation is building.

Moreover, the potential to lose this contract was well flagged (speculation was rife following 7-Eleven putting grocery supply up for tender). Still, the broker expects valuation and food inflation will provide support.

Contracts Under Scrutiny

Ord Minnett also notes Foodworks, the company's largest food wholesale customer, was required to give 12 months notice in September if it wished to terminate supply and no notice has been provided, as yet.

UBS downgrades to Neutral from Buy. The stock continues to screen as inexpensive but there are few catalysts for outperformance on a 12-month view. There is also the risk of further contract losses, and the broker considers the Foodworks contract is at risk, while the Drakes distribution centre provides another potential competitor in South Australia and Victoria.

The broker suspects the food distribution business will be unable to grow earnings until FY23 and there are further challenges despite an improved inflationary backdrop.

Hardware earnings are expected to grow over the next five years and the share of earnings in hardware increase to 29% in FY23 from 22% in FY18. The broker envisages marketing synergies beyond FY18 by the consolidation of the HTH and Mitre 10 brands and a more rational market.

Scale

Credit Suisse believes the loss of this latest contract fuels a debate regarding the sustainability of the food distribution business at scale. The broker calculates the loss of both the Drakes and 7-Eleven contracts appears to deliver around a -$35m impact on earnings over a three-year period, partially mitigated by further cost reductions.

However, it is the “read-through” for the distribution system that really matters and, in Credit Suisse's view, this is all about technology, scale and disintermediation.

The broker points out, while 7-Eleven could be wrong in believing it can provide daily, flexible delivery at a lower cost than Metcash, **the question then arises about the cost competitiveness of other Metcash customers** which also need to evolve to daily delivery to remain competitive.

Equally, while Drakes may have decided it could achieve efficiencies in supermarket operations by vertically integrating it may prove to be incorrect. If not, again the cost competitiveness of the remaining mainstream customers of Metcash is in question.

FNArena's database has one Buy rating (Morgan Stanley), three Hold and two Sell. The consensus target is $2.82, signalling -1.2% downside to the last share price. The dividend yield on FY20 and FY21 forecasts is 4.7% and 4.6% respectively.

See also, Metcash: Value Or Value Trap? on June 25, 2019.

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AUSTRALIA

Bank Of Queensland Recovery Likely Long-Dated

Bank of Queensland may have announced a capital raising to shore up its balance sheet and provide the flexibility to improve operations but brokers are not that impressed.

-Difficult to assess merits of capital raising without detail on transformation strategy
-Bank of Queensland will cut its final 2019 dividend by -20%
-Brokers believe a lower pay-out ratio is required

By Eva Brocklehurst

Bank of Queensland ((BOQ)) has its work cut out to impress brokers, having launched a capital raising to fund a transformation strategy which will not be revealed in detail until February. This makes it difficult to assess the merits of the new approach and the likelihood of success. The new CEO will update the market on the transformation plan is in February 2020 after a productivity review.

Moreover, it appears to brokers that revenue is not growing and expenses are rising. Bank of Queensland is flagging lower FY20 cash earnings amid rising costs. The bank has recognised the challenges from slow loan origination processes, shrinking owner manager branch numbers and underinvestment in IT.

Bank of Queensland will raise $250m from a placement at $7.69-7.78 a share, raising capital at its lowest share price in six years. A further $25m will be raised through a retail share purchase plan. The objective is to improve business operations, which involves greater expenditure on IT and reduced personnel. This is expected to reduce the time taken to perform tasks and lower the cost of tasks.

However, Shaw and Partners, not one of the seven stockbrokers monitored daily on the FNArena database, asserts there has never really been an efficiency program which enabled total operating costs to decline after execution. The broker asserts that the reason why the details of any planned efficiencies have not been provided is because, at this stage, they don't exist, and retains a Sell rating and $7.50 target.

UBS upgrades to Neutral from Sell, encouraged by the capital strengthening and the likely strategic direction, although acknowledges execution risk is high. The broker expects Bank of Queensland will focus on niche areas where it has advantage, in particular the expansion of Virgin Money Australia, but does not expect a rapid turnaround.

Priorities for the bank are to return to profitable and sustainable growth by simplifying processes, closing the digital/data gap and improving branch home loan origination. **Central to aspirations is an $30m plan to build a digital bank under the Virgin Money Australia brand**.

Jefferies believes this focus raises execution risk and near-term costs, as well as consumes capital. FY21 is considered a long way off, the risk/reward uncertain and the broker, not one of the seven, reiterates an Underperform rating with a $7.50 target.

Ord Minnett also argues that the focus on Virgin Money operations may be distracting from core problems, while Morgan Stanley suspects that the launch of the digital brand will occur at the end of FY20 at the earliest.

Capital & Dividend

The capital raising positions the bank to meet an increased CET1 ratio target. **Bell Potter calculates, post the capital raising and after absorbing costs, the CET1 ratio would be at the top end of the 9.00-9.5% target.**

Simultaneously the bank is cutting its dividend by -20%, the third reduction in 12 months. Morgans had been flagging further acceleration in investment expenditure and the risk that "kitchen sinking" by the new CEO will undermine the capital ratio. The broker expects another reduction to the half-year dividend in the first half of FY20, particularly as the bank is no longer planning to offer a price discount for the dividend reinvestment plan.

Macquarie does not believe the bank is profitable enough to support a dividend pay-out ratio above 80% and suspects it will need to further cut the "bloated" dividend in FY20. The broker now forecasts a -25% cut vs FY19. While the -10-11% discount to the last traded price appears attractive, Macquarie flags numerous regulatory and operating risks.

Ord Minnett assumes Bank of Queensland cuts its dividend in the first half of FY20 to $0.25 from $0.31, adopting the mid point of its 70-80% target pay-out range. This is higher than the broker considers sustainable for a bank with a return on equity of around 7%, although franking credits are likely to be prioritised for shareholders.

In the medium term, Morgan Stanley calculates a 50% pay-out ratio is more sustainable and should allow neutralisation of the dividend reinvestment plan, although this will be subject to the outcomes of the transformation plan.

Cost/Revenue Problems

Ord Minnett also suspects the market will be more willing to give credit for cost savings rather than revenue programs as the bank is grappling with significant structural challenges for which there are no easy fixes.

That said, the broker assesses Bank of Queensland has more of a revenue problem than a cost problem, stemming from the decline in its primary distribution network and its below-peer deposit-gathering ability as well as a poor digital offering.

Macquarie expects expenses growth will remain elevated. There are also contingent liabilities, with possible compliance contraventions of the anti-money laundering and counter-terrorism financing legislation still to be considered.

However, Morgans does not believe the latter is a significant factor behind this capital raising. Nevertheless, until the issues are resolved, revenue growth is likely to remain challenged and the stock is likley to underperform.

FNArena's database has two Hold ratings and five Sell. The consensus target is $7.79, suggesting -3.6% downside to the last share price. This compares with $8.30 ahead of the announcement. The dividend yield on FY20 and FY21 forecasts is 6.1%.

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AUSTRALIA

Brokers Welcome Caltex Plans For Retail IPO

Brokers welcome the potential for a future capital return as Caltex announces plans to spin off an interest in most of its freehold retail property.

-Retail earnings appear to have accelerated in the second half
-Caltex margins outperform peers over most of 2019
-Divestment monetises the value of assets in a mature industry

By Eva Brocklehurst

Caltex ((CTX)) has provided a positive market update, with convenience retail and refiner margins better than many brokers expected. The company plans to spin off a stake in 250 freehold fuel retail sites, representing most of its freehold retail property holdings.

Morgan Stanley considers the company's strategy sensible, as it improves the balance sheet and brings net debt, adjusted for operating leases, nearer 1.0x. It also offers the potential for buybacks of up to $500m in the second half of 2020.

Timing is also pertinent, as there are longer-term implications to consider such as electric vehicles and how property investors will view petrol stations over time. Caltex has announced retail earnings (EBIT) will be $190-210m in 2019, which implies an acceleration in the second half because of improving retail fuel margins and efficiency gains.

UBS considers the trading update positive, with a capital return the potential future catalyst. However, the broker maintains concerns about the retail convenience opportunity for Caltex and looks forward to the strategy briefing on December 5.

Morgan Stanley upgrades to Overweight, having previously held off because of the lack of earnings momentum. However, this latest announcement provides the trigger. At the same time retail fuel margins appear to have improved, reducing downside risk.

Citi has previously argued that retail fuel margins were likely to be irrational and had only estimated a recovery in 2020. Guidance now suggests a return to a more rational pricing environment has occurred sooner than expected.

Moreover, margin contraction for Caltex has been lower than the broader industry, as the company benefits from a favourable mix. Caltex reported a refining margin for October of $12.01/bbl.

Citi suspects the higher margins in October were driven by one-off events, such as the recent attacks on Saudi Arabia, and remains comfortable with a second half forecast of $10.10/bbl. Better margins have meant Caltex has outperformed industry peers over most of 2019.

Ord Minnett increases 2019 estimates for earnings per share by 4.4% on the back of the update, with 2020 and 2021 unchanged. The broker remains cautious about the trends in the industry although expects the company to enjoy a boost from the imposition of the International Maritime Organisation standards in 2020.

Credit Suisse also notes refining margins remain strong ahead of the implementation of the standard and upgrades near-term retail fuel and refiner margin estimates.

IPO

The company has proposed the initial public offer (IPO) of up to 49% of 250 retail property sites and expects to use proceeds to return capital to shareholders. This is in addition to the 50 sites that will be sold separately.

The sites will be placed in a property trust and Caltex will enter into a long-term lease agreement over each site, with rental payments of $80-100m in the first year. Completion of the IPO is expected in the first half of 2020, subject to approvals and market conditions.

Credit Suisse believes this proposed divestment is attractive from an economic perspective as it monetises the value of assets committed to a structurally mature industry. The broker still questions the likely value emanating from the implementation of a convenience retail strategy and believes the reduction in near-term capital allocation is positive.

Furthermore, Credit Suisse does not consider a compelling case has emerged for additional capital to be allocated to convenience retail but suspects a low-cost position built on site automation and the absence of labour may be more sustainable.

Citi calculates that, net of fees, proceeds could amount to $700m at a 6% capitalisation rate. The broker expects proceeds will be used to buy back shares and $700m buyback would increase estimates for earnings per share by 5%.

Citi also points out there has been speculation that a spin-off would be a poison pill for a financial sponsor suitor, as a freehold IPO would remove one avenue for a capital release to be used to pay down debt and fund a leveraged acquisition of Caltex.

Ord Minnett envisages share price upside from property divestments and estimates 6-7% accretion to earnings per share if there is an off-market buyback.

FNArena's database has four Buy ratings and two Hold. The consensus target is $30.25, suggesting -9.7% downside to the last share price. Targets range from $27.97 (Macquarie, yet to comment on the update) to $34.00 (Morgan Stanley).

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AUSTRALIA

Risky Move For Evolution Mining

Evolution Mining has embarked on its riskiest acquisition to date, the Red Lake gold mine in Canada.

-Substantial investment required to turn around production rates
-Challenging and complex gold mine will require expertise
-Exploration required to replace lost ounces

By Eva Brocklehurst

Evolution Mining ((EVN)) is pinning hopes on discovery success at Red Lake in Canada, acquiring the gold mine from Newmont Goldcorp. The acquisition is expected to add value in the medium term but requires investment to turn around the current operations and, in doing so, increases operating risk.

Ord Minnett points out the company may have an impressive record but the complexities of Red Lake mean this is its riskiest proposition to date, while Credit Suisse assesses Evolution Mining is paying for what is expects, not the current performance, and this is a small risk to acquire a potentially more material opportunity.

Red Lake will be acquired from Newmont for US$375m cash, funded via a debt program, plus a contingent consideration of up to US$100m that involves US$20m per 1m ounces of gold discovered over 15 years. A US$150m capital expenditure and exploration program will take place for the first three years at Red Lake and the majority of the expenditure will go towards mine development.

The asset requires significant investment to rejuvenate its performance, UBS asserts, suspecting it will take 2-3 years to judge the merits of the acquisition. Evolution expects to eventually obtain around 200,000 ounces per annum at an all-in sustainable cost (AISC) of US$1000/oz or less.

While not altogether clear, UBS assesses **the acquisition represents around 10% of the company's market capitalisation and would lift resources and production by around 20%, extending the group's mine life beyond 10 years.**

The deal is accretive on reserves, resources and production but a little less so after factoring in the required capital expenditure and exploration commitment as well as a -30-40% downgrade to reserves, on Evolution's assessment, in January 2020.

Low efficiency and productivity as well as a high cost structure provide an opportunity, Canaccord Genuity believes, as does potential for additional high-grade. The broker, not one of the seven monitored daily on the FNArena database, has a Hold rating and $4.30 target.

Macquarie anticipates a progressive ramp up of tonnage from the first half of FY21 to a 900,000tpa run rate by the end of FY23. The operations produced 276,000 ounces at an all-in sustainable cost of US$988/oz in 2018. 2019 production forecasts, however, are just 150-160,000 ounces at US$1600/oz, affected by water ingress which shut down the mine in July for three months. This implies the mine is currently making a loss.

Citi also points out the mine workings require innovative mining methods, ventilation expertise and an understanding of the challenges around dilution. Evolution has emphasised its experience with high-stress mines and the fact the operations team at Red Lake will remain intact.

The mineral endowment is very high-grade, UBS notes, with historical production of over 20g/t compared with current underground reserves of 9.4g/t. However, because of under-investment in development, exploration mining rates and grades have declined over time.

Were the mine to get back to a notional 1.1mtpa throughput at a higher assumed grade of 10.0g/t, with AISC of US$900/oz, UBS estimates it may be able to deliver US$202m in annual cash flow.

Why Red Lake?

The broker highlights Evolution Mining has been very successful at Cowal since the acquisition from Barrick in 2015, by investing in exploration, and this bodes well for success with Red Lake but models a negligible contribution to earnings until FY23.

Citi considers the acquisition screens well from a risk perspective but suspects investors will be concerned about the geographic dispersion and the complexities involved. If there is a chance to turn around the asset then there will be sufficient reward, and the deal gives Evolution a foothold in the region.

The project should be accretive to production and reserve/resource metrics, Macquarie assesses, and the **AISC target of US$1000/oz is an indication that the company will give up some margin in return for increased production.**

The broker also suspects there may be opportunities to regain lost margin by shedding higher cost ounces at short mine-life assets such as Cracow and Mungari. Ord Minnett, too, wonders whether Mungari and Cracow are worth more to someone else, and whether Evolution Mining still has aspirations for the Kalgoorlie Super Pit.

Credit Suisse presumes that the company has favoured acquiring the cash-consuming Red Lake over the cash-generating 50% of Super Pit because of the superior exploration upside and the 100% operating control. There is also exposure to North America.

However, with no guidance for 2020-22, other than restoring production potential, the broker suspects investors will have to be patient and trust in the due diligence and the company's ability.

Evolution created significant value when it acquired Cowal, supported by the gold price, and was also astute in buying Ernest Henry, the broker adds. Meanwhile, Citi upgrades to Buy, given the -15% pullback in the share price over the past eight weeks.

FNArena's database has two Buy ratings, three Hold and two Sell. The consensus target is $4.52, suggesting 12.6% upside to the last share price. Targets range from $4.00 (Morgan Stanley, Ord Minnett) to $5.60 (Macquarie).

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AUSTRALIA

Australian Sales Drag On Harvey Norman

Australian sales remain the critical weak spot for Harvey Norman in the lead up to the festive season as the retailer's key categories face a tough consumer environment.

-Australian decline puts pressure on core franchising operations
-Sales volatility expected over the Christmas/New Year period
-International stores and property earnings remain firm

By Eva Brocklehurst

A number of Harvey Norman's ((HVN)) key markets have slowed since July/August and the slowdown in Australia has been significant. This is in contrast to The Good Guys ((JBH)), which experienced its rate of comparable decline easing in September, and consistent with recent updates from furniture retailer Nick Scali ((NCK)).

Australian franchisee business sales were up just 0.6% for the year to October, implying a contraction in September/October of -1.9% from a 3.3% growth rate in July/August. Like-for-like sales, similarly, declined -2% in September/October from growth of 3% in July/August.

The Australian decline puts pressure on the core franchising operations by way of lower franchisee fees and the potential for higher tactical support, Ord Minnett points out.

Citi downgrades like-for-like sales forecasts for the first half to growth of 0.8%, as Australian sales have proven volatile, and assumes sales improve over November and December as a soft comparable will be cycled from the prior year.

Citi also points out JB Hi-Fi delivered like-for-like sales growth of 3.7% over the September quarter, and the difference reflects the fact that this company is outperforming in its core electronics categories while furniture & bedding (Harvey Norman's forte) is relatively tough.

Conditions should improve over the next 12 months, the broker asserts, as recent cuts to interest rates and the churn in housing should inspire consumer spending.

Trading updates across retailers have been mixed in September and October, with improvements for Wesfarmers ((WES)), JB Hi-Fi, Beacon Lighting ((BLX)) and Super Retail ((SUL)) contrasting with a slowdown for Harvey Norman, Lovisa ((LOV)) and Adairs ((ADH)).

Macquarie assesses Australian consumers are buying small ticket items and the slowdown in housing turnover is affecting the larger purchases. Black Friday and Christmas will be key selling periods and the broker will revisit assumptions at the first half result in February.

Offshore

UBS believes Harvey Norman is executing well offshore and this part of the business should grow over a three-year period at a compound rate around 9% vs Australia at just 1%.

Headwinds in Australia are envisaged, via increased competition and following years of industry consolidation, which could mean the company's ability to gain market share is thwarted and margins come under pressure. Still, UBS notes Harvey Norman has a strong balance sheet and asset backing.

Macquarie agrees that the 50% of operating earnings (EBITDA) accounted for by international stores and property are in reasonably good shape. New Zealand continues to show relative strength and exceeded expectations, although sales growth moderated to 4.7% from the 5.2% experienced in July/August. The broker highlights the NZ consumer is now under more pressure.

Singapore is struggling, Macquarie notes, with comparable sales contracting -13.2%, although strong comparable sales were being cycled. Malaysia, on the other hand, improved to growth of 12.0% which was driven by the rolling out of stores. Comparable sales growth of 7.3% was experienced in Slovenia and Croatia, albeit below expectations. Ireland and Northern Ireland grew 7.2% and 9.7%, respectively.

Flagship Stores

The company's flagship store appears to have been be successful in Australia, Ord Minnett notes, following the roll-out of flagship stores internationally. Harvey Norman had indicated it wanted to witness a 12-month trading history before rolling the concept out in Australia and New Zealand.

However, **no other local flagship store has been announced**. Premium re-fits will occur in Cairns, Aspley, Balgowlah, Campbelltown, Preston and Hamilton and Mount Wellington in New Zealand.

Macquarie notes corporate governance remains an issue for the company. Harvey Norman has received a second strike against its remuneration report at the AGM. The move to spill the board and remove CEO Katie Page were both unsuccessful.

FNArena's database has four Hold ratings and two Sell. The consensus target is $3.98, signalling -7.9% downside to the last share price. The dividend yield on FY20 and FY21 forecasts is 6.2%.

Find out why FNArena subscribers like the service so much: "Your Feedback (Thank You)" - Warning this story contains unashamedly positive feedback on the service provided.

FNArena is proud about its track record and past achievements: Ten Years On

AUSTRALIA

Fisher &Paykel Healthcare Too Pricey?

Fisher & Paykel Healthcare experienced a jump in device sales during the first half but brokers remain concerned about the high price of the stock.

-Will new mask quality/features be enough to drive an improvement in US market share
-Decline in gross profit margins of around -50 basis points expected in FY20
-Launch of Vitera in the US a key catalyst for mask growth in 2020

By Eva Brocklehurst

Nasal high-flow therapy performed strongly for Fisher & Paykel Healthcare ((FPH)) in the first half of FY20. The company has lifted FY20 expectations for a third time this year, Wilsons notes, albeit for low-quality reasons such as FX and R&D grants.

Full-year guidance is for operating revenue of NZ$1.19bn and net profit of NZ$255-265m, which Credit Suisse assesses has absorbed a modest adverse impact from a higher assumed NZD/USD rate.

Macquarie believes the results provide a platform for the company's revenue outlook over the medium term but notes valuation multiples are priced ahead of Australasian healthcare peers, and elevated versus historical levels.

Moreover, risks remain significant and temper the view. The broker awaits feedback from the US market and new releases in early 2020, noting this is a high-quality business and the market is capitalising market-leading growth opportunities across both hospital and homecare.

UBS agrees that the stock is trading well above global peers on an EPS (earnings per share) growth-adjusted basis. New applications for consumables were robust in the first half, with a growth rate of 23% on a constant currency basis.

A jump in device sales was underpinned by tenders, which is a reflection of the company's dominance of humidification, UBS asserts, and less about large Airvo orders for OptiFlow use outside of the intensive care unit.

Wilsons finds a couple of characteristics of the business at odds with the valuation. The **sleep business within the Homecare division faces structural challenges**, given competitor activity ahead of a new round of US reimbursement reform. The broker is also not convinced the new mask quality/features are enough to drive an improvement in market share in the US.

The company still expects a decline in gross profit margins of -50 basis points in FY20 on the back of additional depreciation and start-up costs, associated with the commissioning of the second manufacturing facility in Mexico.

Macquarie was expecting a more pronounced impact on margins in the first half and suspects margins will remain relatively static over FY20. Headwinds to margins include the start-up of the Auckland manufacturing facilities in FY21. Management has highlighted an additional $20m in capital expenditure as it improves capacity in both Mexico and New Zealand.

UBS suspects US durable medical equipment suppliers are likely to ask for price relief in the next round of the competitive bidding program. Reimbursement rates are due to be released in mid 2020 with implementation in January 2021. Based on the round 2 experience this could result in a modest increase in manufacturer price discounts, towards the upper end of the -3-5% historical level.

UBS assesses this would be slightly worse for Fisher & Paykel, given its heavy skew towards masks. The broker calculates a -3% change in US OSA (obstructive sleep apnoea) mask prices for the company would equate to a -60 basis points change in gross margin.

Hospital

The hospital division delivered revenue growth of 17%, supported by demand for nasal high-flow therapy. There was also an extended flu season in the US that underpinned sales. Normalising for the extended flu season and the sales of hardware, Credit Suisse estimates the hospital division delivered 14% growth.

Wilsons believes this segment is in excellent shape, although management has provided a conservative message regarding gross margins, which seems inconsistent with how the product mix should develop. Divisional revenue grew 19% to NZ$353m.

Homecare

Homecare operating revenue declined -1% because of declining sales in legacy OSA masks. This was partly offset by sales from the new Vitera full-face mask in Australasia, Canada and Europe, where the product has been well received.

The launch of Vitera in the US in late October is now expected to offset a further deterioration in legacy mask sales in the second half. Macquarie was surprised by OSA mask results in the first half, expecting a larger contraction, but believes the US launch is a positive sign for a return to growth in market share, albeit it is early days.

UBS notes homecare growth remains well below system growth and, while in the long-term **myAirflow for home treatment of COPD (chronic obstructive pulmonary disorder) is critical, supportive US clinical trial results and reimbursement are probably more than three years away**.

Wilsons points out mask re-supply programs facilitated by competitors are limiting sales for Fisher & Paykel, although new patient commencements appear positive. The broker, not one of the seven stockbrokers monitored daily on the FNArena database, maintains a Market Weight rating with an A$18.69 target. The database has three Sell ratings and one Hold (Macquarie).

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FNArena is proud about its track record and past achievements: Ten Years On

COMMODITIES

3D Printing Is A Manufacturing Game-Changer

Richard (Rick) Mills
Ahead of the Herd

As a general rule, the most successful man in life is the man who has the best information.

3D printing is a manufacturing game-changer

Calling all carnivores: ever thought about getting a meat printer? Of hand-crafting delectable beef steaks at home from plant proteins, that have the same texture, appearance and flavor as real meat, only without the distasteful killing part?

3D-printed steaks and chicken could be on the menu in European restaurants as early as 2020, with home-spun meat printers available to the consumer within a few more years. Israel-based Redefine Meat is already using “advanced food formulations” along with “proprietary 3D printing technology” to make what it calls the “holy grail of alt-meat”, reports Tech Radar Pro.

The idea sounds absurd, but it’s not so far-fetched, as three-dimensional printing technology goes in directions no-one could dream of, prior to the launch of 3D printing in the 1980s.

Uses

Put simply, 3D printing is a progression of 2D printing, where a third dimension is added to the printing of images on a flat surface (a regular ink-jet printer), adding depth and allowing the printer cartridge to move in all directions. A digital file is first created using modeling software, then sent to the printer, depositing layers of the chosen material - often plastic or wax - to build up the final product. Other printing materials include plastics, powders, filaments, paper, and even human or animal cells - used in the cutting-edge new field of “bioprinting”.

3D printing is also referred to as additive manufacturing because objects are made by “injection-molding” them to the desired size and shape, versus traditional manufacturing which invariably entails loading material into a machine to be cut to the required dimensions. With additive manufacturing, material is added, layer upon layer, without creating waste/ scrap.

3D Printer employs a good analogy for 3D printing, describing the process as similar to baking a multi-layered cake:

3D printers use a variety of very different types of additive manufacturing technologies, but they all share one core thing in common: they create a three dimensional object by building it layer by successive layer, until the entire object is complete. It’s much like printing in two dimensions on a sheet of paper, but with an added third dimension: UP. The Z-axis.

Each of these printed layers is a thinly-sliced, horizontal cross-section of the eventual object. Imagine a multi-layer cake, with the baker laying down each layer one at a time until the entire cake is formed. 3D printing is somewhat similar, but just a bit more precise than 3D baking.

Formerly known as stereolithography, 3D printing was invented in 1983 by Chuck Hull, co-founder of 3D Systems. Frustrated by how long it took to make small, custom parts, Hull suggested using his furniture company’s UV lamps to create parts by curing photosensitive resin, layer by layer. Calling the technology “stereolithography,” Hull applied for a patent and was issued one in 1986.

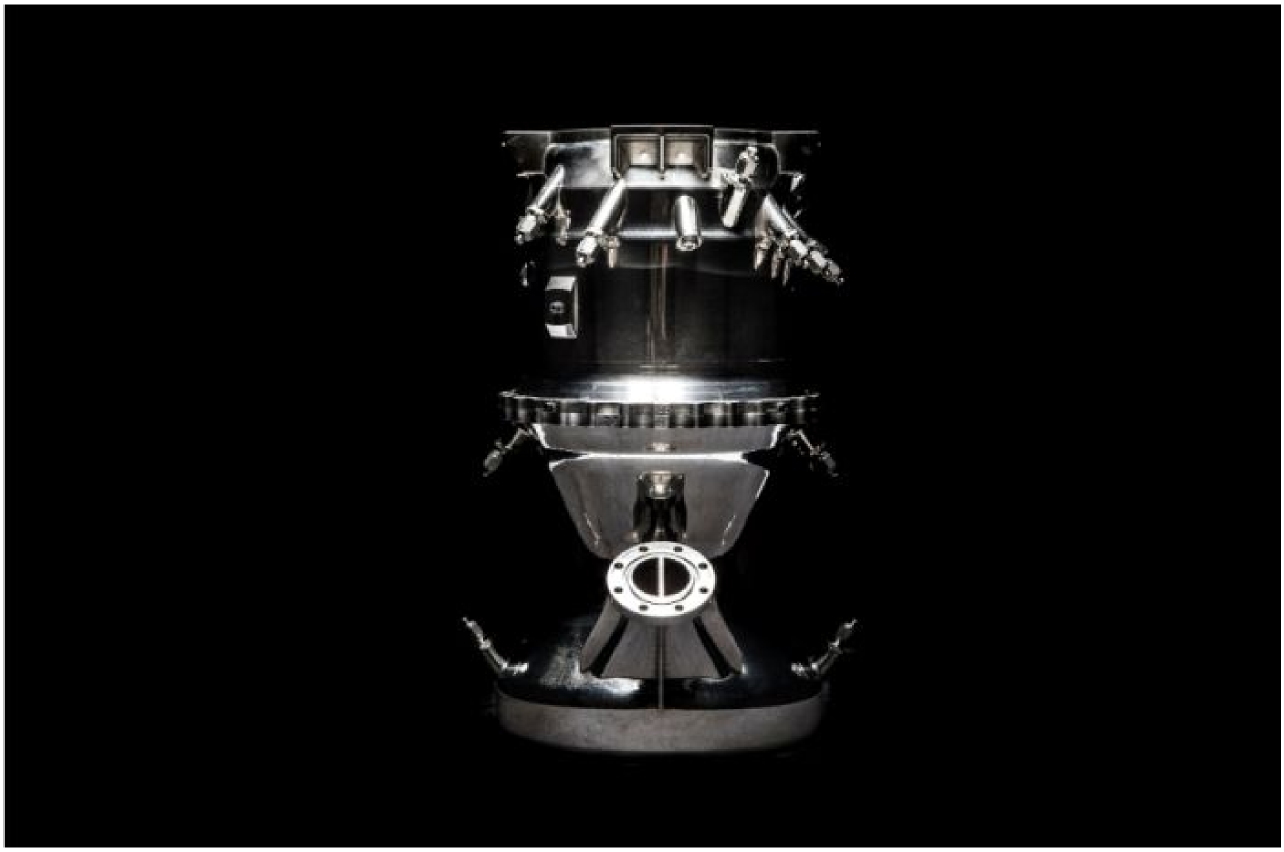
Two years later, start-up 3D Systems manufactured the first 3D printer, the SLA-1.

It took over 30 years for the technology to become mainstream, but now 3D printing can be done by anyone with access to a base-model 3D printer, which can be purchased for under $500.

Among the more interesting items that have been 3D-printed are prosthetic limbs, fabricated firearms, electrical vehicles, steel parts (Caterpillar introduced the first 3D-printed excavator in 2017), quick-build homes, parts for combat aircraft, spacecraft, and even decorative chocolates.

Relativity Space is 3D-printing rockets at its Los Angeles headquarters.

According to Wired, *you'll find four of the largest metal 3D printers in the world, churning out rocket parts day and night. The latest model of the company's proprietary printer, dubbed Stargate, stands 30 feet tall and has two massive robotic arms that protrude like tentacles from the machine. The Stargate printers will manufacture about 95 percent, by mass, of Relativity's first rocket, named Terran-1. The only parts that won't be printed are the electronics, cables, and a handful of moving parts and rubber gaskets.*



Z-Morph Blog lists five more really cool, recently-printed 3D-printed objects:

- Nike prototyped their Vapor Hyperagility Cleat, designed to minimize slippage on the pitch, many more times using 3D printing, than if they had used traditional prototype manufacturing. The sport-shoe giant used to spend thousands of dollars on a prototype and wait weeks for it.
- General Electric has designed working prototypes of jet engines, fuel nozzles and other intricate components.
- A Polish engineering firm used a desktop-sized 3D printer to create several variations of a new bridge in Gdansk, and to test their durability.
- American Pearl came up with a service called Jewelry Replicator, that 3D-prints customers' jewelry designs into real pieces they can visualize.
- Construction equipment maker Volvo used 3D printing to re-tool their articulated haul trucks, cutting down the cost of prototyping by a tenth, and the time spent from 20 to 2 weeks.

Source: GE

Methods

From its mid-’80s beginning, a number of 3D printing technologies have emerged.

The first, known as **Stereolithography (SLA)**, concentrates a beam of ultraviolet light onto the surface of a vat filled with liquid photocurable resin. The laser beam draws out the 3D model one layer at a time, with each “slice” hardening as the light hits the resin. The solidified structure is gradually dragged up by a lifting platform, while the laser continues to form a different pattern for each layer to create the desired shape of the object.

Digital Light Processing (DLP) is similar to Stereolithography, but uses more conventional light sources. A liquid crystal display allows for a large amount of light to be projected onto the surface of the object being printed, and for the resin to harden quickly.

Fused Deposition Modeling (FDM) was invented in the late 1980s. The object is made by extruding a stream of melted thermoplastic material to form layers. The layers harden and fuse together almost immediately after leaving the extrusion nozzle.

In **Selective Layer Sintering (SLS)**, powdered materials instead of liquid photopolymer is drawn from the vat, including polystyrene, ceramics, glass, nylon and metals such as steel, titanium, aluminum and silver. A layer of powdered material is placed on top of the previous layer using a roller and then the powdered material is fused or “sintered” according to a certain pattern.

PolyJet photopolymer shoots out a photopolymer liquid, similarly to an ink-jet printer, which is hardened with a UV light. This technology acquired by Stratasys allows for various materials and colors to be incorporated into single prints, and at high resolutions.

With **Syringe Extrusion**, virtually any material with a creamy viscosity such as clay, cement or silicone, can be 3D-printed using syringe extruders. The syringe is heated or not heated, depending on the material.

Other variants of these technologies include **Selective Laser Melting (SLM)**, **Electron Beam Melting (EBM)** which uses an electron beam instead of a laser, and **Laminated Object Manufacturing (LOM)**, where layers of paper, plastic or metal, coated with adhesive, are successively glued together and cut to shape.

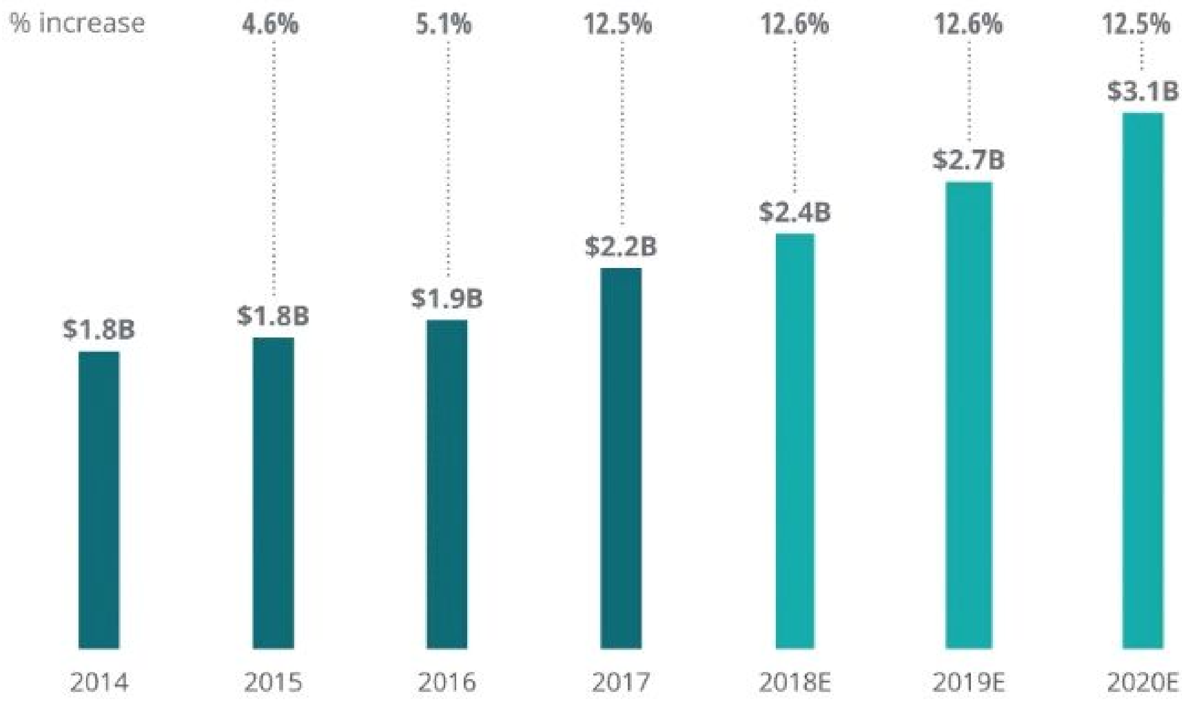
Market

Sales related to 3D printing, including printers, materials and services, will move past $US2.7 billion in 2019 and hit $3 billion in 2020 according to Deloitte Global, with a CAGR of 12.5%. Comparing that to the $12 trillion in global manufacturing revenues indicates the amount of growth potential in 3D printing and bioprinting.

FIGURE 1

Growth in the 3D printing market has more than doubled

Global 3D printing revenues among large public companies, US$ billion, 2014–2020



Source: Deloitte analysis of public company filings and analyst estimates.

Deloitte Insights | deloitte.com/insights

The consulting firm explains that companies across multiple industries are increasingly using 3D printing for more than just rapid prototyping:

3D printers today are capable of printing a greater variety of materials (which mainly means more metal printing and less plastic printing, although plastic will likely still predominate); they print objects faster than they used to, and they can print larger objects (build volume). A steady stream of new entrants is expanding the market. 3D printing is considered "an essential ingredient" in Industry 4.0, the marriage of advanced production and operations techniques with smart digital technologies that is being heralded as the "Fourth Industrial Revolution."

Deloitte notes the number of materials used in 3D printing has more than doubled from five years ago, with mixed-material printers becoming more common. 3D printers are also about twice as fast in 2019 as they were in 2014.

It says the biggest shift is from plastic to metal printing: "Plastic is fine for prototypes and certain final parts, but the trillion-dollar metal-parts fabrication market is the more important market for 3D printers to address." Plastic's share of the 3D printing industry fell from 88 to 65% in 2017-18, and metal rose from 28 to 36%.

A recent technology called binder jet metal printing could halve the time required to produce each part, compared to the relatively slow and expensive selective laser sintering (SLS) method, states Deloitte.

Size capabilities are improving too. A few years ago a high-end metal printer could only build an object 10x10x10 cm or one cubic liter. In 2019 metal printers with the capacity to print 30x30x30 cm are available.

Companies

As 3D printing technology continues to advance, more and more companies are forming, eager to get in on the action. Three of the largest are Stratasys, 3D Systems and Proto Labs; these companies offer 3D printers and services to help manufacturers move prototypes into production.

Based in Minnesota, **Stratasys** has over 600 granted or pending additive manufacturing patents, including for the FDM, Polyjet and WDM 3D printing technologies. Among the sectors Stratasys serves are healthcare, aerospace, automotive and education. The company's subsidiaries include MakerBot, GrabCAD, RedEye On Demand and Solid Concepts.

As mentioned **3D Systems** was first out of the gate with a 3D printer, back in 1988. Along with pioneering stereolithography, 3D Systems has also developed selective laser sintering, multi-jet printing, film-transfer imaging, color jet printing, direct metal printing, and plastic jet printing. Divided into three business units - products, materials and services - 3D Systems offers small desk-top printers, metal printers and commercial printers that print in plastics and other materials.

Also headquartered in Minnesota is **Proto Labs**, established in 1999. Building on automated solutions to develop plastic and metal parts used in manufacturing, in 2014 Proto Labs launched an industrial-grade 3D printing service, enabling software developers and engineers to quickly move prototypes into production. The company acquired Rapid Manufacturing in 2017 to further its efforts in sheet metal fabrication. It currently has 2,300 employees in 12 manufacturing hubs.

3D bioprinting - the next big thing in medical investing

According to the United Network for Organ Sharing, every day 21 people in the United States die waiting for an organ, and over 120,000 people are on organ transplant waiting lists.

The situation is worse in Canada. While Spain has 43 donors per million people, the US has 26, Britain has 21, and Canada has just 20. Out of 4,500 Canadians waiting for an organ, about 260 will die each year, according to The Organ Project. That's five deaths per week.

Imagine if, instead of waiting for an organ from another person - possibly a relative but likely a stranger - you could walk into a doctor's office and have one manufactured, with your cells. It sounds far-fetched, but the technology now exists for the tailor-made transplantation of organs through brand-new medicine called 3D bioprinting.

What is 3D bioprinting?

3D printing is a progression of 2D printing, where a third dimension is added to the printing of images on a flat surface (a regular ink-jet printer), adding depth and allowing the printer cartridge to move in all directions. A digital file is first created using modeling software, then sent to the printer, depositing layers of the chosen material - often plastic or wax - to build up the final product.

Among the more interesting items that have been 3D-printed are prosthetic limbs, fabricated firearms, electrical vehicles, steel parts (Caterpillar introduced the first 3D-printed excavator in 2017), quick-build homes, parts for combat aircraft and spacecraft, and even decorative chocolates.

Bioprinting operates on the same principle as regular 3D printing but instead of plastic, wax or other matter, bioprinters deposit layers of living cells to build structures like blood vessels or skin tissue. The cells are taken from an animal or a human being and cultivated until there are enough to create "bio-ink" which is then loaded into the printer using mechanical syringes. Adult stem cells can also be utilized.

Key to the process is a dissolvable gel which acts as a kind of incubator for the cells to multiply - like an embryo growing in a womb. Researchers may also plant cells around 3D scaffolds made of biodegradable polymers or collagen, allowing them to develop into functional tissue. The cells use their inherent properties to seek out similar cells to join with. Researchers are able to control the shape into which the cells form, and the printer builds the final structure.

After the tissues are fully grown and shaped, they are placed into a recipient's body. The hope is that the 3D-printed object becomes as much a part of the patient's body as the cells he or she was born with.

There are currently five common methods of 3D bioprinting:

- Inkjet bioprinting: Droplets of bio-ink are deposited, layer by layer, onto a culture plate. Cells that can help fight breast cancer have been successful printed using inkjet bioprinting.
- Extrusion bioprinting: Polymer or hydrogel is loaded in syringes and dispensed via pneumatic- or screw-driven force, onto a building platform. The motion is controlled by a computer. Extrusion bioprinting offers lower resolution than inkjet bioprinting but the fabrication speed is considerably higher, allowing anatomically-shaped objects to be generated.
- Laser-assisted bioprinting: A laser is used to deposit the biomaterials into a receptor via a tape covered with biological material. The laser irradiates the tape, causing the biological material to evaporate and reach the receptor in the form of droplets. The droplets contain a biopolymer that

acts as an adhesive to help the cells to grow. This high-resolution bioprinting method is being used in a partnership between French bioprinting company Poietis and L'Oréal to recreate a hair follicle that could lead to a cure for baldness.

- Stereolithography: Stereolithographic bioprinting uses a "digital micro-mirror" to direct ultraviolet light onto the printing surface. Light directed by the micro-mirrors triggers the formation of molecular bonds, which cause light-sensitive hydrogels to form into solid material.
- Bioprinting with acoustic waves: Using a device that allows cells to be manipulated with acoustic waves, researchers can manipulate where the waves will meet along three axes. The waves then form a trap that captures the cells, which are collected to create 3D patterns.

How far has it progressed?

Some of the most advanced work on bioprinting has been done at the Wake Forest Institute for Regenerative Medicine in California. One of the first major structures that Wake Forest bioprinted was a human bladder. Made from cells extracted from a patient with a poor-functioning bladder, the 3D-printed bladder was successfully transplanted. The project built on custom-grown bladders that had previously been transplanted into seven patients suffering from spina bifida, a birth defect that affects the spinal cord.

Wake Forest staffers have also created an outer human ear, and implanted bioprinted skin, bone and muscle on laboratory animals that successfully grew into surrounding tissue.

The institute's director, Anthony Atala, sees bioprinting as totally transforming the relationship between the transplant patient and doctor, in much the same way that Dell changed the way consumers interacted with the computer company that sold PCs tailored to each customer's unique needs. Patients could order replacement parts in much the same way they might order a new clutch for their Mazda.

"You'd have companies that exist to process cells, create constructs, tissue. Your surgeon might take a CT scan and a tissue sample and ship it to that company," Atala said in a feature article on bioprinting in Smithsonian Magazine.

The company would then ship the organ back a week or so later, ready for implantation. Welcome to the new world of regenerative medicine: the plug and play human body.

Atala said the technology is developing to the point where researchers are almost able to replicate simple organs like the outer ear and the trachea (windpipe). Importantly, there are no real surgical challenges, he told Smithsonian.

Challenges

The holy grail of 3D bioprinting would be to come up with a viable kidney for transplant. Professor Atala, of the Wake Forest Institute, created the first small-scale bioprinted kidney in 2002. However, Atala is the first to admit that his machine-produced kidney is nowhere near at the level it needs to be for a human transplant. A TED Talk Atala gave in 2011 about bioprinting, which culminated with a dramatic display of an object - really an over-sized bean - became controversial when the press got ahold of it and printed enthusiastic, but wrong, stories about the technology eliminating the need for a kidney transplant.

Another potential roadblock is the cost. No-one yet knows what it would cost to bioprint and transplant a human organ on demand, and how accessible the procedure would be to the masses of patients requiring a transplant. And while there have been successful bioprinted organ transplants, there haven't been enough to determine how well the human body will accept the new tissue or artificial organ.

Finally, one shouldn't underestimate the complexity and level of difficulty involved. As pharmaforum points out, "*A complex network of cells, tissues, nerves and structures in a human organ need to be correctly positioned with a highest precision for it to function properly. From arranging the thousands of tiny capillaries in a liver, to printing a heart that beats, it is a long, difficult process.*

Skin

Wake Forest is working on a skin-cell printer capable of printing live skin cells directly onto a burn wound. The procedure could replace skin-grafting, a procedure where healthy skin is harvested from an unburnt part of a patient's body. Skin grafting can be hard to heal from, and in severe burn cases, there isn't enough healthy skin left to use.

This new printing technique only needs a patch of skin 10% the size of the burn, that is used to grow enough cells for 3D printing. The wound is then scanned for size and depth, information which the printer uses to print skin cells at the proper depths to cover the wound.

In 2017 scientists in Madrid created a prototype of a 3D bioprinter that can create functional human skin. The printer is adequate for transplanting skin and for testing cosmetic, chemical and pharmaceutical products, ScienceDaily reported.

Hearts

At the Texas Heart Institute in Houston, researchers are working with decelluarized pig hearts. The organs have been stripped of muscle and other living tissue, but the original architecture is intact. The idea is to use decelluarized pig hearts, repopulated with bioprinted human cells, for implantation into humans. So far the institute has succeeded in injecting pig hearts with living bovine cells, then inserted them into cows where they worked successfully next to a cow's heart.

Already, patients with a defective heart valve can have a pig's valve or a mechanical valve implanted. Doris Taylor, director of the institute's regenerative medicine research program, says the decelluarized method gets around the tricky process of printing at the extremely high resolution required for highly vascularized (containing many blood vessels) organs like the heart.

"The tech is going to have to improve a great deal before we're able to bioprint a kidney or a heart, and get blood to it, and keep it alive," Taylor told Smithsonian.

More recent developments though are moving in that direction. In 2016 Harvard researchers 3D-printed the first "heart-on-a-chip". The tiny device contains living human heart cells that mimic the heart's functions.

In 2018, 3D printing start-up BioLife4D successfully produced human tissue in the form of a cardiac patch - derived from a patient's white blood cells with multiple cell types contained in the human heart. According to pharmaforum, it's another step towards bioprinting major organs for transplant.

Scientists at the American Friends of Tel Aviv University have reportedly 3D-printed a fully-vascularized heart using fat cells from a donor. The fat cells were partially cultured and re-programmed into heart cells. This early-stage technology has only been able to print a heart the size of a rabbit's, but researchers hope to test the printed hearts in other animals.

Ovaries

Northwestern University in Illinois debuted a 3D-printed ovary using the acoustic waves method described above, and in Sweden, researchers have successfully created human cartilage tissue, also using acoustic waves.

Thyroids

Russian scientists aboard the International Space Station successful bioprinted the first organ in space: a mouse's thyroid. Space's zero-gravity environment enables organs and tissues to mature faster than on Earth.

Bones/ cartilage

A team from the UK's Swansea University has apparently developed a bioprinting process that uses regenerative material to create an artificial bone matrix. The technology could replace bone grafting, a surgical procedure that replaces missing or damaged bones with synthetic materials. Unlike bone grafting, which doesn't allow new bone tissues to form, thus limiting mechanical integrity, 3D-printed bones are capable of fusing with, and even replacing over time, a patient's natural bones.

Cartilage printing could revolutionize joint care through a hand-held cartilage printing device called BioPen. Built by Australian researchers, the BioPen contains stem cells derived from a patient's fat, which create "custom scaffolds of living material into failing joints" much like 3D-printed bones. So far BioPen has only been tested on sheep but developers plan to accelerate it to regenerate functional human cartilage.

Corneas

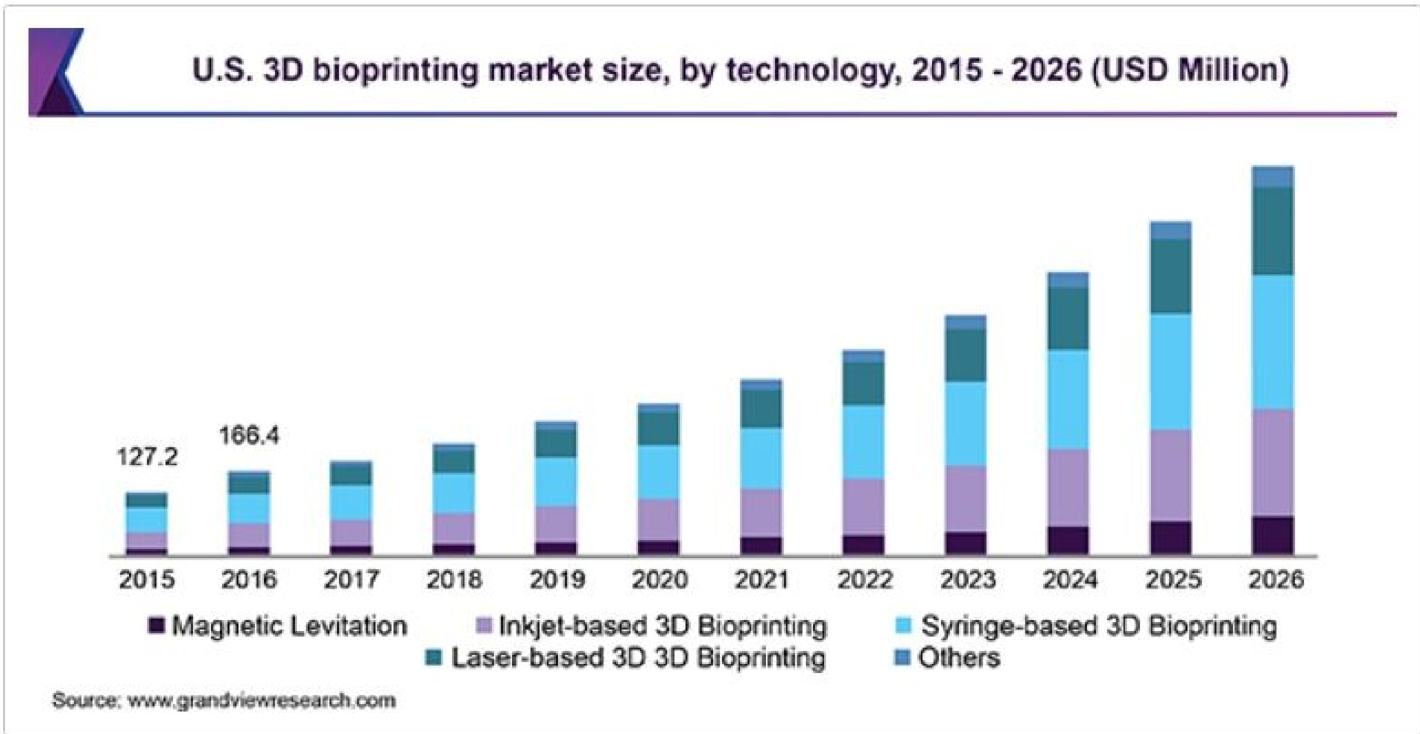
Finally, a group of researchers in South Korea has 3D-printed prototype corneas from decelluarized corneal stroma and stem cells. Unlike artificial corneas currently available, made of substances like synthetic polymer which resist incorporation into the eye, printed corneas are made to mimic the material within natural corneas. The invention could replace the need for donors and synthetic corneas in cataract surgery and other sight complications.

Investment opportunity

3D bioprinting has come a long way since Professor Atala's first artificial bladder in 2002. At Ahead of the Herd, we think it is the next big thing in regenerative medicine. Science always starts out with experimentation, sometimes many years of it, before the technologies are commercialized. We want our subscribers to be well aware of 3D bioprinting's potential, putting them in a position to get in early to companies that are offering bioprinted products.

While there are currently a handful of bioprinting firms, we see an entire ecosystem of small firms developing, with each focusing on a different aspect, technology or part of the body. It will not take 10 years for start-up pub-cos to IPO, seeking money to develop their technologies.

Currently valued at USD$685 million, within the next six years, the global bioprinting market is expected to expand by a CAGR of 26.2%, reaching $4.4 billion by 2026. The United States and Canada are the industry leaders, making bioprinting an ideal new sector for North America-focused investors.



Following are some of the top names in 3D bioprinting:

Organovo - San Diego-based Organovo (NASDAQ:ONVO) is well-recognized as a leading tissue engineering company. In 2014 Organovo bioprinted liver tissue that functioned as a real liver for weeks. In 2015 the company generated human kidney tissues, and it is developing synthetic skin through a partnership with L'Oréal.

Cellink - US-based Cellink developed the world's first bio-ink, that is universally compatible with all cell types in 3D bioprinters. The company also makes bioprinters used to enable 3D cell culture, personalized medicine and enhanced therapeutics.

Allevi - Known previously as BioBots, Allevi manufactures desktop bioprinters to pharmaceutical companies, researchers and other medical professionals. The printers are priced as low as $10,000 but the company expects its specially-formulated bio-inks, valued at $1,000 per 100ml, to be a cash-generating machine. At TechCrunch Disrupt NY, the start-up printed out an exact replica of Van Gogh's ear.

Stratasys - Holds over 600 granted or pending additive manufacturing patents, including WDM™ 3D, PolyJet™, and FDM® printing technologies. These technologies create prototypes and fabricate products directly from 3D CAD files. Stratasys recently came out with a dental 3D printer that produces aligners for orthodontics.

Formlabs - Somerville, MA-based Formlabs provides 3D printers for use in dentistry. The printers capture details of the patient's teeth by scanning the mouth and turning the scan into a printable 3D software file.

Aspect Biosystems - Canadian company Aspect Biosystems provides materials for bioprinting such as printhead cartridges. Its proprietary Lab-on- a-Printer™ platform technology is enabling advances in understanding disease research, development of novel therapeutics, and regenerative medicine. Aspect has cooperated with the Frampton lab to create synthetic skin tissue, and partnered with Johnson & Johnson to develop 3D-printed knee meniscus tissue.

TeVido BioDevices - Based in Austin, TX, TeVido BioDevices aims to change reconstructive surgery starting with the loss of skin color caused by disease or scarring. A compound of two Spanish words, tejido (tissue) and vida (life), TeVido uses 3D printers for various reconstructive and cosmetic surgeries including for breast cancer survivors and patients who suffer from vitiligo, a disease that causes blotchy skin patches.

Advanced Solutions Life Sciences - This Kentucky-based subsidiary of 30-year-old Advanced Solutions produces robotic arms for bioprinters. Its Tissue Structure Information Modeling (TSIM®) software and BioAssemblyBot® 3D printer workstation "comprise an integrated solution that empowers medical researchers and engineers to design, visualize, and print 3D virtual models of complex tissue structures," the company states.

Tissue Regeneration Systems (TRS) - Plymouth, MI-based TRS is a medical device company specializing in skeletal reconstruction and bone generation using 3D printers and scaffold technology. After implantation, the skeletal reconstruction implants fully replace themselves with real bones.

nScrypt - Headquartered in Florida, nScrypt's 3D printers can not only print out living cells, but extracellular matrices, collagen and hyaluronic acid. The company's BioAssembly Tools (BAT) Series can precisely dispense or extrude all the ingredients needed to construct living tissue.

EnvisonTEC - EnvisonTEC's first 3D printer was a hit in the jewelry market – largely because of its ability to deliver incredible precision and surface finish, quickly. Manufacturers of hearing aids, dental prosthetics and other small and smooth parts followed.

Based in Germany with three offices in the US and one in Canada, EnvisonTEC processes biomaterial using air or mechanical pressure to a syringe, which can fabricate scaffolds using a wide variety of materials.

Nano3D Biosciences (n3d) - Houston-based n3D's core technology is the magnetization of cells, which can then be directed to either levitate or bioprint cells. These cultures are faster to assemble than other systems and easier to handle with magnets without losing samples.

Modern Meadow - Modern Meadow's focus is on materials that grow animal skin in a lab as bioprinted cell culture. The New Jersey-based firm grows collagen, a protein found in animal skin, from which is produced a bio-leather material called Zoa, that can be tanned and dyed the same as natural leather. Through a partnership with Evoniks, a large speciality chemicals company, Modern Meadow plans to start commercial production in 2020 at a manufacturing facility in Slovakia.

3D bioprinting could represent *the* solution to the transplant dilemma that has plagued medicine for hundreds of years. As I write this, people are dying waiting for organs, or in severe pain. Imagine if that pain could go away, literally, in a heartbeat. While it's still early days as far as getting to the transplantation of major organs, the potential for this technology is enormous. Instead of patients being hardwired into an organ transplant system that is slow, risky and heartbreaking for those who are too far down the waiting list, 3D bioprinting holds the promise of medicine tailored to the individual. We are on the cusp of the human body being plug and play: get a scan of your defective organ, and a tissue sample, then send it off to a company for organ fabrication. A week later, presto! New organ, problem solved.

Challenges

Could 3D printing replace traditional manufacturing? While the industry holds the promise of pinpoint accuracy, mass customization and "a printer in every home," there are some real limitations on the technology. These challenges will have to be overcome if 3D is to move beyond a process that merely complements how things are currently made.

One of the most serious drawbacks is the lack of a means to intervene when the printing process breaks down. A well-worn industry joke is, "Why are 3D printers transparent? So you can watch your build fail!" Printing processes need constant human monitoring to ensure they are running smoothly; some companies are actually installing cameras to watch their printers print. Moreover, once an object has been printed, technicians must perform quality testing to expose any defects. Non-conformities can't be corrected at that point and the object must be discarded.

This is a challenge considering there are numerous and complex variables that require monitoring, in order to achieve an acceptable level of accuracy. Trial and error methods of finding the correct lattice positions of appropriate support structures are neither sustainable nor fast solutions.

3D printing and AI

Fortunately the problem can be solved by machine learning, a branch of artificial intelligence (AI). Much like a child learns through play, machine learning uses generative design to improve printing efficiency and to save on costly mistakes.

Generative design is an iterative process involving a software program that generates a number of outputs that meet certain real-world constraints.

In the pre-fabrication stage, machine learning can help optimize lattices in the CAD files, and evaluate the most efficient printing paths. Designers input their goals into a generative design software, and parameters such as materials, manufacturing methods and costs. The software then explores all possible permutations of a solution and quickly generates design alternatives, learning from each iteration what works and what doesn't.

Defects can be detected using high-resolution cameras that film each layer of the printing process to record streaks, pits, divots and other aberrations that are invisible to the naked eye - saving time and materials.

This is particularly important for metal printing. For example the manufacture of metal parts for the aerospace and biomedical industries requires perfect structural integrity. Without AI, manufacturers using 3D printing don't know until the end of the process if the part created is satisfactory. A jet turbine blade can take weeks to complete and if there's a mistake the whole part must be thrown out. While still in the development stage, AI could be used to correct mistakes in real-time, by adjusting the lasers that cut into the thin layers of metal powder, or adjusting the hair-like thickness of the next powder layer.

In the near future machine learning could be used for predictive maintenance, by accurately forecasting the remaining lifecycle of a spare part or piece of equipment.

AI is also applicable to 3D bioprinting. A Belfast start-up that produces 3D prints of body parts is developing a machine-learning technique to automate the process of taking 2D images of slices of the anatomy to build up a 3D model. The images are necessary to denote bone, muscle and organ tissue. Automation would replace this task, currently performed by medical visualization engineers, which can take up to four hours per print. Because there are common features to human anatomy, a machine could be trained to scan previous files and label images.

Conclusion

The fascinating new world of 3D printing is moving manufacturing into un-charted territory. It's not an exaggeration to say that 3D printing is likely to permeate every aspect of industry, and maybe even our personal lives.

Prototypes of everything from running shoes to rockets can now be printed in three dimensions, improving the accuracy of prototyping, and dramatically cutting costs and time of prototyping.

However there are still significant holes in the technology that must be plugged by innovation. The complexity of just getting the 3D printing process to work is still daunting. It involves a fair amount of fiddling with formats, parameters and mechanical adjustments.

The industry is ripe for new technologies that can make 3D printing more reliable, cheaper and less time-consuming. Artificial intelligence is the common denominator in most of the planned improvements. Indeed machine learning appears to be the key that will accelerate 3D printing to the next level - perhaps even analogous to mass production that started with the assembly of Henry Ford's Model T.

Companies that can seize the opportunity provided by AI and 3D printing represent the next investment horizon for Ahead of the Herd subscribers.

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Richard is the owner of Aheadoftheherd.com and invests in the junior resource/bio-tech sectors. His articles have been published on over 400 websites, including:

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*If you're interested in learning more about the junior resource and bio-med sectors, and quality individual company's within these sectors, please come and visit us at **www.aheadoftheherd.com***

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COMMODITIES

Material Matters: Copper, Iron Ore And Coal

A glance through the latest expert views and predictions about commodities. Large cap resources; copper; base metals; iron ore; and coal.

-Major resource companies well-positioned heading into New Year
-Main catalyst for copper is US/China trade deal
-Increasing pressure on aluminium smelters in the face of excess capacity
-Robust demand keeping iron ore market tight
-Russia ramps up production of thermal coal

By Eva Brocklehurst

Large Cap Resources

Credit Suisse retains a cautious view on 2020 yet notes, despite recent softness in commodity prices, equities have held up well. Major resource companies have benefitted from capital discipline and strong balance sheets.

Where the broker envisages upside, namely **metallurgical (coking) coal and alumina**, it remains constructive on the equities. However, particularly for Australian investors, **BHP Group** ((BHP)) and **Rio Tinto** ((RIO)) may be the safe plays until a trade deal between China and the US provides more certainty about the global outlook.

While a bearish house view on **steel** does not provide Credit Suisse with a strong upside conviction, BHP Group remains the preferred stock for 2020 among the majors, as there is potential upside for metallurgical coal. **South32** ((S32)) appears best positioned, given it is trading around book value, but the broker's forecasts for **base metals** imply material downside for earnings in the medium term.

Meanwhile, **coal** exposures such as **Whitehaven Coal** ((WHC)), **Coronado Resources** ((CRN)) and **New Hope Corp** ((NHC)) continue to suffer from falling investor demand as ESG (environment, social and governance) concerns have magnified over 2019 and this is unlikely to unwind in the near term.

Alumina Ltd ((AWC)) and **Iluka Resources** ((ILU)) have company-specific drivers to watch out for in the New Year which could drive sentiment although, in the interim, soft commodities for both mean upside potential is low. 

Copper

Credit Suisse assesses the **copper** price may experience a bounce if there is a trade deal between China and the US, but demand growth may be slower to recover. Fundamentals are showing copper experiencing growing surpluses, an indication of lower prices.

The broker reduces forecasts over the next two years, expecting the copper surplus will become large by 2022. A price response is expected to force mine closures, subsequently reducing the surplus and allowing the price to recover in 2023.

Credit Suisse reduces demand estimates for this year and next, given poor macro data, and now expects a modest surplus in 2019 as opposed to a deficit. The broker reduces December quarter copper pricing by -10% and 2020 forecasts by -4% to US$2.70/lb. 2021 forecasts are reduced by -7% to US$2.50/lb and 2022 by -20% to the forecast low of US$2.15/lb.

Citi considers the main catalysts will be whether a trade deal materialises. The broker's end-use copper market tracker reveals a second consecutive month of expansion in October, to the highest rate in seven months. This also matches a pick up in copper positioning on the London Metal Exchange/COMEX. Stronger end-use demand may also explain why speculators in China have been reluctant to build short positions.

Macquarie found a more upbeat mood on copper at the recent copper conference in Shanghai. Traders and speculators tended to favour copper for some upside amongst the LME base metal complex.

This is supported by the broker's monthly survey of Chinese fabricators which are increasingly positive regarding orders from the construction sector. This contrasts with steel expectations and supports the assessment that strong property starts over the last few years are now transferring into completions and this will benefit non-ferrous metals at the expense of steel.

The broker finds the physical copper market is resilient with supply tightness at copper mines restraining the ambitions of smelters and leading to price stability in the face of the trade war.

Base Metals

Citi reiterates a positive 6-12 month view on **nickel** since current prices are consistent with a recession-like outlook for demand. The potential for demand to outperform this fairly low bar skews the price risks for nickel to the upside, in the broker's opinion.

At spot prices of $14,400/t Citi estimates rising costs will squeeze margins to unsustainable levels and, as global demand growth is expected to improve, higher prices are required to prevent a run down in nickel stocks in the next 3-4 years.

Credit Suisse also expects supply balances for nickel should be tighter next year and increases price estimates to US$7/lb.

The broker drastically lowers price forecasts for **aluminium** on the threat of large surpluses and a view that supply needs to be shed. Slowing demand for aluminium has generated these surpluses and there remains too much capacity available, with even more coming online.

China has approved 46mtpa of aluminium capacity on expectations consumption will reach 42mtpa. But Credit Suisse believes this is a distant prospect, whereas extra capacity will come on line in the next couple years.

The broker points out closing and aluminium smelter is a serious decision and rarely taken, so these tend to keep operating even when making losses and now expects the price will stay at the current punitive level through the next two years and force obsolete units to close.

With production growth slowing prices could then rise in 2022 and 2023. For alumina prices, Credit Suisse believes the only direction is up from a floor of US$280/t. However, the Chinese winter is typically a weak period for alumina so little improvement in the price is expected until the second quarter of 2020.

Iron Ore

Morgan Stanley observes the spot price for **iron ore** is creeping back up to US$90/t and robust demand is keeping the market tight. The broker suspects, with momentum still strong and low inventory at steel mills, amid constrained near-term supply growth, the iron ore prices not ready to take a step down yet.

While there is a probability for Chinese construction to decelerate in the second half of 2020 the broker believes near-term activity will remain robust. Relatively warm weather has meant construction activity has not slowed down for the winter as yet, evidenced by higher volumes of rebar end-use procurement.

Steel production curbs are not being strictly enforced in the current heating season and Morgan Stanley does not believe such restrictions will be a significant drag on restocking. An increase in Chinese domestic iron ore supply up until October this year also appears to be running out of steam.

If the Simandou mine in Guinea ramps up to 100mtpa, as the winning consortium plans, Macquarie suspects the largest players in the market may respond by shrinking their production rates to at least mitigate the hit on prices.

Macquarie asserts the Singapore/China/France consortium promises to build a US$14bn mine-rail-poor complex in Guinea to deliver a massive 7% of additional supply of iron ore to the market over the medium term, just as China-led global steel production growth rates low and competitive steel scrap flows rise.

Because of the unusual structure of the iron ore market, the addition of Simandou could enhance consolidation. Alternatively, at 100mtpa, the project could be sufficiently large to marginalise a raft of smaller operations.

The broker flags the ability of the main operators in the market, namely Vale, Rio Tinto and BHP Group, to adjust their respective production rates to optimise long-term price outcomes.

If Chinese steel mills somehow exploit the emergence of the Simandou project then investors could be justified in being bearish on both the iron ore price and the growth in supply, although Macquarie considers this an unlikely bearish scenario.

Coal

At the Carbon Forum 2019 in Warsaw Macquarie observes the main talking point was the apparent disconnect between Chinese port restrictions and the strong growth in coking coal imports. The broker pointed out the traditional role of China as a clearing market and that strong imports did not necessarily reflect strong demand.

As a global markets slipped into oversupply China has been taking on more seaborne coal while demanding deep discounts. The broker notes metallurgical coal inventory remains high, particular at the ports.

Most traders expect Chinese exports of coke will continue to fall as more merchant coke plants close and industry overcapacity is reduced. The bright spot for coking coal is strong demand growth in Vietnam, Indonesia and Malaysia where cumulative imports have doubled in only two years.

While investment in new mine capacity has shrunk in western-oriented hub such as Australia, Colombia and the US, **thermal coal** is expanding in Russia. Russian thermal coal exports have increased by 11mt and metallurgical coal by 2mt this year. Key markets are in Asia but also Turkey and North Africa.

Macquarie notes growing Russian thermal coal exports are considered a threat for high calorie thermal coal and the PCI/semi-soft coking coal market but not necessarily for premium hard coking coal of which the country is short.

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WEEKLY REPORTS

Weekly Ratings, Targets, Forecast Changes - 22-11-19

By Rudi Filapek-Vandyck, Editor FNArena

Guide:

The FNArena database tabulates the views of seven major Australian and international stock brokers: Citi, Credit Suisse, Macquarie, Morgan Stanley, Morgans, Ord Minnett and UBS.

For the purpose of broker rating correlation, Outperform and Overweight ratings are grouped as Buy, Neutral is grouped with Hold and Underperform and Underweight are grouped as Sell to provide a Buy/Hold/Sell (B/H/S) ratio.

Ratings, consensus target price and forecast earnings tables are published at the bottom of this report.

Summary

Period: Monday November 18 to Friday November 22, 2019
Total Upgrades: 9
Total Downgrades: 10
Net Ratings Breakdown: Buy 37.56%; Hold 45.78%; Sell 16.66%

For the week ending Friday, 22nd November 2019 FNArena counted nine upgrades for ASX-listed stocks versus ten downgrades from the seven leading stockbrokerages monitored daily. Coca-Cola Amatil received two upgrades to Neutral during the week while BlueScope Steel was downgraded twice, with only one downgrade moving to Sell.

Four of the nine upgrades stopped at Neutral, while three out of the ten downgrades mark a fresh Sell ratings. The two other receivers are Domino's Pizza and Volpara Health.

Some positive momentum can be distinguished from the tabel of price target revisions with the top three of Qantas, Coca-Cola Amatil and ALS ltd all enjoying double-digit percentage increases. The negative side has only one such revision: AP Eagers (profit warning).

Remarkable, the top three of the week's table for positive earnings revisions is made up of popular high growth companies Aristocrat Leisure, TechnologyOne and Afterpay Touch. The first two released FY19 financials. Alas, as is so often the case, the table for negative revisions continues to display the larger adjustments.

Taking the heaviest blow for the week is mapping company Nearmap, followed by AP Eagers, OceanaGold, Coronado Global Resources, and BlueScope Steel.

The local out-of-season reporting scheduling continues during the week ahead, while macro considerations continue to impact market sentiment and direction.

Upgrade

COCA-COLA AMATIL LIMITED ((CCL)) Upgrade to Neutral from Underperform by Credit Suisse and Upgrade to Neutral from Underperform by Macquarie.B/H/S: 1/3/2

Credit Suisse observes the Australian business has been heading in the right direction over the past six months, highlighting its estimates have been ahead of the market.

While not the preferred valuation measure, Credit Suisse believes, if investors gain confidence in the company's ability to grow sustainably, closing the PE gap to Woolworths ((WOW)) could mean the stock hits $14 a share.

Rating is upgraded to Neutral from Underperform and the target is raised to $11.00 from $9.40.

Management has reiterated expectations for mid single-digit earnings growth in 2020. Macquarie welcomes the company's confidence in the outlook and upgrades to Neutral from Underperform.

Second half profit growth is expected to be higher than the first half. Coca-Cola Amatil has confirmed 2019 will be the end of its transition period and it can now focus on the top line. Target is raised to $11.20 from $8.77.

MONADELPHOUS GROUP LIMITED ((MND)) Upgrade to Neutral from Sell by Citi .B/H/S: 1/3/0

First half revenue guidance was weaker than expected, which Citi suspects may have been the result of delays to projects. The broker upgrades to Neutral from Sell, believing the company is well-placed to capitalise on the demand outlook in its core markets.

Nevertheless, Citi envisages downside risk to near-term earnings, given a lower conversion rate for the pipeline of work as well as lower margins. Target is raised to $15.90 from $15.50.

MONASH IVF GROUP LIMITED ((MVF)) Upgrade to Add from Hold by Morgans .B/H/S: 2/0/0

The company has outlined a number of initiatives expected to drive modest profit growth of 5% over the medium term. Monash IVF has also clarified the impact from the exit of five referring fertility specialists and the update is in line with expectations.

Morgans assesses the stock is now offering more than 10% total shareholder return over 12 months and upgrades to Add from Hold. Target is raised to $1.15 from $1.09.

ORIGIN ENERGY LIMITED ((ORG)) Upgrade to Add from Hold by Morgans .B/H/S: 5/2/0

APLNG is expected to deliver stronger cash flows for Origin Energy vs what Morgans previously anticipated. This is driven by higher production output and better LNG pricing.

While underlying operating earnings will be higher by $80m in FY20 the broker points out this is driven by accounting standards rather than a change in business conditions.

Rating is upgraded to Add from Hold. Origin Energy expects to pay dividends at the higher end of its policy range of 30-50%. Target is raised to $8.62 from $8.19.

QANTAS AIRWAYS LIMITED ((QAN)) Upgrade to Outperform from Neutral by Macquarie .B/H/S: 4/1/0

Macquarie considers the stock cheap vs its global peers, expecting both the domestic airline and the loyalty scheme will generate improved profitability in the medium term. The broker expects the stock to continue re-rating and upgrades to Outperform from Neutral.

Target is raised to $7.90 from $6.15. Forecasts are updated to reflect the first quarter trading update and a review of the Australian domestic market.

An improvement in domestic airline profits is expected as Virgin Australia ((VAH)) revises its pricing, fleet, routes and frequency. This will ultimately lead to capacity reductions.

SARACEN MINERAL HOLDINGS LIMITED ((SAR)) Upgrade to Buy from Neutral by Citi .B/H/S: 2/0/0

Citi upgrades to Buy from Neutral, given the likely acquisition of Barrick Gold's 50% stake in the Kalgoorlie Central Gold Mine JV and a pullback in the Saracen Mineral share price. Target is raised to $4.10 from $3.90.

The broker cautions that the acquisition has downside risk for the near term, but on its gold price estimates the deal is accretive, with opportunities to exercise the company's underground expertise.

VIRGIN AUSTRALIA HOLDINGS LIMITED ((VAH)) Upgrade to Neutral from Sell by UBS .B/H/S: 0/1/1

The company has articulated a strategy putting profit growth ahead of market share. The shares have underperformed by -40% over the past two years and UBS believes the earnings risk is shifting.

An earnings decline is expected in FY24 followed by improvements in future years. Rational domestic behaviour is critical to the broker's thesis and this is expected to occur along with near-term capacity reductions.

Rating is upgraded to Neutral from Sell and the target raised to $0.16 from $0.15.

WOODSIDE PETROLEUM LIMITED ((WPL)) Upgrade to Accumulate from Hold by Ord Minnett .B/H/S: 3/3/1

Ord Minnett suggests the Scarborough/Pluto project has been materially de-risked through the 52% increase in the Scarborough resource and the agreement with BHP Group ((BHP)) over a tolling price.

The next step is to progress with the Browse/North West Shelf development, which appears delayed somewhat. As the outlook is clearer, Ord Minnett upgrades to Accumulate from Hold. Target is raised to $38.50 from $34.00.

Downgrade

ALS LIMITED ((ALQ)) Downgrade to Neutral from Buy by Citi .B/H/S: 1/4/0

While Citi envisages potential upside risk to FY20 net profit guidance, the stock is trading at a 20x FY20 PE so the rating is downgraded to Neutral from Buy.

The broker assumes a recovery in exploration expenditure going forward but acknowledges there are downside risks to that view. Target is raised to $8.90 from $7.90.

BEACON LIGHTING GROUP LIMITED ((BLX)) Downgrade to Hold from Add by Morgans .B/H/S: 0/2/0

Based on recent moves in the share price Morgans downgrades to Hold from Add. The broker notes the company will cycle a soft comparable in the first half. Target is steady at $1.16.

BLUESCOPE STEEL LIMITED ((BSL)) Downgrade to Sell from Neutral by UBS and Downgrade to Equal-weight from Overweight by Morgan Stanley.B/H/S: 2/3/1

UBS is cautious about the recent momentum in steel prices and spreads. US steel prices and spreads have lifted by 8-10% since the trough in late October but the spread remains below the company's first half guidance.

During this time the stock has rallied 16%. Rating is downgraded to Sell from Neutral and UBS cuts FY20 estimates for earnings (EBIT) by -17%. Target is reduced to $11.94 from $12.20.

Morgan Stanley believes the recent strength in the share price more than accounts for the positive momentum in steel prices. The broker believes investors should capitalise on the strength in the share price and downgrades to Equal-weight from Overweight.

Earnings (EBIT) forecasts are reduced by -9% for FY20 and -16% for FY21. While an improving steel price is positive, further price and spread increases are required to support forecasts. Morgan Stanley reduces the target to $13.50 from $14.00. Industry view: Cautious.

DOMINO'S PIZZA ENTERPRISES LIMITED ((DMP)) Downgrade to Reduce from Hold by Morgans .B/H/S: 0/5/1

Based on the recent move in the share price, Morgans downgrades to Reduce from Hold and lowers the target to $45.23 from $47.42.

The broker notes a deceleration in like-for-like sales momentum recently.

MINERAL RESOURCES LIMITED ((MIN)) Downgrade to Hold from Accumulate by Ord Minnett .B/H/S: 1/1/0

Ord Minnett was particularly interested in the update at the AGM that indicated half of the net proceeds from the recent sale of a 60% stake in the Wodgina project will be invested in FY20.

Given the state of lithium markets, the broker points out returns are healthy in the iron ore business, although the division is attracting more capital than previously expected.

Forecasts are updated for a higher-than-expected capital expenditure allowance in FY20. The broker awaits several catalysts and downgrades to Hold from Accumulate in the interim. Target is lowered to $14.40 from $15.60.

NEXTDC LIMITED ((NXT)) Downgrade to Hold from Accumulate by Ord Minnett .B/H/S: 5/1/0

The company's rival AirTrunk has announced a $1bn-plus investment in a new hyper-scale data centre in North Sydney, its second Sydney data centre. This creates direct competition for NextDC, being in the same availability zone as its existing S2 and planned S3 data centres.

While NextDC should continue to benefit from increased demand there may be pricing pressure on its wholesale business in Sydney as a result, the broker suspects. Rating is downgraded to Hold from Accumulate. Target is steady at $7.

SEEK LIMITED ((SEK)) Downgrade to Hold from Add by Morgans .B/H/S: 2/4/0

Revenue momentum in the company's Chinese online employment business, Zhaopin, is weakening, as the impact of the US/China trade war spreads to the small-medium enterprise sector.

Zhaopin's short-term labour hire business is growing strongly but not enough to offset the effect of falling job advertisements. As a precautionary measure, Morgans lowers forecasts for China.

The share price is now trading in excess of the target and the rating is downgraded to Hold from Add. Target is reduced to $21.82 from $22.31.

SMARTGROUP CORPORATION LTD ((SIQ)) Downgrade to Hold from Add by Morgans .B/H/S: 4/2/0

While the company's first half results proved resilient against a weak consumer backdrop, a return to a stronger growth profile is likely to need successful execution of the strategy outside the core salary packaging sector

Morgans suspects organic growth will be difficult to achieve in the second half, although the balance sheet and cash flow remain strong.

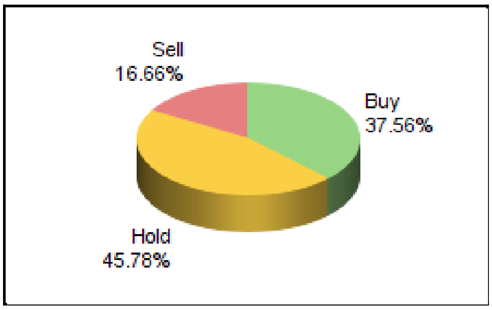
Morgans downgrades to Hold from Add and reduces the target to $10.01 from $10.15. The company has also announced the retirement of CEO Deven Billimoria and Tim Looi, current CFO, has been appointed to the role, effective February 2020.

VOLPARA HEALTH TECHNOLOGIES LIMITED ((VHT)) Downgrade to Lighten from Hold by Ord Minnett .B/H/S: 1/0/0

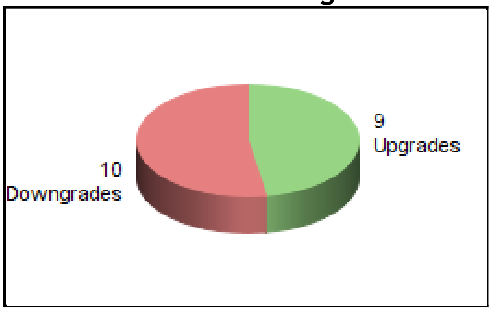
Ord Minnett observes break-even has been pushed out further and downgrades to Lighten from Hold. First half results were in line with expectations while a step up in costs meant an operating loss of -NZ$7.9m.

Looking towards FY21 and beyond the outlook is less certain, in the broker's view. Sales of core products have not quite met expectations to date. Target is reduced to $1.62 from $1.71.

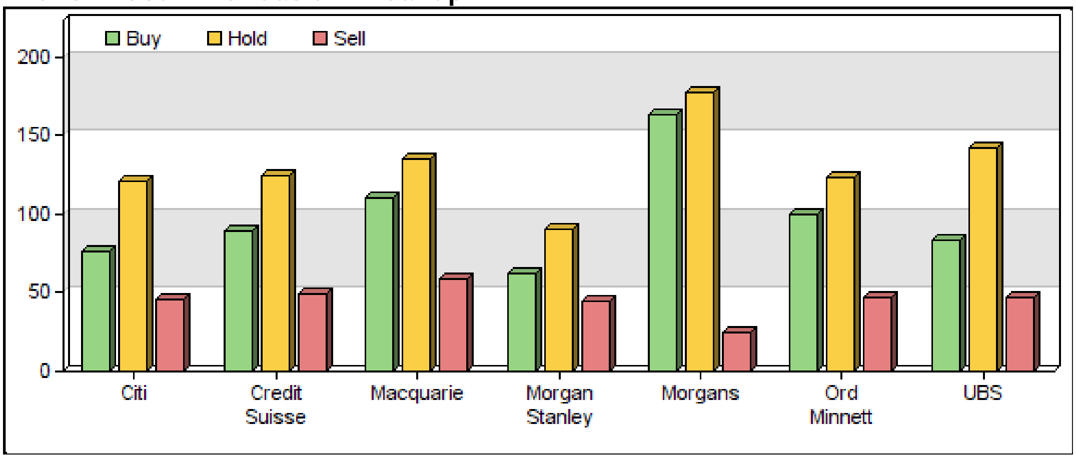
Total Recommendations



Recommendation Changes



Broker Recommendation Breakup



Broker Rating

Order	Company	New Rating	Old Rating	Broker
Upgrade				
1	COCA-COLA AMATIL LIMITED	Neutral	Sell	Macquarie
2	COCA-COLA AMATIL LIMITED	Neutral	Sell	Credit Suisse
3	MONADELPHOUS GROUP LIMITED	Neutral	Sell	Citi
4	MONASH IVF GROUP LIMITED	Buy	Neutral	Morgans
5	ORIGIN ENERGY LIMITED	Buy	Neutral	Morgans
6	QANTAS AIRWAYS LIMITED	Buy	Neutral	Macquarie

7	SARACEN MINERAL HOLDINGS LIMITED	Buy	Neutral	Citi
8	VIRGIN AUSTRALIA HOLDINGS LIMITED	Neutral	Sell	UBS
9	WOODSIDE PETROLEUM LIMITED	Buy	Neutral	Ord Minnett
Downgrade				
10	ALS LIMITED	Neutral	Buy	Citi
11	BEACON LIGHTING GROUP LIMITED	Neutral	Buy	Morgans
12	BLUESCOPE STEEL LIMITED	Sell	Neutral	UBS
13	BLUESCOPE STEEL LIMITED	Neutral	Buy	Morgan Stanley
14	DOMINO'S PIZZA ENTERPRISES LIMITED	Sell	Neutral	Morgans
15	MINERAL RESOURCES LIMITED	Neutral	Buy	Ord Minnett
16	NEXTDC LIMITED	Neutral	Buy	Ord Minnett
17	SEEK LIMITED	Neutral	Buy	Morgans
18	SMARTGROUP CORPORATION LTD	Neutral	Buy	Morgans
19	VOLPARA HEALTH TECHNOLOGIES LIMITED	Sell	Neutral	Ord Minnett

Recommendation

Positive Change Covered by > 2 Brokers

Order	Symbol	Company	New Rating	Previous Rating	Change	Recs
1	CCL	COCA-COLA AMATIL LIMITED	-25.0%	-58.0%	33.0%	6
2	QAN	QANTAS AIRWAYS LIMITED	80.0%	60.0%	20.0%	5
3	ORG	ORIGIN ENERGY LIMITED	71.0%	57.0%	14.0%	7
4	WPL	WOODSIDE PETROLEUM LIMITED	21.0%	14.0%	7.0%	7

Negative Change Covered by > 2 Brokers

Order	Symbol	Company	New Rating	Previous Rating	Change	Recs
1	BSL	BLUESCOPE STEEL LIMITED	17.0%	50.0%	-33.0%	6
2	SGR	THE STAR ENTERTAINMENT GROUP LIMITED	43.0%	67.0%	-24.0%	7
3	ALQ	ALS LIMITED	20.0%	40.0%	-20.0%	5
4	SEK	SEEK LIMITED	25.0%	42.0%	-17.0%	6
5	SIQ	SMARTGROUP CORPORATION LTD	67.0%	83.0%	-16.0%	6
6	DMP	DOMINO'S PIZZA ENTERPRISES LIMITED	-21.0%	-7.0%	-14.0%	7
7	APE	AP EAGERS LIMITED	80.0%	90.0%	-10.0%	5
8	NXT	NEXTDC LIMITED	83.0%	92.0%	-9.0%	6
9	CWN	CROWN RESORTS LIMITED	17.0%	20.0%	-3.0%	6

Target Price

Positive Change Covered by > 2 Brokers

Order	Symbol	Company	New Target	Previous Target	Change	Recs
1	QAN	QANTAS AIRWAYS LIMITED	7.300	6.490	12.48%	5
2	CCL	COCA-COLA AMATIL LIMITED	10.583	9.537	10.97%	6
3	ALQ	ALS LIMITED	8.828	7.996	10.41%	5
4	BSL	BLUESCOPE STEEL LIMITED	14.200	13.550	4.80%	6
5	WPL	WOODSIDE PETROLEUM LIMITED	34.623	33.186	4.33%	7
6	ORG	ORIGIN ENERGY LIMITED	8.481	8.464	0.20%	7

Negative Change Covered by > 2 Brokers

Order	Symbol	Company	New Target	Previous Target	Change	Recs
1	APE	AP EAGERS LIMITED	12.804	14.530	-11.88%	5
2	SGR	THE STAR ENTERTAINMENT GROUP LIMITED	4.740	4.813	-1.52%	7
3	DMP	DOMINO'S PIZZA ENTERPRISES LIMITED	43.650	43.963	-0.71%	7
4	SEK	SEEK LIMITED	21.403	21.485	-0.38%	6
5	SIQ	SMARTGROUP CORPORATION LTD	10.900	10.923	-0.21%	6

Earning Forecast

Positive Change Covered by > 2 Brokers

Order	Symbol	Company	New EF	Previous EF	Change	Recs

1	ALL	ARISTOCRAT LEISURE LIMITED	158.500	132.400	19.71%	7
2	TNE	TECHNOLOGYONE LIMITED	20.450	17.125	19.42%	4
3	APT	AFTERPAY TOUCH GROUP LIMITED	6.680	6.220	7.40%	5
4	ECX	ECLIPX GROUP LIMITED	12.720	12.180	4.43%	5
5	A2M	THE A2 MILK COMPANY LIMITED	44.352	42.879	3.44%	7
6	ALQ	ALS LIMITED	39.744	38.494	3.25%	5
7	WEB	WEBJET LIMITED	66.250	64.624	2.52%	5
8	APX	APPEN LIMITED	50.330	49.330	2.03%	3
9	IFL	IOOF HOLDINGS LIMITED	50.533	49.533	2.02%	6
10	ORG	ORIGIN ENERGY LIMITED	57.393	56.479	1.62%	7

Negative Change Covered by > 2 Brokers

Order	Symbol	Company	New EF	Previous EF	Change	Recs
1	NEA	NEARMAP LTD	-4.767	-3.767	-26.55%	3
2	APE	AP EAGERS LIMITED	44.194	48.774	-9.39%	5
3	OGC	OCEANAGOLD CORPORATION	7.720	8.278	-6.74%	5
4	CRN	CORONADO GLOBAL RESOURCES	45.923	48.753	-5.80%	3
5	BSL	BLUESCOPE STEEL LIMITED	81.338	86.202	-5.64%	6
6	HT1	HT&E LIMITED	13.308	13.925	-4.43%	4
7	VRT	VIRTUS HEALTH LIMITED	29.667	30.667	-3.26%	3
8	SIQ	SMARTGROUP CORPORATION LTD	57.958	59.675	-2.88%	6
9	WBC	WESTPAC BANKING CORPORATION	198.529	204.200	-2.78%	7
10	WPL	WOODSIDE PETROLEUM LIMITED	166.948	171.697	-2.77%	7

Technical limitations

If you are reading this story through a third party distribution channel and you cannot see charts included, we apologise, but technical limitations are to blame.

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WEEKLY REPORTS

Uranium Week: Eight-Month High

Despite caution surrounding Iran sanctions waivers, and other ongoing uncertainties, the spot uranium price last week reached US$26.00/lb for the first time in eight months.

-Spot uranium hits eight-month high
-One waiver on Iranian sanctions terminated
-Buying continues unabated

By Greg Peel

Late last month the White House extended for ninety days waivers on Iranian sanctions for those companies assisting Iran in its civil nuclear ambitions. While the extension upset some Republicans, the thinking is better to have eyes and ears inside Iran's nuclear industry than to try and monitor proceedings from outside.

Had the waivers not been extended it would have meant sanctions on European, Russian and Chinese companies working in Iran, leading to up to 20% of US nuclear fuel imports being withdrawn.

Which, one presumes, would have resulted in a higher uranium price in the US. Yet the global spot uranium price rallied on the news, and has been rallying ever since, as utilities decided it was time to step into the market to purchase required inventory, with year-end approaching. An uncertainty had been removed, at least for ninety days.

The uranium price rallied again two weeks ago, gaining momentum as producers joined in the newfound buying spree, likely fearful of missing out.

Last week saw the spot price rally yet again, with industry consultant TradeTech's weekly spot price indicator rising US75c to reach US$26.00/lb for the first time in eight months. But somewhat of a paradox has emerged.

Just Buy

Last week the White House terminated one of the four sanction waivers, having learned from the International Atomic Energy Iran has recommenced uranium enrichment at its Fordow plant. "There is no legitimate reason for Iran to resume enrichment at this previously clandestine site," US Secretary of State Mike Pompeo told reporters on November 18.

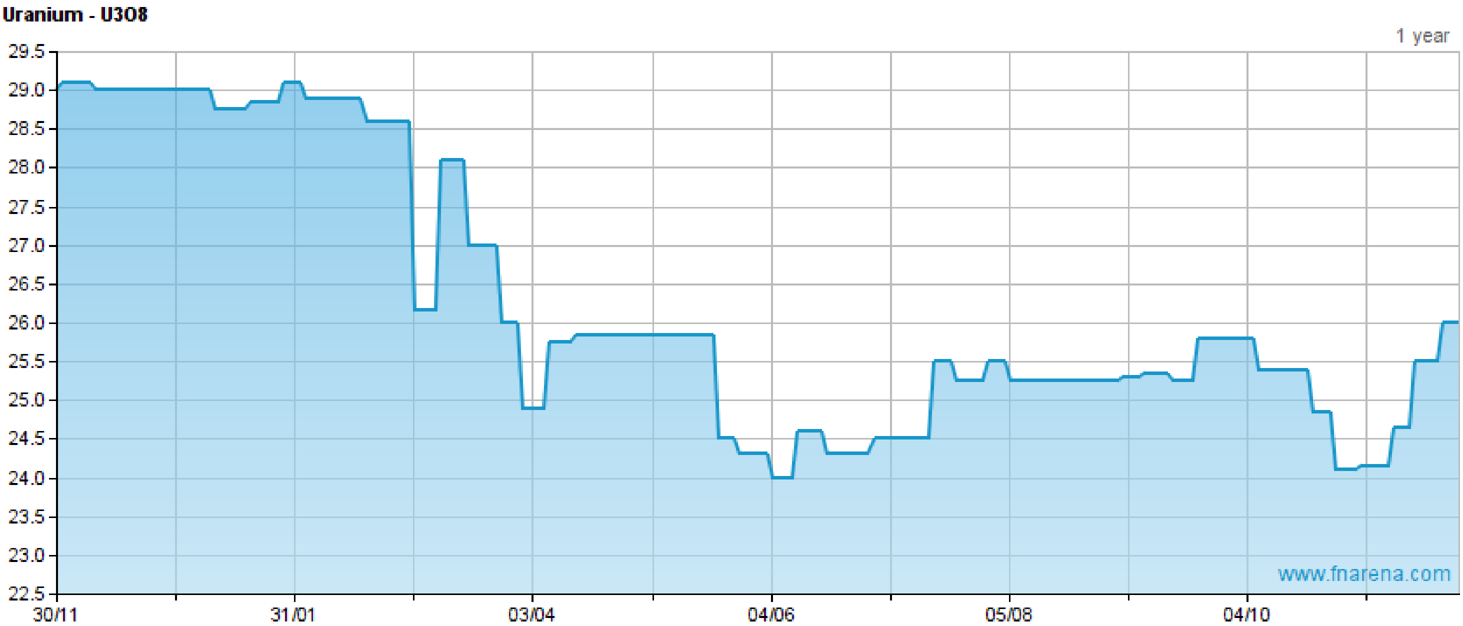
Waivers for companies involved with the Bushehr power plant remain in place for now, subject to reassessment in January.

So it appears the market is prepared to buy uranium when waivers are extended and buy uranium when waivers are terminated and all this despite the ongoing uncertainty of it only being a ninety-day extension, not to mention a Working Group report that is supposedly now sitting on the president's desk as yet unread, and no news on the Russian suspension agreement.

Maybe the market has just decided it's time to buy uranium. December typically sees year-end buying ahead of the northern winter, so perhaps this year the buying has come early and producers are vying with utilities to secure material.

A total of 1.8mlbs U3O8 equivalent changed hands officially last week, TradeTech reports, although several off-market transactions were also concluded. The spot price is now up almost 8% for the month.

Utilities were also active in term markets this week, TradeTech reports, with several concluding transactions either as a result of formal tenders or off-market negotiations. TradeTech's term price indicators remain at US$27.50/lb (mid) and US$31.00/lb (long).



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WEEKLY REPORTS

The Short Report - 28 Nov 2019

See **Guide** further below (for readers with full access).

Summary:

Week ending November 21, 2019

Last week the ASX200 breached the 6800 mark once again on a dovish set of RBA minutes, before the Westpac bombshell was dropped and the index copped a two-day sell-off.

There was not a lot of movement in short positions last week, bar a couple of notables.

Kirkland Lake Gold ((KLA)) shorts jumped back to 12.9% from 7.7%, marking the fourth consecutive weekly bounce between the 12s and the 7s and back again. Last week the Canadian based miner announced a takeover of compatriot Detour Gold and the share price promptly fell -9%.

Bellamy's Australia ((BAL)) fell off the 5% plus table last week from 8.4% shorted, while Saracen Mineral Holdings ((SAR)) shorts dropped to 5.1% from 7.8%.

See below.

Weekly short positions as a percentage of market cap:

10%+

SYR 17.0
GXY 16.9
GWA 15.5
ING 14.0
SDA 13.3
KLA 12.9
BOQ 12.3
NXT 11.8
CGC 11.6
JBH 11.4
WEB 11.3
BGA 10.6
DMP 10.5
BKL 10.5
NEA 10.2
HUB 10.1
MIN 10.1

In: KLA, NEA, MIN

9.0-9.9

MTS, IVC

Out: NEA, MIN

8.0-8.9%

PPT, BIN, HVN, SUL, A2M, CGF

In: HVN, A2M Out: BAL

7.0-7.9%

PLS, NCZ, CLH, IFL, OML, RSG, NUF, MYR, DCN

Out: KLA, SAR, BWX, SLR

6.0-6.9%

BWX, RWC, CUV, SGM, SLR

In: BWX, SLR Out: CMW

5.0-5.9%

CTD, AMP, CMW, NWL, CLQ, COE, GMA, PGH, LNG, RFF, SAR, OGC, NEC

In: SAR, CMW, GMA, OGC Out: CSR

Movers & Shakers

Back in September, Tasmanian infant formula producer **Bellamy's Australia** ((BAL)) received a takeover bid from the Chinese, sending the stock up 19% on the day. While this did serve to prompt short-covering, as late as the week before Bellamy's shorts were still elevated at 8.4%.

Surely the treasurer was never going to approve a Chinese takeover of an Australian dairy company. But he did.

Bellamy's shorts last week dropped from 8.4% to under 5%.

Saracen Mineral Holdings last week announced the acquisition of Canada-based Barrick Gold's 50% stake in the Super Pit near Kalgoorlie in Western Australia, funded partly by an equity raising. Often an acquisition funded by a raising would have the share price dropping on dilution, and shorters moving in the arbitrage against acquiring new stock.

The share price did drop, but shorters instead took the opportunity to take profits. The acquisition is seen as transformative for Saracen in terms of production profile, and moreover increases the chances of the stock being included in the ASX100 index, which would force relevant funds to buy it.

So the shorters skedaddled, sending shorts down to 5.1% from 7.8%.

ASX20 Short Positions (%)

Code	Last Week	Week Before	Code	Last Week	Week Before
AMC	0.9	0.6	RIO	3.9	4.6
ANZ	0.7	0.6	S32	1.7	1.5
BHP	3.4	3.5	SCG	0.4	0.4
BXB	0.2	0.2	SUN	0.3	0.2
CBA	0.7	0.7	TCL	0.4	0.4
CSL	0.1	0.2	TLS	0.3	0.2
GMG	0.4	0.3	WBC	0.7	0.8
IAG	0.5	0.5	WES	0.7	0.6
MQG	0.4	0.4	WOW	0.9	0.7
NAB	0.8	0.6	WPL	1.0	1.0

To see the full Short Report, please go to this link

Guide:

The Short Report draws upon data provided by the Australian Securities & Investment Commission (ASIC) to highlight significant weekly moves in short positions registered on stocks listed on the Australian Securities Exchange (ASX). Short positions in exchange-traded funds (ETF) and non-ordinary shares are not included.

Short positions below 5% are not included in the table below but may be noted in the accompanying text if deemed significant.

Please take note of the Important Information provided at the end of this report. Percentage amounts in this report refer to percentage of ordinary shares on issue.

Stock codes highlighted in green have seen their short positions reduce in the week by an amount sufficient to move them into a lower percentage bracket. Stocks highlighted in red have seen their short positions increase in the week by an amount sufficient to move them into a higher percentage bracket. Moves in excess of one percentage point or more are discussed in the Movers & Shakers report below.

IMPORTANT INFORMATION ABOUT THIS REPORT

The above information is sourced from daily reports published by the Australian Investment & Securities Commission (ASIC) and is provided by FNArena unqualified as a service to subscribers. FNArena would like to make it very clear that immediate assumptions cannot be drawn from the numbers alone.

It is wrong to assume that short percentages published by ASIC simply imply negative market positions held by fund managers or others looking to profit from a fall in respective share prices. While all or part of certain short percentages may indeed imply such, there are also a myriad of other reasons why a short position might be held which does not render that position "naked" given offsetting positions held elsewhere. Whatever balance of percentages truly is a "short" position would suggest there are negative views on a stock held by some in the market and also would suggest that were the news flow on that stock to turn suddenly positive, "short covering" may spark a short, sharp rally in that share price. However short positions held as an offset against another position may prove merely benign.

Often large short positions can be attributable to a listed hybrid security on the same stock where traders look to "strip out" the option value of the hybrid with offsetting listed option and stock positions. Short positions may form part of a short stock portfolio offsetting a long share price index (SPI) futures portfolio – a popular trade which seeks to exploit windows of opportunity when the SPI price trades at an overextended discount to fair value. Short positions may be held as a hedge by a broking house providing dividend reinvestment plan (DRP) underwriting services or other similar services. Short positions will occasionally need to be adopted by market makers in listed equity exchange traded fund products (EFT). All of the above are just some of the reasons why a short position may be held in a stock but can be considered benign in share price direction terms due to offsets.

Market makers in stock and stock index options will also hedge their portfolios using short positions where necessary. These delta hedges often form the other side of a client's long stock-long put option protection trade, or perhaps long stock-short call option ("buy-write") position. In a clear example of how published short percentages can be misleading, an options market maker may hold a short position below the implied delta hedge level and that actually implies a "long" position in that stock.

Another popular trading strategy is that of "pairs trading" in which one stock is held short against a long position in another stock. Such positions look to exploit perceived imbalances in the valuations of two stocks and imply a "net neutral" market position.

Aside from all the above reasons as to why it would be a potential misconception to draw simply conclusions on short percentages, there are even wider issues to consider. ASIC itself will admit that short position data is not an exact science given the onus on market participants to declare to their broker when positions truly are "short". Without any suggestion of deceit, there are always participants who are ignorant of the regulations. Discrepancies can also arise when short positions are held by a large investment banking operation offering multiple stock market services as well as proprietary trading activities. Such activity can introduce the possibility of either non-counting or double-counting when custodians are involved and beneficial ownership issues become unclear.

Finally, a simple fact is that the Australian Securities Exchange also keeps its own register of short positions. The figures provided by ASIC and by the ASX at any point do not necessarily correlate.

FNArena has offered this qualified explanation of the vagaries of short stock positions as a warning to subscribers not to jump to any conclusions or to make investment decisions based solely on these unqualified numbers. FNArena strongly suggests investors seek advice from their stock broker or financial adviser before acting upon any of the information provided herein.

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WEEKLY REPORTS

The Wrap: Gaming, Aged Care & Property

Weekly Broker Wrap: Oz economy and climate change; gaming; telcos; aged care; salary packaging and property.

-Likely slump in rural export volumes could significantly reduce current account surplus
-Australia's casino sector facing substantial headwinds
-Optus counters Telstra with new 'no lock-in' mobile plans
-Temporary funding boost for residential aged care sector now unlikely
-Slowdown in co-working may have material impact on Oz office markets

By Eva Brocklehurst

Climate Change & Australian Economy

Citi calculates, if farm production were to fall by a total of -20%, Australian GDP could be -0.5 percentage points lower. This is not out of the question, based on previous periods of severe drought. If rural export volumes fell by a total of -10% this would be equivalent to around a -$5bn hit to the current account. Given Australia's current account surplus was $5.8bn in the June quarter, it would be reduced significantly.

Australia's rural sector is in recession and is expected to remain so until early 2020. While drought has typically been viewed as a natural disaster, climate change is a trend that has increased the frequency and severity of extreme weather events. Modelling undertaken by the Climate Council of Australia estimates cumulative damage from reduced agricultural productivity could reach $19bn by 2030 and $211bn by 2050.

This modelling does not include damage arising from loss of arable land because of rising sea levels, flooding, bushfires, storms and cyclones. Citi asserts, on the evidence, governments will need to allocate more headroom in the budget for disaster relief and reconstruction. This means the spending focus needs to shift.

In 2015 the Productivity Commission recommended the federal government shift the focus of natural disaster management to resilience, from recovery. The broker also notes Australia ranks poorly on its vulnerability index as drought, cyclones and temperature contribute strongly to risk.

Gaming

Morgan Stanley finds it hard to envisage any meaningful sign a recovery is underway for VIP gambling in Australia. UBS agrees, believing it unlikely the Australian casino sector can withstand a weakening housing market and this is being compounded by weaker VIP demand across Asia.

Morgan Stanley recently visited Macau and found Melco still finds a strategic rationale in owning **Crown Resorts** ((CWN)). Crown Resorts has world-class assets and the Australian market has rare monopolies (Melbourne and Perth). Tax rates in Australia are also considered reasonable. Melco believes the valuation of Crown Resorts is fair, ex capital expenditure, while the Australian currency provides a tailwind.

Meanwhile, Queensland tourism minister, Kate Jones, has announced the government will begin direct negotiations with **Star Entertainment** ((SGR)) to fast-track new infrastructure on the Gold Coast. Exclusivity is not been granted but The Star has been issued with the terms for negotiation. Meanwhile, the NSW Independent Planning Commission has rejected The Star's proposal for a new hotel and apartment tower in Pyrmont.

Morgan Stanley's meetings with various US casino operators have highlighted **Aristocrat Leisure**'s ((ALL)) land-based business, with operators very positive regarding the ability to improve floor performance through the company's product. Competitors also complemented the company on its ability to move into adjacencies, which has already allowed market share to shift in its favour.

The broker also notes that sports betting in the US is a big opportunity and, with most of the company's competitors experiencing stretched balance sheets compared with Aristocrat Leisure, it is likely that any incremental expenditure will be on sports betting vs land-based business. Hence, Aristocrat Leisure is likely to remain a leader in its R&D investment in slots.

Telcos

Optus has launched new 'no lock-in' mobile plans, similar to **Telstra** ((TLS)) in that it will charge for the core connectivity/data and then add-ons such as international calling/roaming/handsets will be an additional costs for the consumer. UBS makes comparisons and notes Telstra prices are now a 20% premium to Optus at the $60 price point. Unlike Telstra, JP Morgan points out Optus still charges for excess data usage across all plans at $10/gigabyte.

However, Optus is also offering double data on certain eligible 5G device repayment plans and UBS considers this an incremental negative for the industry. The broker suspects Optus is placing a greater emphasis on moving customers up the revenue per unit curve. That said, the industry is still considered more rational than 18 months ago.

JPMorgan notes Optus is also offering the option for customers to build their own plan, adding or removing features such as additional data, international call/text and international roaming. The smallest plan with 10GB per month and no international calls/texts or roaming comes in at $39 while the plan with maximum inclusions is $91 per month.

Aged Care

The federal government has announced a new $537m funding package for aged care which targets three priority areas, including homecare packages, medication management programs and new targets for removing young people with disabilities from residential aged care. In the light of this announcement, brokers envisage a temporary funding boost for the residential aged care sector is unlikely.

Any level of funding relief to the sector remains outside of the priority list and, in the light of this, and in the absence of any further reforms, UBS retains a cautious stance on listed operators. Ord Minnett expects earnings will contract for at least another 12 months and finds little reason to invest in the sector, while the pressure on aged care occupancy is likely to increase.

Negative "jaws" (the extent to which income growth exceeds expenses growth) are expected to continue in the near-term. The occupancy environment also limits any opportunity for outperformance. While the sector offers an attractive long-term demand profile, UBS is unsure as to how government will regulate and fund the sector post the Royal Commission.

Salary Packaging

Conditions in the salary packaging sector have been tougher than Credit Suisse anticipated. While still growing, novated lease volumes have been affected by weak car sales. Yields have been negatively impacted by credit availability and lower sales of related products such as warranties. The broker expects **McMillan Shakespeare** ((MMS)) will maintain profit levels but, as the stock has re-rated back to fair value, the rating is downgraded to Neutral from Outperform.

Credit Suisse also believes the reaction to the news that CEO Deven Billimoria will depart **Smartgroup** ((SIQ)) was excessive, exacerbated by the proximity to the recent sell-down by Smart Packages of its 25% stake. While conditions are tough the broker suspects earnings momentum has troughed and will benefit from any cyclical upturn.

Property

Morgan Stanley highlights co-working may be just 1.0-1.5% of office occupancy in Australian cities but it has driven 45% of the 2018-19 absorption of space. Hence, a slow-down in leasing from this segment may have a material impact on office markets. The broker notes reports that WeWork, which dominates the co-working industry with around 48% market share, may halt its planned expansion in Australia.

Job advertisements, a traditional indicator of net absorption, have been running at negative in NSW/Victoria since October 2018 and this coincides with a slowdown in office space take-up, Morgan Stanley notes. Given the headwinds, the broker prefers other categories in the property industry and suspects **Dexus Property** ((DXS)), which has 60% of its assets in the Sydney office market, could be vulnerable if co-working demand decreases.

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RUDI'S VIEWS

Time To Diversify The Portfolio?

Dear time-poor reader: Quality has proved the absolute winner in Australian equities, but has the time come to diversify through Value?

Time To Diversify The Portfolio?

By Rudi Filapek-Vandyck, Editor FNArena

As another calendar year is drawing to its natural end, time has arrived to once again reflect upon what might have been and what has actually transpired since the world was staring into the abyss this time last year. If not now then when, *n'est-ce pas*?

Last year an overconfident Federal Reserve, alongside other central bankers around the world, thought it had successfully manufactured an escape from the economic straight jacket that has kept economies into a slower-for-longer framework post GFC, with occasional bouts of threatening mini-crises along the way.

It looks like a strange aberration today, but the Fed actually thought it could continue to hike interest rates while also running down the size of its balance sheet and the world would never notice a difference. Odd.

Maybe the most apt description is the one I have been using in my on-stage presentations to investors throughout years gone by: *in theory there is no difference between economic theory and practice, yet in practice there is.*

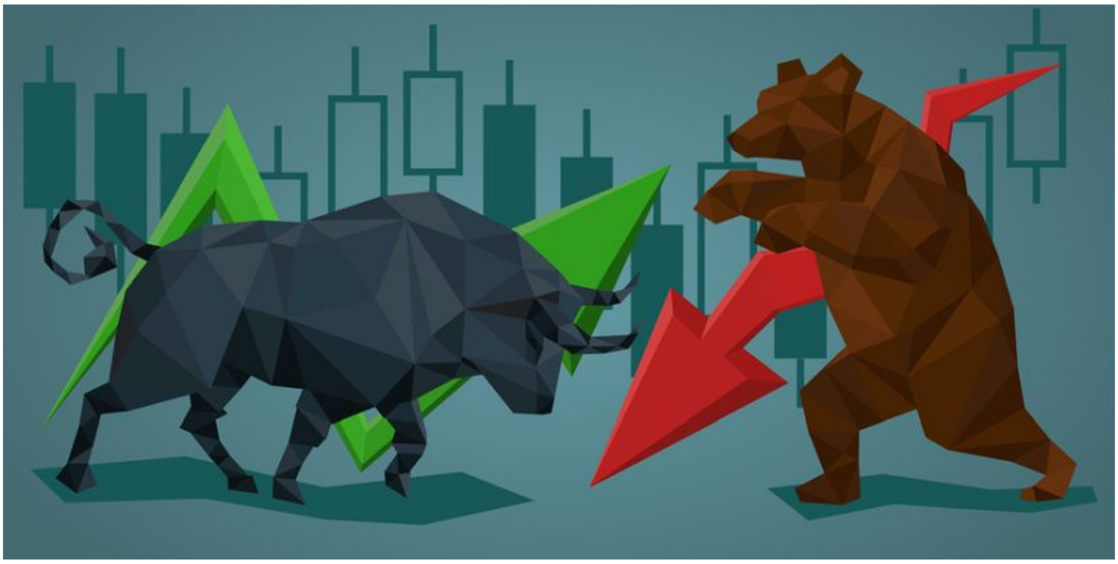
Luckily, for all of us who participate in financial markets, central bankers quickly realised the error in their plans and policies and swiftly reversed into providing further support through abundant liquidity. More than 20% in equity markets return later, here we now are, still dependent on excess liquidity sloshing through the global financial system.

The key question has not changed: how on earth will we ever get off this drug?

This dilemma will remain on central bankers' mind as they worry about a distorted world, constantly in change, with long term future problems accumulating while politicians play the "nothing to see here"-game.

With the stakes this high, and answers so few the best advice anyone can provide to investors today is most likely don't feel too comfortable after what might turn out the best investment year post GFC.

Next year is bound to be different.



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On the micro level, it appears growing parts of the investment community are preparing for a resumption of the so-called "reflation"-trade. These experts see global indicators improving. Some are even boldly predicting economic growth, inflation, bond yields and corporate profits will all noticeably rise as we travel through calendar year 2020.

And on the back of this resumption in global growth miners, energy producers, banks, building materials, contractors, cyclical industrials and discretionary retailers, even the agri-sector (as long as it rains), could turn into Must Have-exposures for investors looking for outperformance next year.

Count me among the sceptics.

This is not to say this narrative of hope cannot temporarily conquer the mindset of financial markets. It has done exactly that on multiple occasions over the decade past.

The most violent switch in market momentum occurred in the second half of calendar 2016 when stocks like Transurban ((TCL)), NextDC ((NXT)) and CSL ((CSL)) lost -20% in a heartbeat and CommBank ((CBA)), Woodside Petroleum ((WPL)) and BHP Group ((BHP)) lifted by similar magnitude at the same time.

But it never lasts for long. It didn't back then, and it hasn't on every other occasion, including in recent months.

Some of you, regular readers of my Weekly Insights, might think I am the closest to a typical Growth investor you'll ever meet. I never hesitate to warn that buying "cheap" stocks in today's environment is not necessarily the smartest thing to do. The truth is I am not your typical Growth investor. I am all about Quality.

One of the untold stories about the Australian share market post 2013 is that despite all the attention (and criticism) that has centred around Growth vs Value, Small Caps vs Blue Chips, Momentum and Overvaluation/Exuberance, the true outperformers have been that selective little basket of domestic High Quality companies including CSL, Macquarie Group ((MQG)), REA Group ((REA)), ResMed ((RMD)), Altium ((ALU)), and TechnologyOne ((TNE)).

CSL is now the undisputed number two for the local index, while Macquarie is inside the Top8, REA Group has climbed into the Top30 and TechnologyOne is part of the ASX200 too.

You don't get there unless you put in a consistent and prolonged outperformance against the rest of the market.

Starting from a Top Down approach that tried to incorporate most of the threats and challenges that have remained with the world and global markets post GFC, it has consistently been my view the best risk-reward investment strategy was through companies with exceptional qualities, including the ability to sustainably deliver for shareholders, no matter the weather out there.

Certainly, my research and managing the All-Weather Model Portfolio have made me truly realise the value of owning "Quality" in the share market. Not as a throw-away label too oft used by professional fund managers every time they discuss their top holdings or recent purchases, but "Quality" in the only sense it counts for long term, Buy & Hold investors: the ability to continue creating added value for shareholders, time and again.

The reason as to why this places me closer to Growth than to Value investors is because I quickly learned such High Quality stocks never trade at genuinely cheap valuations on the stock market. They are literally too High Quality for that. This is one key insight most investors misinterpret.

Assuming you are a longer term investor and your preferred holding period is "forever" (wink to all the Warren Buffett fans out there), then good investing seldom starts with a beaten down, kitchen-sink low valuation.

Good investing starts with discovering which companies on the stock exchange are the Special Ones. Then pick your strategy and your entry point, and don't get side-tracked by all the noise and movement around you.

To those who now are confused, insulted, or both I have one simple message: read the two quotes below. They are from Charlie Munger. Yes, that Charlie Munger. Then tell me again where my analysis and observations are different from Charlie's?

"*If you're right about the companies, you can hold them at pretty high values.*"

"*Over the long term, it's hard for a stock to earn a much better return that the business which underlies it earns. If the business earns 6% on capital over forty years and you hold it for that forty years, you're not going to make much different than a 6% return - even if you originally buy it at a huge discount. Conversely, if a business that earns 18% on capital over twenty or thirty years, even if you pay an expensive looking price, you'll end up with one hell of a result.* "

Je suis Charlie.

****

While the virtues of owning High Quality companies have become irrefutable to observers who pay as close attention to the share market as I do, if one's focus is solely on such companies occasionally there are disadvantages too.

I still vividly remember September 2016 through to January 2017 when buying instantly dried up for just about every single stock present in the All-Weather Model Portfolio, as well as the stocks I chose to add.

All the market could think of was buy resources, buy banks, sell yesterday's winners. It's a tough call to stick to the long term strategy when short term everything seems to go awry.

Plus, of course, I could be wrong about the validity, timing and duration of the next reflation trade. Maybe governments around the world are truly and genuinely prepared to support their central bankers' effort through significant investments in infrastructure and tax reform. Maybe Modern Monetary Theory is the most effective response to the liquidity quandary the world is facing. Maybe inflation does come roaring from out of nowhere in a few months' time. Maybe Xi and Trump can truly stitch together a genuine growth boosting armistice.

Maybe at a time when market positioning is once again extremely one-sided, and there is latent desire by the professional community to have that rotation into "Value" stocks, maybe this is also the right time to re-think the concept of portfolio diversification?

We all like the idea of backing winners, and to continue backing winners, but this may not be as easy as it sounds when rotation arrives, gets interrupted, founders and tries again. Which is essentially the scenario that has been on display inside the Australian share market since September.

One complicating matter for investors in local equities is, of course, the extremely polarised domestic economy, supported by a hesitant RBA while the government in Canberra remains focused on delivering the promised budget surplus, while parts of the country are suffering from drought and fires, which festers an environment that is forcing companies to issue profit warnings. The most commonly heard warning remains: avoid the booby traps!

For those investors whose portfolios are too much weighted towards Growth and/or Quality stocks, and that are currently contemplating re-adjustment, the goal has to be to seek diversification without taking on board too much risk. In practice this means adding "Value" stocks that are less likely to issue a profit warning or other forms of negative news.

As far as the All-Weather Model Portfolio is concerned, not all included stocks have performed in unison over the year past, and this now means portfolio diversification has been achieved by holding on to stocks such as Amcor ((AMC)), NextDC ((NXT)), GUD Holdings ((GUD)), Link Administration ((LNK)), and Reliance Worldwide ((RWC)).

On various days, it's truly fascinating to observe how market momentum departs the likes of CSL, Viva Energy REIT ((VVR)) and Macquarie Group, but also Xero ((XRO)), Altium and Appen ((APX)), and seeks returns through Amcor, Link Administration and Ramsay Health Care ((RHC)) (and various variations as every week progresses).

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In terms of portfolio performance, this second half of calendar 2019 has largely reversed the outperformance of "Value" coming out of the late 2018 bear market; this despite repeated effort by market participants to trigger market rotation and keep it going for longer.

Look no further than the (out)performance of the FNArena-Vested Equities All-Weather Model Portfolio to support the above statement. Note this includes the Portfolio holding on to smaller cap technology stalwarts that have been under heavy attack since September.

For the near five months up until Friday, November 22nd, total Portfolio return ex-fees had accumulated to 7.63% against 3.22% for the ASX200 Accumulation index.

Separated by month, the respective returns clearly show the market swings between Value and Growth/Quality:

<u>All-Weather Model Portfolio</u>
-July 2.95%
-August 0.47%
-Sept 0.88%
-October 1.31%
-Nov (22) 1.82%

<u>ASX200 Accumulation Index:</u>
-July 2.94%
-August -2.36% (minus)
-Sept 1.84%
-October -0.35% (minus)
-Nov (22) 1.19%

Investors should also note the All-Weather Portfolio has been de-risked (we believe) by adding some exposure to gold and to ASX-listed yield instruments that have a low correlation to the share market in general. Plus we always hold some cash. The comparison between All-Weather Portfolio and the Index is thus not apples for apples, 100% equities on both sides. It's closer to 75% equities versus 100% Index.

The experience since early 2015 (the Portfolio is nearly five years old) has been that a reduced exposure to the share market, as a risk reduction strategy, does not impede outperformance. Calendar year-to-date the return is 21.81% versus 23.58% for the Index.

<u>Special Note:</u> *Weekly Insights next week will be the final one for this calendar year. It shall return late January/early February to help you preparing for the February reporting season, and beyond.*

<u>Rudi On Tour In 2020:</u>

-ASA Hunter Region, near Newcastle, May 25

(*This story was written on Monday 25th November 2019. It was published on the day in the form of an email to paying subscribers, and again on Thursday as a story on the website).*

(Do note that, in line with all my analyses, appearances and presentations, all of the above names and calculations are provided for educational purposes only. Investors should always consult with their licensed investment advisor first, before making any decisions. All views are mine and not by association FNArena's -

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In addition, since FNArena runs a Model Portfolio based upon my research on All-Weather Performers it is more than likely that stocks mentioned are included in this Model Portfolio. For all questions about this: info@fnarena.com or via the direct messaging system on the website).

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